

An Evaluative Implementation Study of the Productive Ward in Ireland

Presented by

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Declaration

I, Mark White, declare that this thesis is submitted in partial fulfilment of the requirement for the degree of Doctor of Philosophy (PhD) and is entirely my own work except where otherwise accredited. It has not any time, either whole or in part been submitted for any other educational award.



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Date: 02 September 2015

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Abstract

This study uses an ‘action evaluation’ approach to examine the effects of a national Quality Improvement (QI) initiative, the Productive Ward: Releasing Time to Care™ Programme (PW) on a pilot cohort of ward-based teams in the Irish Health Service Executive (HSE). In particular it measures their ‘engagement’ and explores their experiences and views in relation to implementation and efficacy. It is one of the first studies to examine the impact of QI activities and interventions on ‘work engagement’ (WE).

With the researcher–evaluator integrated within the implementation, this study uses an explanatory, sequential, mixed method design (with an experimental test outcome) to gather data through four empirical phases for the purpose of in-depth analysis.

The first phase, a survey, measured work engagement in the PW group and compared the results to a matched control group. The second phase involved a qualitative interview study with participants from the PW group. The third phase was a longitudinal 12-month repeat WE survey. The final phase utilised the improvement performance measure, Direct Patient Care (DPC) times, from the PW group for comparison with corresponding WE scores.

Overall findings established higher WE scores amongst the PW group that were maintained over the 12-month period. In-depth interview analysis identified key determinants from the participants’ accounts which impacted implementation, including project management structures, prior preparation, training and negative experiences. Further qualitative analysis also highlighted key outcomes/outputs that the programme had delivered, including many positive experiences which naturally align with the construct of WE.

This study validates previous assertions that QI activities, like PW, can actively ‘engage’ participating employees. It also identifies a number of key implementation determinants that can help or hinder efficacy and provides guidance for practitioners who are considering introducing the initiative.

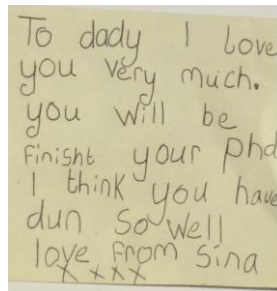
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This Thesis is dedicated to the have nots, can nots, do nots, will nots, may nots, might nots, could nots, would nots and should nots that I had in my mind. It is especially devoted to the 'am nots' which I have previously allowed to hold me back.

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Glossary of Key Terms

Clinical Specialty:	refers to type of ward or unit and the particular axis of medical practice within which patients are admitted e.g. Medicine, Surgery, Elderly, Pediatrics.
Healthcare Quality:	can be defined as ‘the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Donabedian, 1987).
Health Service Executive (HSE):	provides all of Ireland's public health services, in hospitals and communities across the country
Lean:	is a systematic method for the elimination of waste within a manufacturing process. Lean also takes into account waste created through overburden and unevenness in work-loads. Working from the perspective of the client, "value" is any action or process that a customer would be willing to pay for.
Lean Healthcare:	is a structured way (using the principles and tools from Lean) of continuously exposing and solving problems to Eliminate Waste in Systems that deliver Value to Customers (Patients).
Office of the Nursing & Midwifery Services Director (ONMSD):	was established in the Irish health service HSE in 2006. Its focus is the strategic development of Nursing and Midwifery to provide optimum patient centred care.
National Advisory Group (NAG):	refers to the national group of key stakeholders that were convened to oversee the ‘roll-out’ of the Productive Ward across the four HSE regional areas
National Implementation Group (NIG):	refers to the national group that were established to oversee and support the implementation of the Productive Ward initiative
Nursing and Midwifery Planning and Development Units (NMPD):	are regional units that work with the ONMSD and provide the Strategic development of nursing and midwifery standards, practice, professional development, education and leadership.
Productive Series:	is a suite of products developed by the NHS Institute for Innovation and Improvement (NHSI) to release time away from non-value added activities, allowing staff to focus more on what improves the quality, safety and efficiency of the service delivered.

Productive Ward (PW):	Sometimes referred to as ‘Releasing time to care’ or RTC is a ward-based, quality improvement initiative which uses lean principles and tools to improve quality, safety and efficiency.
Quality Improvement:	Different strategies and interventions for addressing specific quality and safety problems (e.g. hospital-acquired infections or communication problems between services) (Ovretveit, 2013 p. 424).
The Productive Operating Theatre (tPOT):	is a continuous improvement programme to improve patient outcomes and operating theatre performance.
Utrecht Work Engagement Scale (UWES):	is the Work Engagement questionnaire and contains a seventeen-item scale which consists of three subscales of vigour (six items), dedication (five items) and absorption (six items).
Ward Team:	refers to the resident members of staff constantly present within the unit or ward environment and includes nurses, healthcare assistants, clerical and administration staff and household or domestic staff.
Work Engagement (WE):	a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption.

Chapter 1: Introduction to Study

1.1 Introduction

Over the last decade, healthcare professionals across the world have experienced substantial growth, development and prioritisation of quality improvement (QI) in healthcare. These healthcare QI efforts have taken a variety of forms and guises, including Lean (Graban, 2012, Burgess and Radnor, 2013), Six Sigma (Charles et al., 2012), Total Quality Management (Qianmei and Chris, 2008, Ovretveit, 2000) and the Model for Improvement (Langley et al., 2009). Many have been modified, adapted, re-packaged and re-labelled for the healthcare setting, creating some confusion, misunderstanding and scepticism amongst the teams who have had to implement them (de Souza, 2009, Walshe, 2009).

This research study aims to shed new light on the emerging subject of QI in healthcare by measuring engagement in a cohort of ward-based teams involved in the pilot phase of a national QI initiative called Productive Ward: Releasing Time to Care™ (PW). It also aims to explore their perceptions and experiences of implementation to identify any components which may influence engagement.

This chapter provides an introduction to this study. It begins by outlining the aims of the study. Section 1.3 provides details in relation to its genesis. The contributions this research has made to the literature and to theory are detailed in section 1.4. This chapter finishes by providing an overview of the study structure and remaining chapters.

1.2 Aims

The primary aim of this study is to examine the relationship between QI activity (participation in a QI intervention like the PW programme), engagement and a QI outcome. Engagement is a term frequently used in the QI literature, but little understood. This study intends to provide some clarity around the term and suggest a working definition that is suitable for healthcare QI.

Secondly, the study aims to explore the experiences and perceptions of participants involved in the national PW initiative in Ireland in order to identify possible key determinants that may be attributable to the concept of 'engagement'.

The final aim of this study is to reflect on the value of 'action evaluation' as a suitable approach for ascertaining appropriate research and evaluation data for a QI intervention.

1.3 The Genesis of this Study

The genesis of this study was a desire to evaluate robustly the impact of PW in an Irish context and to provide a detailed, evidence-based platform for reports that the initiative has a positive impact on 'staff engagement' (Brunoro-Kadash and Kadash, 2013, Avis, 2011, Avis, 2009, NHS Institute and National Nursing Research Unit (NNRU), 2010a). The role of 'engagement' (highlighted by White et al., 2013a) as a common effect and impact of PW and Lean healthcare efforts is an unexplored but important issue and is worthy of further investigation.

There is reason to believe that there are also key implementation elements which are crucial to the success of PW (White et al., 2013b, NHS Institute and NNRU, 2010c), Lean healthcare, on which PW is based (Burgess and Radnor, 2013, Radnor, 2011, Joosten et al., 2009) and other QI programmes (Ovretveit, 2011, Dixon-Woods et al., 2012), and these deserve exploration. Implementation of the initiative in the UK has not been entirely consistent (Morrow et al., 2012), making it difficult to demonstrate impact definitively (NHS Institute and NNRU, 2010b). Although the initiative has been widely implemented since 2006, as a complex social intervention PW remains poorly understood. Examining issues relating to participants' experience (e.g. context, impact, factors for success) will have international significance and value for QI practitioners involved in rolling out the initiative further, and for commissioners who require a detailed evidence base prior to investing resources in PW.

With the controlled and phased implementation strategy adopted in Ireland, there was an opportunity to systematically evaluate what impact this QI initiative has had on participants (ward teams) and to explore their experiences and perspectives. As the

national lead for implementing this initiative, the author of this study had an opportunity to gather information and data from the front-line and to use this information to steer the direction of implementation and the policy of further adoption.

There is also a paucity of QI evaluation, research data and publications emanating from Ireland, and this national evaluative study aims to positively contribute to the wider QI research agenda.

1.4 Contributions

This research makes several contributions to theory and research practice. Colquitt and Zapata-Phelan (2007) proffer a taxonomy that reflects the theoretical contribution of empirical study and writing along two dimensions: theory building and theory testing. They provide five discrete categories: reporters, testers, qualifiers, builders and expanders. All of these reflect the varying degrees to which research can contribute to theory.

In the context of the taxonomy, this study contributes to building new theory in the relatively new field of work engagement (WE) in several ways. It builds upon the general empirical research which has found WE to be a distinct concept that is strongly related to job-related performance (Schaufeli, 2014). To do this it examines longitudinal WE data against standardised QI performance data over the same time period. This study adds to the empirical research in nursing which has established the use of WE as a useful construct and measure within the profession (Salanova et al., 2011, Warshawsky et al., 2012, Simpson, 2009a). It specifically contributes to the nursing literature by building the empirical base of QI from a nursing perspective.

In addition, this study contributes to theory testing by framing and examining QI interventions like PW as a 'job resource' within the Job Demands-Resources (JD-R) theoretical framework. WE is described as a mediator of the relationship between job resources and positive outcomes, i.e. performance (Schaufeli and Bakker, 2004). This study adds to the empirical work by exploring qualitative data from the participants in

order to identify experiences that would naturally align with either a 'demand' or a 'resource' category.

In relation to the growing empirical and theoretical base associated with the 'improvement' and 'implementation science' fields, this is one of the first studies using a control group which demonstrates the positive impact of a QI programme, the PW, on the engagement of the ward teams involved, providing evidence and some insight into claims that QI activities engage employees.

This study makes a number of methodological contributions through:

- i. the adapted action research approach taken, and
- ii. the explanatory, sequential, mixed method design to which an experimental test outcome is applied.

Although recent research has multiple examples of formative and summative evaluations, there is a paucity of literature relating to action evaluation where the researcher–evaluator contributes to the QI intervention (Ovretveit, 2002). In addition, there appear to be no studies in which the researcher–evaluator also has a perspective as an inside QI-implementer. This study fills that gap in the literature by providing an account of the issues involved in implementing a national QI initiative from the perspective of the manager charged with national implementation, through a reflexive account in Chapter 11.

Finally, this research contributes evidence to the methodological concerns previously raised with QI evaluation (Glasziou et al., 2008, Fan et al., 2010, Greenhalgh et al., 2004b, Dixon-Woods et al., 2012) – 'does QI work?' and how does it 'cause' its effect. This study firstly measures impact, and then explores the 'how' through a mixed methods design. This robust research design improves the validity of the results, reducing the method bias which has been the subject of criticism in many QI studies.

1.4.1 Author's note of peer-reviewed publications arising from this study to date

This section outlines the contributions this study has made to the literature by dint of peer-reviewed papers and conferences. All publications have emanated from, and are linked with, the chapters in this PhD study. Copies of these papers are included in Appendix A which accompanies this study

Table 1.1: Peer-reviewed published papers

Publications arising from Chapter 4:

- White, M., Wells, J. S. G. and Butterworth, T. (2013) 'Leadership, A Key Element of Quality Improvement in Healthcare. Results from a literature review of 'Lean Healthcare' and the Productive Ward: Releasing Time to Care Initiative. *International Journal of Leadership in Public Services*, 9 (3/4), pp. 90–98.

Publications arising from Chapter 5:

- White, M., Wells, J. S. G. and Butterworth, T. (2014) 'The Transition of a Large-scale Quality Improvement Initiative: A Bibliometric Analysis of the Productive Ward: Releasing Time to Care Programme'. *J Clin Nurs*, 23(17–18), pp. 2414–2423.
- White, M., Wells, J. S. G. and Butterworth, T. (2013) 'The Productive Ward: Releasing Time to Care™ – What we can learn from the literature for implementation'. *Journal of Nursing Management*, 22(7), pp. 914–923.
- White, M. and Waldron, M. (2014) 'Effects and impacts of Productive Ward from a nursing perspective', *Br J Nurs*, 23(8), pp. 419–426.

Publications arising from Chapter 9:

- White, M., Wells, J. S. G. and Butterworth, T. (2014) 'The impact of a large-scale quality improvement programme on work engagement: Preliminary results from a national cross-sectional survey of the "Productive Ward"'. *International Journal of Nursing Studies*, 51(12), pp. 1634–1643.

Publications arising from Chapter 12:

- White, M. (2015) How effective is the Productive Ward initiative? *Nursing Times*, 111(11), pp. 12–14.

Table 1.2: Peer-reviewed conference presentations and invited symposia

- Implementation and Evaluation of the Productive Ward in Ireland: *“Clinical Outcomes Improvement; Making a Measurable Difference-Linking Patient Safety to Practice Improvement: An Interdisciplinary Master Class”*. RCSI 6th November 2014
- An Evaluation of the Implementation of Productive Ward in Ireland: *International Quality Improvement Research Network, 8/9th May 2014, Manchester UK.*
- Impact and Outcomes of the Productive Ward HSE initiative: *16th National Orthopaedic Nurses Conference, 16th April 2014.*
- The Productive Ward Initiative in Ireland. An overview of Implementation: *Island of Ireland Productive Ward-Releasing Time to Care Conference, 15th October 2013.*
- The Impact that ‘Lean Healthcare’ and the Productive Ward: Releasing Time to Care™ Initiative has on Employees. A Review of the literature: Irish Academy of Management Conference 3rd September 2013.
- Lean Healthcare and the Productive Ward: The effects and impacts on employees: RCSI 32nd Annual International Nursing & Midwifery Research & Education Conference 21st February 2013
- The Productive Ward: Releasing Time to Care™- A Review of the Literature for Implementation: *TCD 13th Annual Interdisciplinary Research Conference hosted by the School of Nursing, 7th November 2012.*

1.5 Overview of the Study and Chapters

Chapter 2: Background and Context

This chapter provides an overview of the background and context of the health service and healthcare quality improvement in Ireland. This chapter uses literature from national and international reports and agencies to provide insight into the policy background, context and drivers for improving quality in healthcare. The chapter then outlines the development of the QI initiative PW, and describes the context and environment in which it was introduced and implemented in Ireland. Key milestones for the development of an implementation model for PW in Ireland are catalogued and discussed. The chapter uses narrative reporting to outline and describe the growth and phased development of the QI initiative in Ireland, and considers the issues

involved in the development of a national evaluation strategy for this initiative. The chapter closes with a number of key conclusions and a summary of the Irish healthcare and QI context.

Chapter 3: Exploring Improvement Science

This chapter explores the literature supporting the relatively recent concept of 'Improvement Science'. The primary aim of this chapter is to examine the origin of QI in healthcare, understand the terms used and explore the drive to introduce a scientific element to QI in healthcare. An outline of how the literature was surveyed is given, with details of the content analysis and descriptions of the themes that emerged. The chapter then defines improvement science, common terms and understandings and some of the rationale for its use. The historical development of quality improvement, clinical quality improvement and improvement science is then discussed. The research developments in improvement science are explored with reference to the predominant frameworks and approaches used, their practical application and the role that engagement plays in implementation. The requirement for improvement initiatives to 'engage' the participants is discussed in this chapter. Section 3.2.10 provides an overview of programmatic approaches to QI and introduces the Lean concept. The chapter concludes by outlining the scarcity of improvement science academic literature and discussing the relationship of the predominant frameworks, approaches to implementation theory and the implications for research.

Chapter 4: Lean and Lean Healthcare

This chapter examines the literature and explores the Lean QI method. The Lean concept is examined in detail in relation to the reported effects and impacts that Lean and Lean healthcare have on the employees and organisations who implement them. This chapter also explores the connection between the two QI methodologies: Lean and the Productive Ward. The chapter details the search strategy, the content analysis and the themes that emerged from the literature. The common effects and impact themes found in the literature are highlighted and the roles that engagement, leadership and empowerment play are explored. The socio-cultural impact found extensively in the Lean literature and almost absent in the Productive Ward literature

is discussed. The chapter concludes with a summary of the findings and highlights three impact and effect areas – Engagement, Leadership and Empowerment – that influence the implementation success of both the Lean healthcare and Productive Ward improvement initiatives.

Chapter 5: The Productive Ward: Releasing Time to Care™ Programme

This chapter provides a detailed description of the Productive Ward QI initiative and explores the literature published to date, identifying and examining key elements of implementation reported in the literature. This chapter provides a detailed account of the development and roll-out of this UK improvement programme. The chapter also outlines the context of the initiative in Ireland to date. The literature search strategy and results are described and the details of a bibliometric analysis of the PW literature are provided. This chapter also contains a comprehensive content analysis of the literature and a discussion around the key implementation determinants that were identified. The chapter concludes with a discussion on how the key determinants interact with and relate to each other, and the need to further investigate these determinants in relation to successful implementation is highlighted.

Chapter 6: The Role of Engagement

This chapter reviews the literature related to work engagement and provides an overview of the central issues that have emerged in this occupational psychology field within the recent past. The literature search strategy and analysis are described in detail. The chapter focuses on the employee engagement construct and describes its antithesis – burnout – and its connection to engagement. The chapter draws primarily on the scholarly frameworks and definitions identified in the literature review. The chapter introduces the work engagement concept and provides details of the Utrecht Work Engagement Scale (UWES). The chapter concludes with strengthening arguments for using the European definition of work engagement, and makes reference to its possible relationship to QI success.

Chapter 7: Key Themes from the Literature and the Implications for Research

This chapter discusses the key themes that have emerged from the literature review and examines the role that engagement has or might have in healthcare quality improvement. The chapter provides an outline of the research questions guiding the study, and a statement of the propositions. Some discussion in relation to paradigm and design is proffered and the chapter concludes with a summary outlining the preferred research design.

Chapter 8: Developing a Research Strategy: Methodology and Methods

This chapter describes the research methodology and the mixed methods approach that was adopted, with a focus on why these approaches were used in this study. The chapter describes the development of a research design and framework used to answer the research question and guide the study. It then outlines the four phases of research and a schedule of the proposed data analysis strategy. The chapter provides a detailed outline of the data-analysis strategy for each phase of the study relating to each method. The chapter also considers the ethical issues associated with the study. The chapter concludes with a summary of the chosen methods and the rationale for these choices.

Chapter 9: Results Part 1 (the Quantitative Phases 1 & 3)

This chapter reports on the quantitative findings arising from the study. It provides an overview of the response rates for the survey in Phase 1 (T1), and details the general composition of the sample. Participants' profiles from Phase 1 (T1) are described by employment grade, clinical specialty, age and gender. The chapter reports on the distribution of the Phase 1 (T1) engagement scores and the reliability analysis of the UWES scores.

The findings concerning the relationship between work engagement scores and other study variables, with emphasis on the relationship between engagement score and participation in the PW initiative, are presented. The chapter then presents the same information for Phase 3 (T2), and investigates the change in UWES scores from Phase 1

(T1) to Phase 3 (T2). It discusses these quantitative findings in relation to addressing Research Question 1.

Finally, the chapter reports the intervention group's performance metrics and their relationship with the Phase 1 (T1) and Phase 3 (T2) UWES scores and performance metrics in a selected subset of PW respondents.

Chapter 10: Qualitative Results

This chapter reports on the qualitative findings of the study. It provides an overview of the characteristics of participants and the general composition of the purposive sample. Profiles are described by employment grade, clinical specialty, age and gender. The chapter outlines the content analysis performed, describing how the themes emerged from the data. It describes the five yielded themes and discusses the findings as they relate to participant experiences of PW. The chapter provides an in-depth description and discussion of the five themes and their subthemes, and illustrates how relationships between the themes were conceptualised and how the main dominant theme, 'implementation and management', interacts with the four other themes.

The chapter then discusses how the findings are connected to the quantitative engagement findings and the study's propositions. Limitations of this empirical phase of the study are outlined. Finally, the chapter concludes with a summary of findings, reflections and observations in relation to fulfilling the research questions.

Chapter 11: Implementer, Influencer and Evaluator: Reflections and discussion of the findings

This chapter draws upon reflections of both the implementation and the research journey that I have undertaken to produce this PhD study. This process of review and reflection includes discussions around the three-year implementation of the PW: what went right, what went wrong and what happens next. The chapter also reflects on the appropriateness of having a health service manager mandated to implement a large-scale QI initiative undertake the activity of researching and evaluating it. The opportunities and challenges posed by the action evaluation design, and how they

influenced implementation, are also discussed in this chapter. The reflective discussion in relation to the researcher's implementer–evaluator role, the mixed methods design and the action evaluation approach provides an honest context for the research activities and results that were presented in earlier chapters.

Chapter 12: Discussion and Conclusion

Chapter 12 summarises the issues that were highlighted in the empirical phases of this study, starting with the literature review, which shaped the research design, and followed by a summary of each research phase structured around the three aims of the study. This chapter discusses the theoretical contributions made by this study under each aim. The methodological contributions of each element of the mixed methods approach adopted by this evaluation are also discussed. The implications for future PW and QI implementation, and recommendations for further research, are highlighted and examined. The chapter also reflects on the limitations of this study and the process of evaluation. The chapter closes with some final reflections relevant to the action evaluation approach, the situation regarding the implementer's immersion in the research, and the impact of this on the final study.

1.6. Chapter Summary

In this chapter, I have outlined the aims of this study which primarily examines the relationship between a QI activity (participation in a QI intervention like the PW programme), engagement and QI outcome. The supplementary aims of this study – the exploration of experiences and perceptions of participants involved in PW and the reflections of the implementer immersed in the action evaluation approach – are outlined. This chapter provides detail in relation to the genesis of the study and frames the theoretical associations of the research. The chapter outlines the contributions that the study makes to theory, research and the literature. The chapter concludes with an overview and summary of remaining chapters.

Chapter 2: Background and Context

2.1 Introduction

This chapter narratively sets the scene for this study by providing an overview of the background and context of the health service and the healthcare QI agenda in Ireland. Section 2.2 provides a background and context to the health service in Ireland. Sections 2.3 through to 2.5 use literature from national and international reports and agencies to provide insight into the policy background, context and drivers for QI in Ireland. Sections 2.6 and 2.7 of this chapter describe the development of the QI initiative PW, and the environment in which it was introduced and implemented. Key milestones for the development of an implementation model for the PW initiative are catalogued and discussed. This section uses narrative reporting to outline and describe the growth and phased implementation of the QI initiative in Ireland. Section 2.7.11 of this chapter provides insight into the development of a national evaluation strategy for this initiative in two distinct stages. The chapter concludes with a summary of key conclusions taken from the Irish healthcare context.

2.2 Background and Context: The HSE and the Current Environment

Health systems internationally are constantly being challenged to find more cost-effective ways of delivering care. Whilst costs have always been a central focus in healthcare provision, there is an emerging emphasis being given to cost savings and improving the quality and outcomes of care (Ferlie and Shortell, 2001). Healthcare in Ireland has not escaped the international drive for reduced costs and improved quality. The HSE was allocated €13.079 billion to provide healthcare in Ireland in 2015, representing 24% of all public spending in the Republic of Ireland (Department of Finance, 2014). Although this allocation represents an increase of €625 million, the first increase since 2009, this allocation requires the HSE to find another €510 million, based on the 2014 budget overrun. Whilst cost-effectiveness has been the focus of many international healthcare systems since the turn of the millennium, the reduction in spending in the healthcare system in Ireland since the Irish sovereign debt crisis in 2008 has been mostly driven by government policy and international political and

financial pressure for all public service to be austere¹. In addition to a draconian recruitment and promotion freeze (known as the ‘moratorium’) introduced by the government to all public services in March 2009 (as part of austerity measures), employee numbers in the health service are expected to fall by another 3,600 whole time equivalents (WTEs) by the end of 2014. This represents a total fall of 16,100 WTEs since the peak in 2007 and 15,436 (Table 2.1) since the moratorium began (Health Services Directorate, 2013). These measures have been introduced at a time of increased public and professional consciousness of their impact on quality, safety and patient care (Wells and White, 2014).

Table 2.1: Total Health Service Staffing 2009-2013

From : National HR Directorate		Total Health Services by Staff Category & Admin Nov 2013									
Staff Category/ Statutory/non-statutory	Mar 2009	Dec 2012	Oct 2013	Nov 2013	Change from Mar 2009	Change from Dec 2012	Change from Oct 2013	% Change from Mar 2009	% Change from Dec 2012	% Change from Oct 2013	
Medical/ Dental	5,242	5,392	5,322	5,352	+110	-41	+29	+2.09%	-0.75%	+0.55%	
Nursing	26,020	22,458	22,077	21,996	-4,024	-462	-81	-15.46%	-2.06%	-0.37%	
Health & Social Care Professionals	9,904	9,824	9,955	9,958	+54	+134	+3	+0.55%	+1.36%	+0.03%	
Management/ Admin	12,726	11,162	11,002	10,986	-1,740	-176	-16	-13.68%	-1.58%	-0.15%	
General Support Staff	8,042	6,105	6,013	5,985	-2,057	-119	-28	-25.58%	-1.96%	-0.46%	
Other Patient & Client Care	11,757	10,746	10,634	10,642	-1,114	-104	+8	-9.48%	-0.96%	+0.08%	
Health Service Executive	73,691	65,687	65,003	64,919	-8,772	-768	-84	-11.90%	-1.17%	-0.13%	
Medical/ Dental	2,714	2,772	2,808	2,814	+99	+42	+6	+3.66%	+1.52%	+0.22%	
Nursing	9,043	8,674	8,418	8,416	-627	-258	-2	-6.93%	-2.98%	-0.02%	
Health & Social Care Professionals	3,158	3,095	3,111	3,138	-20	+44	+27	-0.62%	+1.41%	+0.87%	
Management/ Admin	3,874	3,483	3,480	3,486	-388	+3	+6	-10.02%	+0.09%	+0.18%	
General Support Staff	2,901	2,547	2,513	2,506	-395	-41	-6	-13.61%	-1.61%	-0.26%	
Other Patient & Client Care	1,271	1,276	1,261	1,252	-19	-24	-9	-1.50%	-1.86%	-0.70%	
Voluntary Hospitals	22,961	21,846	21,590	21,612	-1,349	-234	+22	-5.88%	-1.07%	+0.10%	
Medical/ Dental	193	156	155	158	-35	+2	+3	-17.95%	+1.52%	+1.82%	
Nursing	3,726	3,505	3,338	3,337	-389	-167	-1	-10.44%	-4.77%	-0.03%	
Health & Social Care Professionals	2,966	2,798	2,732	2,719	-247	-79	-13	-8.31%	-2.82%	-0.48%	
Management/ Admin	1,353	1,081	1,050	1,051	-302	-30	+1	-22.34%	-2.78%	+0.14%	
General Support Staff	1,669	1,326	1,189	1,204	-465	-122	+15	-27.88%	-9.22%	+1.24%	
Other Patient & Client Care	5,211	5,107	4,948	4,933	-277	-174	-14	-5.32%	-3.40%	-0.29%	
Voluntary Agencies (Non-Acute)	15,117	13,973	13,412	13,403	-1,715	-570	-9	-11.34%	-4.08%	-0.07%	
Total	111,770	101,506	100,005	99,934	-11,836	-1,572	-71	-10.59%	-1.55%	-0.07%	

¹ The Irish sovereign debt crisis was not based on government over-spending, but on the state guaranteeing the six main Irish-based banks, who had financed a property bubble. With yields on Irish Government debt rising rapidly, the Irish government sought assistance from the EU and IMF, resulting in the €67.5 billion ‘bailout’ agreement of 29 November 2010. This ‘loan’ came with the ultimate price of austerity, and government policy and public service supervision by the ‘troika’ – a tripartite committee led by the European Commission, with the European Central Bank and the International Monetary Fund – that organised loans to the governments of Greece, Ireland, Portugal and Cyprus.

2.3 The HSE and the Call for Quality Improvement

Despite this significant reduction in resource allocation (financial and staffing) for health provision in Ireland, the call for improved quality in healthcare from the government (via policy), patients (through advocacy groups) and professionals (via representative bodies) has been constant since the introduction of legislation and the launch of the Health Information Quality Agency (HIQA) in 2007. Reporting directly to the Minister for Health, the role of HIQA is to promote quality and safety in the provision of health and personal social services for the benefit of the health and welfare of the public. In the light of the development of quality and safety standards based on evidence and best international practice for all health and social care services in Ireland, healthcare providers have had to focus their efforts on quality (Collins and Joyce, 2008, Health Information and Quality Authority, 2012).

The response to this call for quality has been met by the HSE through three main strategies:

- the establishment of the National Clinical Programmes initiative in 2010
- the establishment of a National Office of Clinical Audit in 2012
- the expected establishment of an independent Patient Safety Agency in 2014/2015 (Health Services Directorate, 2013).

2.4 The National Clinical Programmes

The National Clinical Programmes were established in 2010 to explore the various complex patient journeys and to develop innovative solutions for key points of these journeys. Once established, each programme set out to improve and standardise patient care by bringing together clinical disciplines to deliver greater benefits to patients and all users.

The programmes have focused on transforming the way clinical care is delivered in Ireland, with the overarching aim of improving the quality and safety of patient care. In 2013 the programmes became the National Clinical Strategy and Programmes, and 30 programmes were established with eight reported to be at implementation stage. There are plans for restructuring in 2014/2015 which will see the Clinical Strategy and

Programmes structure realign with HSE transformation efforts and care groupings (see Figure 2.1).

Programmes have been developed in a large range of clinical service areas including:

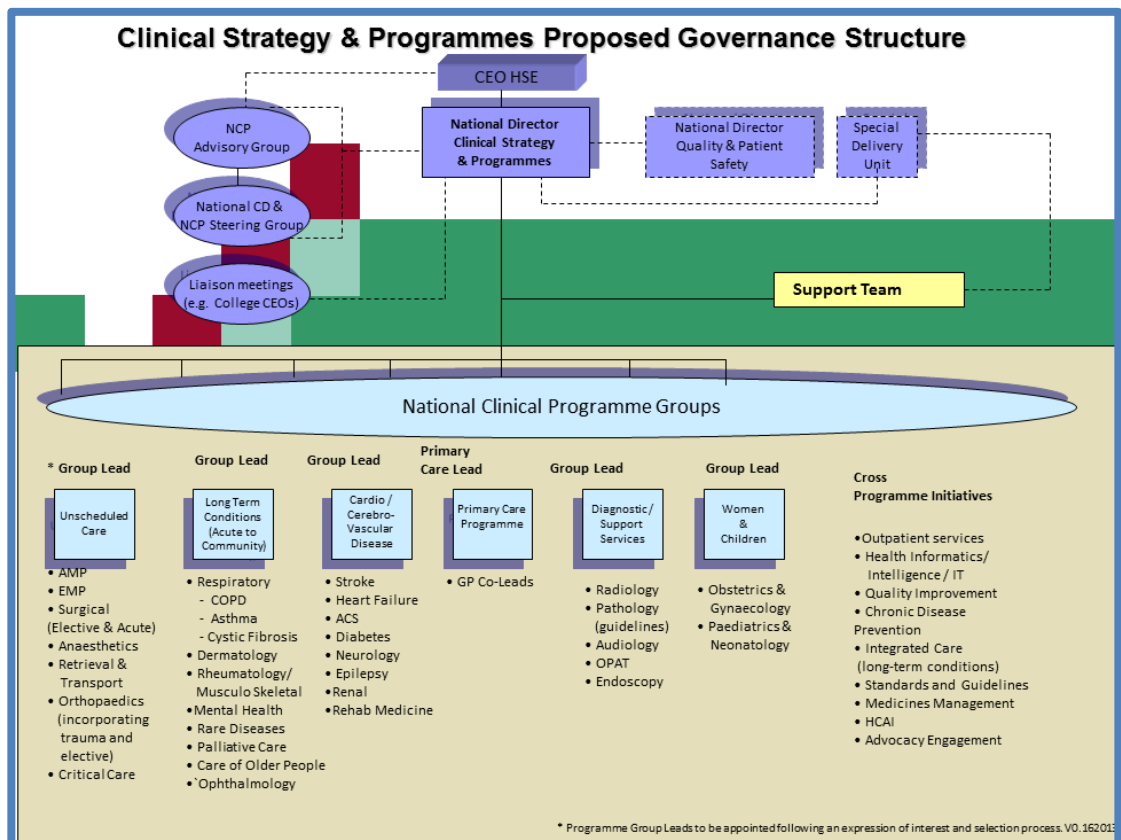
- Chronic diseases such as heart failure, stroke, epilepsy
- Outpatients services such as dermatology, neurology
- Acute hospital services such as radiology, acute medicine
- Cross-programme initiatives that support quality and patient safety (e.g. Productive Ward, the Productive Operating Theatre (tPOT), clinical microsystems).

The mission of the Clinical Strategy and Programmes is to ‘Deliver better care through better use of resources’ (Health Services Directorate, 2011) p. 17.

Each National Clinical Programme has been developed with three main objectives:

- To improve the quality of care delivery to all users
- To improve access to all services
- To improve cost-effectiveness (Health Services Directorate, 2011)

Figure 2.1: Clinical Strategy & Programmes 2013/2014



The health service in Ireland requires a significant process of transformation (Health Services Directorate, 2013). Central to this change appears to be a strategy that involves the National Clinical Care Programmes, which to date have not delivered any tangible change in healthcare delivery other than high-level documentation suggesting models of care. There is no evidence or track record to suggest that the National Clinical Care Programmes can provide a strategic and implemental approach to reform of a broad spectrum of services across the entire health service. In fact, the opposite could be said to be true. Most of the programmes have been static for a number of years, caught in the transition between strategy and implementation. There is no question that modernising the way in which services are provided is augmented through standardising the delivery of high-quality, safe and efficient services; however, the gap between what we know we should do, and what we actually do, appears to be getting wider (Shojania et al., 2004).

The planned reforms expected during 2014/2015 will see the 30 plus clinical programmes amalgamating and grouping into approximately four service delivery strands, which will align with the transformation efforts of the HSE service groupings in an attempt to close that gap and influence those charged with healthcare delivery. However, most of the evidence in relation to top-down, enforced improvement, without the engagement of front-line professionals, indicates that simply reorganising the National Clinical Care Programmes may transpire to be a token quality improvement offering (Bate et al., 2004, Greenhalgh et al., 2009, Dixon-Woods et al., 2012).

2.5 The National Office of Clinical Audit

The National Office of Clinical Audit (NOCA) was established as a collaborative venture in 2012 following a period of consultation between the HSE Quality and Patient Safety Directorate and the Royal College of Surgeons in Ireland (RCSI). The primary purpose of the office was to establish robust, sustainable clinical audit programmes on a national platform which would standardise all surgical audit activity, providing the data to inform and improve outcomes for Irish patients.

The main aim of the office is to develop clinical audit in Ireland to a robust national and multidisciplinary level, where learning is not confined within organisations but can occur nationally and internationally as a result of Irish audits. NOCA has recently been promoting a partnership approach to audit, communicating the need for both clinicians and the organisation to participate in national audit activity (National Office of Clinical Audit, 2012).

The development of this initiative by the HSE is intended to support organisational and clinical learning, and is the first concerted effort to develop and grow a positive culture of clinical audit in the Irish healthcare system. The National Standards for Safer Better Healthcare (Health Information and Quality Authority, 2012) have set out the roadmap for NOCA, indicating that where national audits exist, hospitals must participate. NOCA has been working with individual hospitals and hospital groups (public and private) to ensure the appropriate clinical governance structures have been established to receive NOCA'S outputs.

The National Standards for Safer Better Healthcare also give guidance to NOCA and hospital sites in relation to monitoring and evaluating the audit data with a focus on improving care.

To date however, NOCA has concentrated all its efforts on strengthening audit data collection, management and compliance, supported by a previous national health strategy promoting clinical audit as the most effective method of understanding and improving the quality of the service (Department of Health and Children, 2008).

The experience and track record of measurement and audit is poor. A recent Cochrane Review (Ivers et al., 2012) highlighted concerns about the limited impact of clinical audit on patient care and professional practice without quality improvement interventions and implementation strategies. Recent reports in the UK (Keogh, 2013, Francis, 2013) highlighted sophisticated metric reporting and little, sporadic and uncoordinated improvement interventions. Moving from an audit mind-set to an improvement mind-set is challenging (Gill et al., 2012). If NOCA are serious in relation to improving outcomes for Irish patients, they will have to shift from their current role in observing and reporting and get actively involved in improving the audit figures.

This will mean that NOCA will have to earnestly engage in the national QI programmes and interventions, and work collaboratively to track implementation alongside outcome data.

2.6 The Patient Safety Agency

The HSE Service Plan (2013) clearly articulated that a new Patient Safety Agency will be established on an administrative basis in 2014. It was put on hold after the appointment of a new health minister in late 2014. It is expected to be brought on-stream during 2015 and to develop on a periodic, phased basis until statutory provision sets out its role and objectives. It is unclear at this juncture whether the establishment of the agency is a strategic action by the HSE to enhance quality and patient safety or whether other external drivers are at play. It is generally accepted that seminal international reports have been influencing the agenda for patient safety, and these include:

- The UK report: *An organisation with a memory* (Department of Health, 2000)
- The US report: *Crossing the quality chasm: a new health system for the 21st century* (Institute of Medicine, 2001)
- *The World Alliance for Patient Safety: Forward Programme 2005* (WHO, 2004).

Patient safety concerns are not a recent phenomenon in Irish healthcare; they have been central to the provision of a quality service for a number of years (Department of Health and Children, 2008). Much of the pressure to establish a patient safety agency in Ireland, however, appears to originate from the publication of the National Standards for Safer Better Healthcare (Health Information and Quality Authority, 2012). Adding to this pressure has been the release in the UK of the report of the Mid Staffordshire NHS Foundation Trust Public Enquiry (Francis, 2013)², which has triggered media interest in enquiring whether there is a Mid Staffordshire-type scandal in

² The Stafford Hospital scandal (Francis report) concerns poor care and high mortality rates amongst patients at the Stafford Hospital, Stafford, England, in the late 2000s, and highlighted, in the starkest of ways, the need for a renewed collective commitment to provide the highest quality care for patients in the safest of healthcare environments.

Ireland. The subsequent Keogh (2013)³ review has also contributed to the debate and to concern in Ireland by highlighting the below-standard level of patient care in a further 14 hospital trusts in England. Recent domestic reports of below-standard maternity care (Health Information and Quality Authority, 2013) appear to be the catalyst required for both the government and the HSE to establish an independent patient safety agency with a mandate to act as a patient advocate body.

It is reported that the agency will be structured to reflect the Canadian Patient Safety Institute⁴ (Reilly, 2013). It is anticipated that the agency will be established on a phased basis once the additional resources, earmarked for the 2015 health budget, are delivered upon. The controversial change in health minister during 2014 has further impacted on efforts to establish the agency on an interim basis. However, until this agency is fully established, there will be a policy and strategy void in relation to QI in healthcare in Ireland, as until then the only strategic QI offerings by the HSE will be NOCA and the various 'cross-programme initiatives' like PW that support the National Clinical Care Programmes.

2.7 The Productive Ward QI Initiative

The Productive Ward: Releasing Time to Care™ (PW) is a quality improvement initiative designed by the NHS Institute for Innovation and Improvement (NHSI) and licensed by them to non-NHS services in exchange for a fee. Since its launch in the UK in 2007, it has been introduced in Australia, New Zealand, the United States, Canada and Europe.

PW aims to empower front-line staff to drive forward improvements in health services through redesigning and streamlining the way staff and services deliver care with an emphasis on patient safety (Bevan, 2009). Indeed, the rapid spread of the PW

³ The Keogh Review into patient safety was carried out by Professor Sir Bruce Keogh in July 2013 and was ordered by the UK Prime Minister in response to the Francis Inquiry into poor care at Mid Staffordshire NHS Foundation Trust hospitals.

⁴ The Canadian Patient Safety Institute (CPSI) was developed in 2003 after consultations among Canadian healthcare professional organisations, provincial and territorial ministries of health and Health Canada. An independent non-profit corporation, the CPSI promotes solutions and collaboration among governments and stakeholders to improve patient safety, and has a five-year mandate. Areas of improvement are education, system innovation, communication, regulatory affairs and research.

initiative throughout the UK has been seen as attributable to the programme's focus on safety, reliability and dignity of care (Shepherd, 2009). One might argue that its widespread and rapid adoption in a number of countries is also a consequence of the programme's emphasis on accessibility through the use of practical and plain language, supported by tools and techniques that can be adapted to the local clinical area. Though multidisciplinary in philosophy, the initiative appears to have had the greatest impact and focus upon nurses, in part perhaps because the programme emphasises the promotion of leadership at all levels of nursing.

Implementation evidence highlighted by the NHSI & NNRU (2010b) from across the UK claims that implementation of the PW results in up to a 40% increase in the amount of time nurses spend on direct patient care, and an average drop in falls by 30%, underpinned by increases in patient and staff satisfaction. These 'headline' claims and other evidence cited by the NHSI & NNRU were the platform for international promotion and marketing of the initiative, and what caught my attention as a senior nurse executive in Ireland.

2.7.1 The Productive ward and Ireland

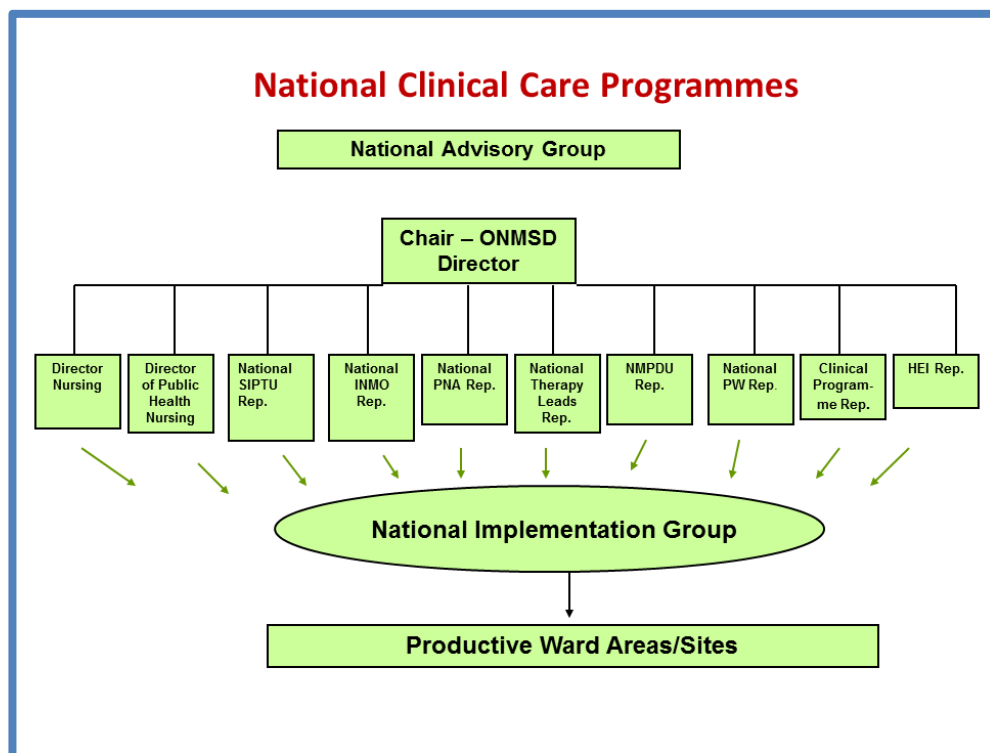
Ireland joined this global initiative in December 2010 through a collaborative agreement between the Waterford Institute of Technology (WIT), the south-eastern office of the southern regional Health Service Executive (HSE) and the NHSI. These partners proposed to pilot the PW in a small number of sites in the south-east of Ireland through the establishment of a joint WIT/HSE/NHSI improvement science training fellowship scheme. Up to four PW pilot sites would be established, with assistance given and progress tracked and monitored, and the project would be evaluated over three years by the 'Improvement Fellow'. The Improvement Fellow would also undertake an organised Improvement Fellowship Programme at the NHSI in the UK, and receive instruction and mentorship from the Institute of Healthcare Improvement (IHI) in the US over two years. The final year of the fellowship would be spent writing up the project and evaluation in the form of a PhD study.

The number of pilot sites and the scale of the pilot project changed dramatically in early January 2011, when the director of the HSE's Office of the Nursing and Midwifery Services Director (ONMSD) and the director of the National Clinical Care Programmes and Clinical Strategy Programmes Directorate decided that there should be a national scheme and implementation plan for the establishment and introduction of the Productive Ward programme in a large number of pilot sites across Ireland. This decision to scale up the number of PW pilot sites effectively disconnected the WIT/HSE/NHSI fellow from the now national project, and established Ireland as the only country to attempt national implementation. The fellowship collaboration continued as new, smaller-scale improvement projects were found to fill the void.

2.7.2 A national approach and a national advisory group

A National Advisory Group to oversee the 'set-up and roll-out' of the Productive Ward across the four HSE regional areas was established in December 2010. The advisory group (NAG) was chaired by the director of the ONMSD, and its membership consisted of key corporate stakeholders who represented: directors of nursing from general, mental health and public health settings, the allied healthcare professionals, nursing academic leaders, the national director of the National Clinical Care Programmes and the nursing unions (see Figure 2.2). The main purpose of this group was to provide governance, direction and counsel for the roll-out and implementation of the initiative. Having national nursing union engagement from the outset ensured a smooth industrial relations transition for this major improvement initiative. This group met on a quarterly basis and provided regular supervision to the initiative up until early 2013 when the new national clinical programme lead introduced new clinical programme reporting and governance structures.

Figure 2.2: National Advisory Group



2.7.3 A national implementation

I was subsequently appointed as the national lead to oversee the implementation of the initiative during 2011. With advice and some direction from the NAG, a national implementation group (NIG) was established to help shape and phase the rollout and project. This group was chaired by this researcher as the national lead, and consisted of a variety of key stakeholders who assisted with implementation and who included: the Director of the Centre for Nursing Leadership and Innovation, the Productive Theatre national lead, the Royal College of Surgeons Leadership Centre, directors of the Nursing and Midwifery Planning and Development Units (NMPDU), directors of nursing (DON's) of acute and mental health services, a project support manager, and eight area co-ordinators who were to manage the project sites within predefined geographical areas (see Figure 2.3). The main purpose of the NIG was to provide leadership, direction, expertise and project support for PW roll-out sites nationally. Terms of reference were drawn up and agreed in June 2011.

Figure 2.3: National Implementation Group



2.7.4 National support: a network of area co-ordinators

Area co-ordinators were recruited from Nursing and Midwifery Planning and Development Units, and they provide up to 16 hours per week facilitation, direction and leadership to the sites in their geographical regions. All co-ordinators had a background in project management, change initiatives or practice development. All have a strong senior nursing background and have well-established professional credibility in their geographical areas.

This proved to be a vital ingredient for the project and has enabled the area co-ordinators to visit sites and wards with ease, without formal invitation, as they supported groups and individuals and provided guidance, advice and challenge to local steering groups. A three-day Productive Ward training event and site visit was commissioned from the NHSI in Coventry in early October 2011. This provided the area co-ordinators with validated information in relation to the Productive Ward, concept development, module content, implementation strategy in the UK and the

lessons learned. A subsequent planning event was organised in January 2012, when a project plan was agreed and timeframes outlined in the form of a Gantt chart for this first phase of implementation (see Appendix B).

2.7.5 Choosing initial national pilot sites (Phase 1)

Letters inviting directors of nursing and their teams to express an interest were sent to all acute hospital sites in Ireland in July 2011 by Dr Michael Shannon and the NIG. The recruitment of appropriate sites for implementation began at the end of the September 2011 and organisations/hospitals who had expressed an interest were interviewed. A readiness audit tool (based on the NHSI tPOT site-selection tool) was developed to ensure that only well-prepared, well-supported sites were chosen for this initial pilot phase (see Appendix C). Fifty-four sites expressed an interest, and in November 2011, 17 pilot sites (24 wards) throughout Ireland were chosen (see Figure 2.4). The criteria were based on the number of manageable sites per area co-ordinator (2–3) and the highest audit scores per region. All chosen sites established project steering groups and appointed an executive lead, project lead and ward leads. Day 1 of the NHSI three-day module implementation training was delivered to all sites in four regional venues in early December 2011. This predominantly focused on establishing the initiative in the ward and commenced the three foundation modules. Days 2 and 3 of the module implementation training took place during March and April in 2012, again in four regional venues, and focused on reporting progress and commencing the process modules.

Figure 2.4: Phase 1 Pilot Sites



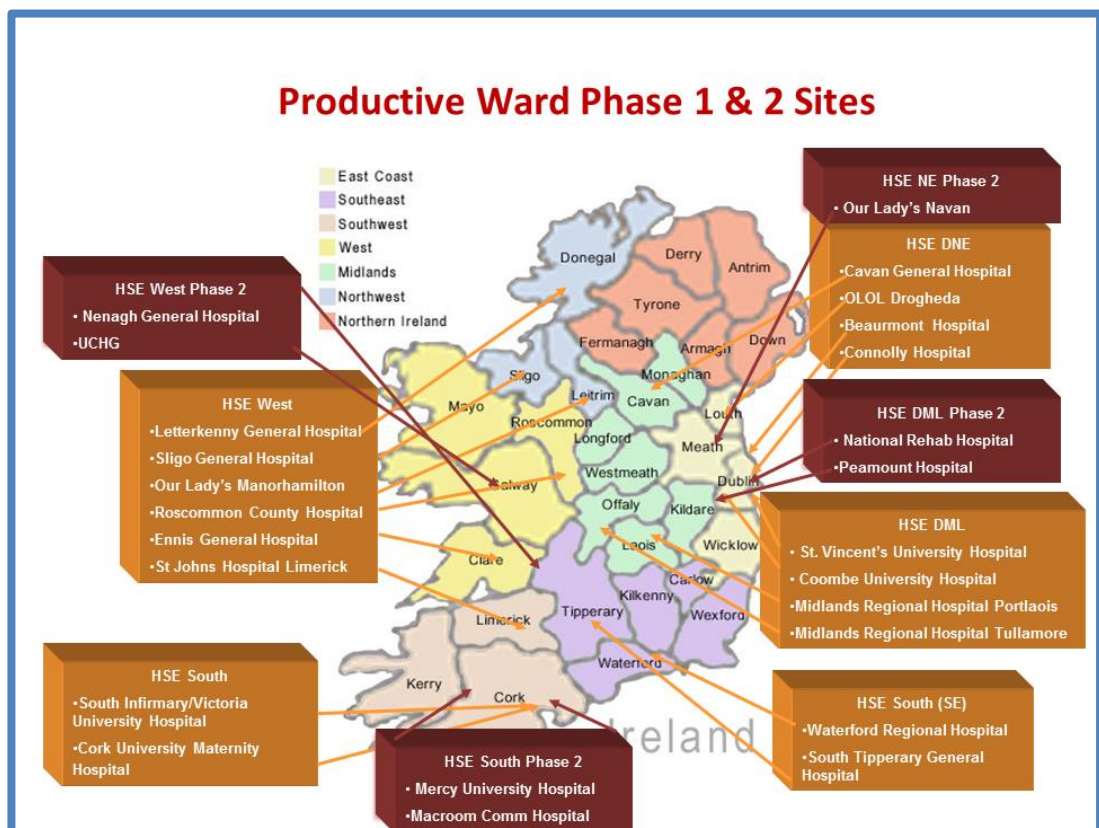
2.7.6 Rolling out the initiative (Phase 2)

In the summer of 2012, the NIG agreed to commence a second phase of pilot site recruitment. This was in part due to the level of interest created by the first phase sites, and in part to accommodate sites that scored highly in the Phase 1 assessment but were not in the top two rankings. Expressions of interest were again invited from all acute hospital sites nationally via the Regional Development Officers (RDOs) and DONs, and readiness assessments were undertaken in all sites using a revised version of the readiness assessment tool used previously (see Appendix D). In November 2012, nine wards (seven sites) were chosen for this phase of implementation (see Figure 2.5) and the project structures from Phase 1 (steering groups, executive leads, project leads and ward leads) were adopted.

In addition to this phase of national implementation, Phase 1 sites were encouraged to commence internal spread of PW throughout their organisations. Day 1 of the NHSI

three-day module implementation training was delivered to all sites in three regional venues in early December 2012. This predominantly focuses on establishing the initiative in the ward and commencing the three foundation modules. Days 2 and 3 of the module implementation training took place during April 2013, again in three regional venues, and focused on reporting progress and commencing the process modules.

Figure 2.5: Phase 1 & Phase 2 Pilot Sites



In tandem with the events outlined in the previous sections, in 2010, prior to the appointment of the Productive Ward National Advisory Group, two HSE hospitals – Cavan General Hospital and Roscommon Hospital – independently introduced Productive Ward schemes into their services. A progress report by Farrell (2011) suggests that the Productive Ward has been well received by staff in these hospitals, but it does not detail any improvement metrics that could be used to evaluate the impact of the initiative on service improvements or delivery.

2.7.7 Reporting progress and improvements

One of the conclusions and recommendations (No. 4) from the UK evaluation, 'The Productive Ward: Releasing Time to Care™ Learning and Impact Review' (NHS Institute and NNRU, 2010b), articulated the need for consistent measurement and reporting to maximise the potential for ongoing spread and impact of the initiative. Taking this learning into account, the NIG agreed to a monthly reporting template which was circulated to all pilot sites for completion on a monthly basis (see Appendix E). Area co-ordinators were charged with assisting the sites in identifying appropriate consensual metrics, collecting baseline measures, helping the pilot sites complete the monthly returns and assisting with filling in gaps in the data. Data collection commenced in Phase 1 sites in February 2012 and in Phase 2 sites in February/March 2013.

This element of implementation proved extremely challenging for multiple reasons. After piloting the data-collection tool for six months (March–September 2012), it became apparent that many of the sites and ward teams had multiple interpretations of issues such as:

- i. What is a measure?
- ii. How to collect a baseline or pre-intervention measure
- iii. Standardised definitions and interpretations of the measure
- iv. Following systematic improvement methods before applying a fix.

It was decided by the NIG in Oct 2012 that the issue of metrics and improvement data collection required urgent attention. Regional PW update dates were organised for each site (early 2013) and a revised data collection tool was piloted (Dec 2012–Feb 2013) with an explicit guide to assist ward teams in understanding the importance of measuring. Two further revisions were tested before a robust data collection tool was agreed as fit for purpose by both the sites and the area co-ordinators (see Appendix F). There has been a consistent issue with ward teams finding the time to report both progress and measures of improvement, with area co-ordinators having to 'chase and extract' details from many sites most months. An exploration of this phenomenon is addressed to some degree in the qualitative phase of this study.

2.7.8 Showcasing PW improvements, the all-Ireland PW conference

In late 2012 it was agreed at an NIG meeting to host a PW conference and showcase event, inviting all PW sites to display example posters of their ward-based improvements. A sub-committee was established in early 2013 and a national conference venue was booked for October 2013. A combination of international keynote speakers in both Lean and PW and improvement examples from within Ireland were scheduled (see Appendix G). One key strategy agreed by the conference sub-group was the commitment to invite PW sites from Northern Ireland and to have an all-inclusive event. As Northern Irish organisations were at least four to five years ahead with the implementation of PW, their knowledge and experiences of implementation added great value to the day. In total, 267 people attended the event and 34 sites (north and south of the border) presented posters of ward-based improvements.

2.7.9 Transitioning from pilot phase to sustainable adoption

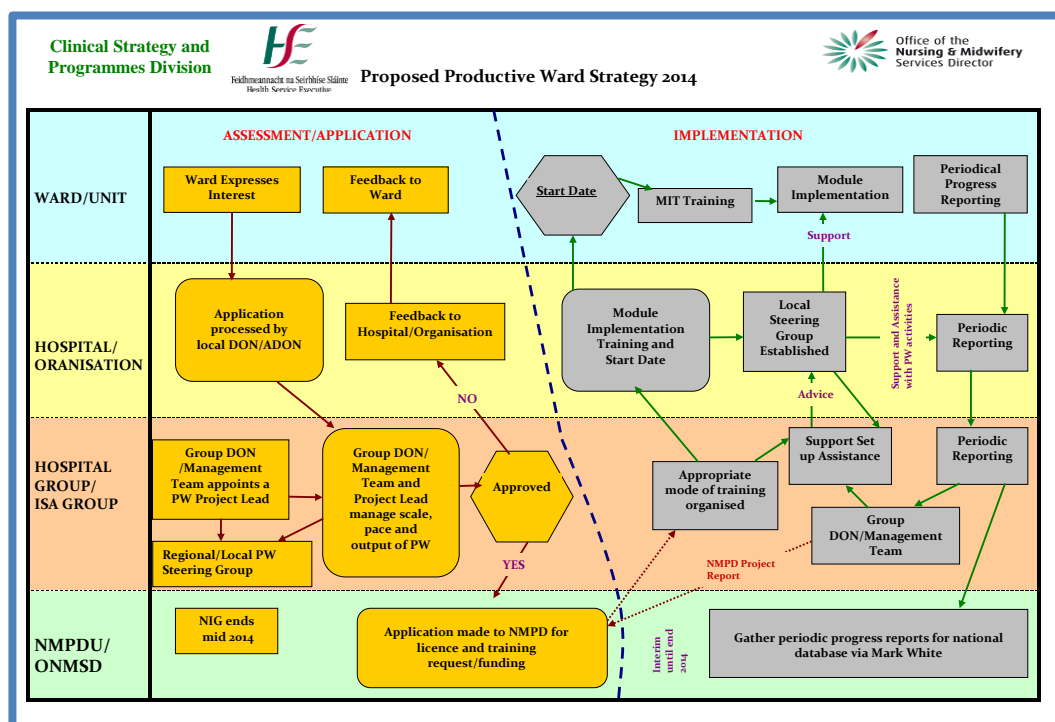
Following the success of the all-Ireland PW conference, the NIG and the area coordinators were contacted by multiple new sites expressing interest in becoming PW sites. At the same time there was interest and pressure from existing Phase 1 sites to commence rolling out PW within their organisations. However, implementation of the *Higgins report* (Department of Health, 2013) outlining the establishment of hospital groupings as a transition towards independent hospital trusts presented a challenge in terms of continuing with a corporate centralised model for implementation. The development of independent hospital groups presented a timely opportunity for me to handover the 'ownership' of PW to local networks where it could be controlled, developed and sustained (or not).

In late September 2013, a meeting was held with two of the newly established hospital group directors of nursing (west and mid-west) to discuss and plan how PW could be best supported in the emerging hospital groups. A PW project officer was appointed to manage the roll-out and support of PW within each hospital group. The arrangement was successfully piloted in both the west and mid-west hospital groups from October 2013 until December 2013. The model of transition for PW into all

hospital groupings was formally agreed by the Clinical Strategy and Programmes Division in June 2014, and a flowchart articulating this new model of implementation was developed (Figure 2.6). The anticipated establishment of hospital groups was a lot slower than expected and only three are in existence as of early 2015. Interim arrangements are being made for pilot sites going into the first quarter of 2015 whilst hospital group boards are being appointed. In order to facilitate learning and sharing, a PW website has been established on the internal HSE webpage:

<http://www.hseland.ie/iqx/Account/Login/tabid/2435/language/en-US/Default.aspx?returnurl=%2fiqx%2f>.

Figure 2.6: 2014/2015 PW Implementation strategy

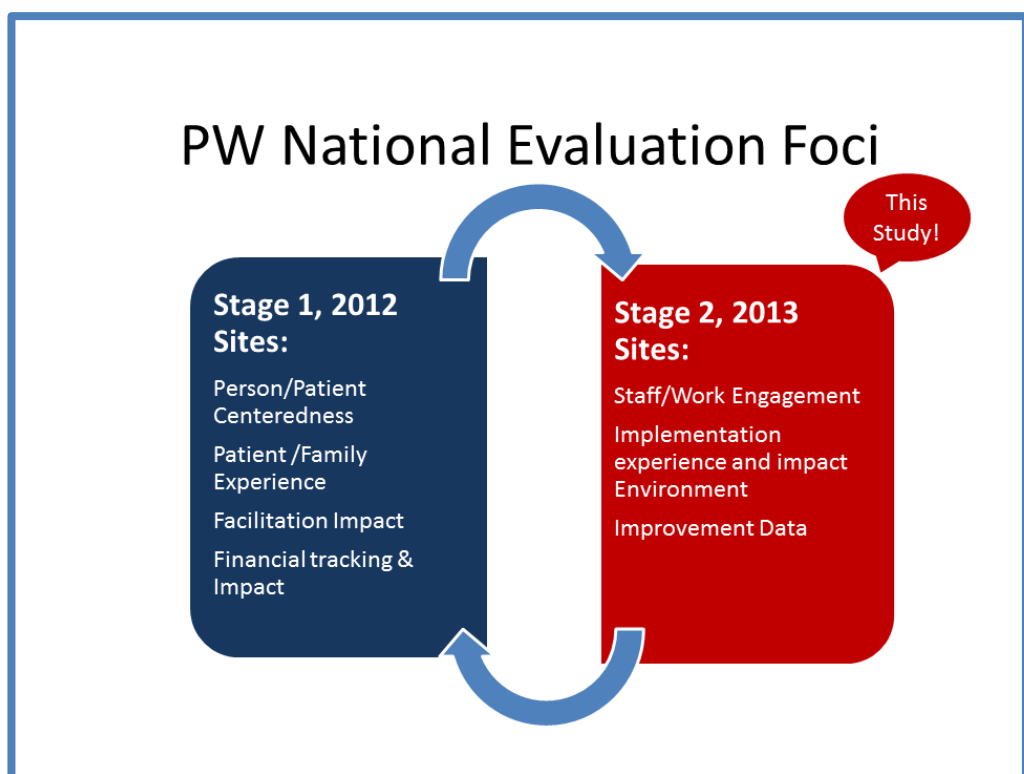


2.7.10 Evaluating the initiative in two stages

In the very early phase of implementation planning in 2011, the NAG decided to engage in a very robust evaluation of the initiative. After analysing previous evaluation documents from Scotland (NHS Scotland, 2008), Northern Ireland (Gribben et al., 2009) and the UK (NHS Institute and NNRU, 2010b, NHS Institute and NNRU, 2010a), much of the debate in relation to the focus of evaluation centred around impact. It

was decided to concentrate our evaluative efforts in examining the impact of PW on patients and staff. Two very different foci of evaluation emerged and a decision was taken to evaluate each stage of implementation separately (see Figure 2.7). This two-stage evaluation strategy was agreed with both the NAG and the NIG in early 2012. The first stage of the evaluation would work with the Phase 1 sites (2011/2012) and focus on patient impact and the second stage (this particular study) would have a staff/ward team focus and would work with 2012/2013 sites.

Figure 2.7: The Two Stages of National Evaluation



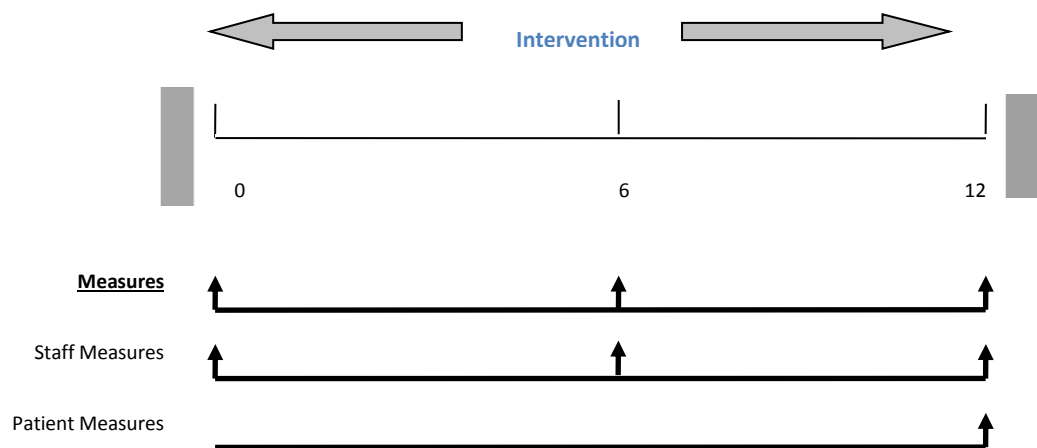
2.7.11 Stage 1 evaluation in brief

Following discussions with the director of the ONMSD, it was decided to outsource the first stage/first phase evaluation work to Dr Randal Parlour from the NMPDU in HSE north-west. Dr Paul Slater from the University of Ulster became a co-researcher in mid-2012. The overall aim of the Phase 1 study was developed and it was agreed to examine the impact of the 'PW Programme' across multiple Phase 1 sites with specific research objectives to:

- Examine how the PW initiative facilitates the development of person-centred workplace cultures for both patients and staff.
- Examine how the PW initiative improves the experiences of patients and their families.

The Phase 1 evaluation design was based upon a mixed methodology incorporating both quantitative and qualitative approaches to data collection and analysis. Data was collected from 22 sites within the Irish health system that were involved in the implementation of the PW initiative. Data was collected over three time points – baseline, six months and twelve months (see Figure 2.8) – via a range of standardised instruments in order to measure the progress and sustainability of the programme. A fuller explanation of the many complex change processes experienced was captured at the end of the intervention period using focus groups and semi-structured interviews.

Figure 2.8: Phase 1 PW Evaluation: time points of data collection



Data-collection instruments used at stage 1 included the Person-centred Climate Questionnaire (PCQ-P), a sub-dimension of the Care Quality Commission Questionnaire (used to measure patients’ experiences of the hospital and ward), the Person-centred Practice Inventory (PCPI) and the Context Assessment Index (CAI). The latter were used to measure the extent to which staff rate their work setting and its level as

person-centred. Results of the Phase 1 evaluation will be published as a joint evaluation with this study in early 2015.

2.8 Chapter Conclusion.

It is possible to identify a number of key conclusions from this review and account of the current Irish healthcare context. These can be summarised in the following points:

1. The healthcare system in Ireland has not escaped the international consensus regarding reducing healthcare costs and improving quality.
2. Healthcare in Ireland is operating under intense financial scrutiny following the Irish sovereign debt crisis.
3. Healthcare standards in Ireland are now regulated and inspected by HIQA, which has led to a significant requirement for accountability from the HSE in the areas of quality and patient safety.
4. The HSE strategy for improving quality and patient safety has three main mechanisms:
 - The establishment and roll-out of the National Clinical Care Programmes initiative.
 - The establishment of the National Office of Clinical Audit (NOCA).
 - The proposed establishment of an independent Patient Safety Authority, which was expected late in 2014 but is now expected sometime in 2015.
5. Using the three mechanisms as a strategy is fundamentally flawed and unlikely to have any impact on improving quality and patient safety in the short to medium term because:
 - i. The majority of National Clinical Programmes have lost all trajectory and momentum. They are at an impasse between healthcare modelling and implementation.
 - ii. NOCA have been established to set up, encourage, facilitate and manage clinical data. However, they have not been mandated to establish, or intervene with, any QI interventions or programmes.
 - iii. The proposed Patient Safety Authority appears to be a kneejerk reaction driven by precautionary, protective government health

policy in response to media pressures, rather than the desire to provide proactive, patient-orientated improvements to the Irish health service.

6. The PW cross-programme initiative represents one of the few National Clinical Care Programmes that has transitioned into implementation and as such is the only performing national offering for QI. It appears that Ireland is the only country to have actively pursued national implementation. It has been wholly nurse-led and since its establishment it has been strategically rolled out in a phased and controlled manner. Plans for transitioning the initiative into full 'control' of the services are expected in 2015.

This particular study is one phase of the two stages of national evaluation planned for the PW initiative, and the findings and outputs will influence further roll-out, spread and adoption both in Ireland and in other jurisdictions.

Chapter 3: Exploring Improvement Science

3.1 Introduction

As outlined in Chapter 1 the primary aim of this study is to examine the relationship between QI activity (participation in a QI intervention like the PW programme), engagement and a QI outcome. This chapter therefore sets out to analyse the emerging literature that supports QI in healthcare improvement science. The chapter commences with a discussion on the ever-increasing need to measure quality in healthcare and proceeds to investigate the concept and practice of improvement science with a survey of the literature. Section 3.3 describes the literature search strategy, the electronic platforms and the key terms used. The content analysis and themes that emerge from the literature are described in section 3.4. Section 3.5 defines improvement science, the common terms and understandings, and some of the rationale for its use. The historical development of QI, clinical QI and improvement science is outlined in section 3.6.

Improvement science research is explored and discussed in section 3.6.1. This section also outlines the predominant frameworks and approaches that are used in improvement science and many of the popular frameworks and models are introduced. How improvement science is used in practice is discussed in section 3.6.4, along with some of the more popular models. The role and influence of context in QI is discussed in section 3.7. Section 3.8 explores the requirement for QI to 'engage' those that participate in its activities. The role that engagement plays in implementation is discussed in this section. Section 3.9 introduces some of the many programmatic approaches to QI (like Lean and Six Sigma) and discusses some of the benefits of packaging QI into programmes to aid implementation. This chapter concludes with some of the key points from the literature and some thematic elements from analysis that will influence further literature review strategies and research question design.

3.2 Measuring Healthcare Quality Improvement

The concept of measuring and improving the quality of delivered care is a relatively recent undertaking (Shojania et al., 2004). Healthcare and medicine has mostly focused on the complex art and science of healing and very little attention has been given to quality or performance (Lee, 2010) and improvement (Berwick, 2008). For several years now there has been an intense focus from both healthcare professionals and the public on improving the quality of healthcare (Ferlie and Shortell, 2001).

Recent UK and Irish health policy reports emphasise the importance of outcomes and a commitment to producing quality standards (Darzi, 2008, DOHC, 2011). Calls for QI initiatives in healthcare require careful consideration for implementation. Cognisance should be paid to the pattern of interests, value and power relationships that surround QI implementation (Langley and Denis, 2011). From an Irish healthcare perspective, examples like the National Clinical Care Programmes require rigorous, proven methods to support the translation of an ever-growing body of evidence-based healthcare research into safe, reliable, high-quality healthcare practice (Luther, 1997, Berwick, 2008, Gill et al., 2012, Shojania and Grimshaw, 2005, Marshall et al., 2013).

Despite the best intentions of national policy, the ambitious improvement initiatives and the significant resources that improving healthcare receives, the methods used to translate evidence to practice or to improve healthcare outcomes often fail (Alexander and Hearld, 2009, van Achterberg et al., 2008, Glasgow et al., 2012). There has been an increasing need to improve the quality of QI in healthcare (Berwick, 2008, Draycott et al., 2010, Marshall and Mountford, 2013, McIntyre, 2012), and with this has come the growth and development of a more scientific approach to improvement.

This more rigorous, scientific approach has the potential to transform healthcare improvement efforts, enable the provision of high-quality care and optimise financial resources (Marshall et al., 2013). It also has the potential to engage those clinicians who have steered away from QI efforts to date because of limited design, poor analysis and questionable reporting (Davies et al., 2007, Luther, 1997, McIntyre, 2012, Siriwardena, 2009, Shojania and Grimshaw, 2005).

3.3 Literature Search Strategy

A review of the literature was carried out to explore the key elements of improvement science in healthcare. The review was limited to published journal papers from January 1995 to June 2013, which covers the mid-1990s period when the term and concept were first described with the model for improvement (Langley et al., 2009). English language restrictions were included which limited the search to texts available in English. Because of the developmental nature of improvement science, no restrictions were placed on the type of literature (academic, editorial, professional discussion etc.). A number of electronic and web-based databases were utilised, accessed via the Multisearch platform at Waterford Institute of Technology (WIT) library. Multisearch, as part of the Summon™ online library service, discovers content from more than 39 open-access archives and 257 institutional repositories from 73 different institutions. The more popular archives included in Multisearch are represented in Table 3.1.

The initial key search terms used were: ‘improvement science’, ‘quality improvement science’ and ‘quality improvement implementation’. In addition, a secondary search was performed using the term ‘healthcare’. The ‘and’ Boolean facility was used to focus and refine the search. The combined search retrieved over 5,000 items. A first-level manual examination of the abstracts was then conducted to assess the appropriateness of the literature for inclusion in the review. The inclusion criterion was based on the extent to which improvement science or quality improvement implementation was addressed in each individual piece of literature, with particular emphasis placed on research articles from peer-reviewed journals and papers that included nursing, medical, healthcare or quality issues. No formal quality weighting was adopted.

This intervention reduced the applicable papers to 606. After removing duplicate and non-relevant health-related citation, the total was reduced to 261 papers. Further scrutiny in terms of removing descriptive and narrative quality improvement reports resulted in a final repository of 54 applicable papers (48 references from the

'improvement science' search theme and 6 from the 'quality improvement implementation' literature)

Table 3.1: Improvement Science Search

Databases included in Multisearch:

ABI/Inform Global	Academic Search Complete
Blackwell Synergy	Business Source Premier
Cambridge Journals Online	Cinahl
Cochrane Library	Directory of Open Access
Emerald Management Xtra	ERIC
Google	Google Scholar
InformaWorld	ISI Web of Knowledge
Library Catalogue	Medline
Nexis	Nurimedia Journals
Ovid Nursing	Ovid Journals
PsycINFO	Psyc Articles
Sage	Science Direct
UK & Ireland Reference Centre	Wiley On-line Library

A wide variety of conceptual, contextual, descriptive and interpretative papers were uncovered during the search and a number of key themes and issues emerged. These will form the focus of this review and include the following topics: construct and historical development; common terms, understandings and misunderstandings; and improvement methods and models.

3.4 Content Analysis and Categorisation of the Literature

The 54 selected papers were subjected to a qualitative content analysis as outlined by Bryman (2012). All papers were examined for content relating to improvement science and QI and/or QI implementation. The majority of the 54 papers that met the

criteria provided a good background to QI or improvement/implementation science. The remaining literature focused on the different types of improvement initiatives and the methods used. Some case-study examples and approaches to using improvement science were also found in the review. Each paper was then explored and coded in terms of its fit and contribution category.

The emphasis in using this approach was to let the categories or themes that are naturally cited in the selected literature emerge from the text. Table 3.2 outlines the categories that emerged from the literature.

Table 3.2: Improvement Science/Implementation Science and Quality Improvement Categories and Themes

- **Understanding & Explaining Improvement Science** [Alexander and Hearld (2009), Dixon-Woods et al (2011), Ernst et al.(2010), Estrada et al. (2012), Fixsen et al. (2005), Marshall and Mountford (2013), Ovretveit, 2013, Pearson (2010), Shojania and Grimshaw, (2005), Shojania et al. (2004), The Health Foundation, (2011)]
- **Historical Development of the Field** [*Berwick (2008), Berwick (1992), Boaden et al. (2008), Bisognano and Kenney (2012), Bisgaard (2008), Deming (1986), Donabedian (2005), Donabedian (1978), Donabedian (1966), IHI (1991), Juran (1988), Juran and Gryna (1988), Peden and Rooney (2009)*]
- **Improvement Science Research** [Alexander and Hearld, (2009), Berwick (2008), Dixon-Woods et al. 2012), Marshall et al. (2013), Marshall and Mountford (2013), Shojania et al. (2004),The Health Foundation (2011)]
- **Improvement Science as a Framework/Model** [Alexander and Hearld, (2009), Bate et al. (2008), Bate et al. (2004), Damschroder et al. (2009), Dixon-Woods et al. (2013), Fixsen et al. (2005), Flottorp et al. (2013), Knapp and Anaya (2012), Langley and Denis (2011), Langley et al. (2009), Powell et al. (2009), Schouten et al. (2008), Walshe (2009)]
- **Using Improvement Science for Quality Improvement** [Bate et al. (2004), Berwick (2003), Dixon-Woods et al. (2011), Glasgow et al. (2012), Kaplan et al.(2010), Langley and Denis (201)1, Langley et al. (2009), Newton et al. (2007)]
- **QI and Context** [Bate et al. (2014), Greenhalgh et al. (2004a), Krein et al. (2010), McDermott and Keating (2012), Ovretveit (2011a), Pettigrew (1993)]
- **Clinician Engagement in Quality Improvement**[Davies et al. (2007), Dixon-Woods et al. (2012), Gill (2012), Gollop et al. (2004), Kaplan et al. (2010), Langley and Denis (2011), Siriwardena, (2009)]

3.5 Understanding and Explaining Improvement Science

The major gaps that exist between what is well known as effective practice (the theory and the science) and what is actually done in terms of policy and practice is well documented by many healthcare professional disciplines (Fixsen et al., 2005, Shojania et al., 2004). This gap, combined with the pressures associated with growing populations, changing healthcare needs, increasing healthcare costs, and concerns about patient safety and reducing harm have led to an international call for ‘rescue’ and a renewed focus on healthcare improvement (Ovretveit, 2013, Ferlie and Shortell, 2001).

Although the requirement in healthcare to improve and investigate what works and why is well established, there is in fact a limited understanding of the workings and impacts of interventions that are designed to improve healthcare quality. This lack of understanding appears to have stimulated a very interested following of healthcare professionals who are actively looking for explanations (Gill, 2012).

Whilst the current views of implementing healthcare quality innovations have their foundational basis in studies such as Pressman and Wildavsky’s (1973) study of policy implementation and Havelock’s (1973) change agent studies in education, there appears to be broad agreement in the literature that the implementation of healthcare QI is decidedly more complex and more fraught with effort, and has many more variables, than many implementation efforts had previously assumed (Fixsen et al., 2005).

Improvement science therefore appears to have evolved to fill a void and to look beyond the descriptive theories of innovation, implementation and change to focus on the important components that are required for effective implementation of QI interventions and strategies. These include the contextual variables, circumstances, behaviours and interactions that will result in improved quality. Even though many of these components can be closely aligned with the process work of Deming (1986) and the root cause analysis work of Juran (1988), improvement science appears to have really developed as a general loose term, devoted to capturing meaning, detecting

relationships between components and developing the practice and science of implementation. It focuses on systematically and rigorously exploring 'what works' to improve quality in healthcare and the best ways to capture, measure and disseminate this to influence positive change (The Health Foundation, 2011). The inclusion of 'science' and 'rigour' appears to be an attempt to infuse a positivist perspective into improvement, and align the whole realm of improvement with the medical field, in an effort to convince medical personnel who may be deterred by the nature of QI from engaging in it (Dixon-Woods et al., 2012).

3.5.1 Common terms and understandings

Undertaking this exploration of the literature has highlighted the significant complex variations in concepts and terms used within what can only be described as a broad and growing body of improvement science literature. Science is defined by in the Concise Oxford Dictionary as 'the intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment' (Pearsall, 2001). The most practical, simplistic understanding of improvement science is therefore associated with the systematic study of improvement activities, whether a simple work process improvement, product or service redesign or improvement of a complex system or structure.

Shojania et al. (2004) highlight the reliance that effective QI has on quality implementation. They describe how the implementation of quality initiatives has been referred to by many names, in many guises, including action research, research utilisation, practice guideline implementation research, knowledge translation, translation science, knowledge transfer, knowledge mobilisation and knowledge exchange. This catalogue of diverse references has impacted on the definition of improvement science and appears to add to the confusion and complexity of terms.

Pearson (2010) attempts to de-clutter the complexity of terms by describing how:

- Translation science seeks to move from bench to bedside or from laboratory experiments through clinical trials to actual point-of-care patient application.

- Implementation science refers to the scientific study of methods to promote the uptake of research findings into routine settings in clinical, community and policy contexts.
- Improvement science seeks to identify improvement strategies and to formally evaluate their effectiveness within health systems.

Having analysed the literature reviews and the critiques of others (Ovretveit, 2013, Alexander and Hearld, 2009, The Health Foundation, 2011, Marshall and Mountford, 2013), the following are my synthesised interpretations and understandings of improvement science.

In very general terms, improvement science refers to:

- A body of systematic knowledge, which some call a science or a multidiscipline;
- A set of methods, many of which have been found to be effective in improving care;
- Different strategies for addressing specific quality and safety problems (e.g. hospital-acquired infections or communication problems between services) (Ovretveit, 2013 p. 424).

In terms of its aims: improvement science aspires to ensure that QI efforts are based on and use as much evidence as the best practices they seek to implement (Alexander and Hearld, 2009).

In terms of its focus: '[it is] an emerging concept which focuses on exploring how to undertake quality improvement well. It inhabits the sphere between research and quality improvement by applying research methods to help understand what impacts on quality improvement' (The Health Foundation, 2011).

In terms of its simplicity: Marshall and Mountfield (2013) describe the science of improvement as the science underpinning the organisation and delivery of care. They are critical of the narrow view used to describe improvement science which focuses just on the methods used to improve quality.

The most commonly accepted understanding of QI science appears to be that it is a flexible systems-based approach for improving the quality of healthcare delivery within daily clinical practice using the widely accepted framework, the 'Model for

Improvement', which is used to develop, implement and test change in clinical practice (Ernst et al., 2010).

The Model for Improvement (Langley et al., 2009) is a model based on three fundamental questions:

1. What is to be accomplished? (Developing)
2. How do we know change is an improvement? (Testing)
3. What changes will result in improvement? (Implementing)

These three questions combined with a Plan-Do-Study-Act (PDSA) cycle form the basis of the model. The model is designed to be used in a flexible yet comprehensive manner to avoid the rigid, prescriptive approaches to improvement that are integral to some improvement methods. The Model for Improvement utilises the work of W. Edwards Deming and the 'System of Profound Knowledge' (Deming, 1986) as the knowledge base for developing and testing changes that will result in improvement; it is described in more detail later in this chapter.

3.5.2 The rationale for improvement science

The main rationale for developing a theory base for improvement science appears to lie in the driver of improvement itself – evidence. Evidence-based practice requires evidence-based implementation (Van Achterberg et al., 2008). Improvement science evaluates the effectiveness of implementation efforts by collecting the evidence of impact. However, QI studies are often remarkably poor at describing the exact programme of improvement, the methods, the activities and the context, which makes them extremely difficult to replicate or reproduce (Shojania and Grimshaw, 2005). Without evidence of implementation and impact, and understanding of what they involve and how they work, there is the risk of distortion and superficial implementation during replication (Dixon-Woods et al., 2011).

Improving healthcare quality is generally what health professionals want and it is not a new concept or fad. Improving healthcare quality and monitoring practice-based interventions are well documented in the work of Florence Nightingale (McDonald, 2010) and of the American surgeon Ernest Codman, whose study of hospital efficiency

in 1916 introduced standards and accreditation into American hospitals (McIntyre, 2012).

Healthcare professionals, and in particular doctors, are reported to have reluctantly engaged in QI and improvement science (Marshall and Mountford, 2013, Davies et al., 2007). Most healthcare professionals train and practice within the confines of conventional science and the clinical methods of care. They see themselves in their clinical role as the guardians of healthcare quality (Atkinson et al., 2010). This has resulted in many healthcare professionals taking a very narrow, even parochial, view of their role as regards improvement and within the healthcare system. Any wider, non-clinical engagement is reported to have the potential to distract from the traditional perceptions and expectations patients have of healthcare professionals, and healthcare professionals have of themselves (Marshall, 2011). This then requires healthcare professionals, including doctors, to think and work very differently. There therefore appears to be a requirement to develop a new skill set and a new mind-set to ensure and assure the success of QI in healthcare (Estrada et al., 2012).

However, dismantling a dysfunctional culture is not straightforward and to quote Albert Einstein, 'You can't solve a problem with the same mind that created it' (Calaprice, 1996 p. 144). Changing mind-sets and skill sets by embracing and absorbing performance-driven improvement into everyday healthcare activities appears to have bypassed most clinicians. One could speculate that this is because of the 'industrial' approaches adopted for implementation, but in reality few clinicians have had the opportunity to draw the different parts of improvement science together in any systematic way that would help them to develop a body of knowledge, experience and skill, allowing them to see with new eyes (Marshall, 2011), helping their patients and bringing about improvement simultaneously.

3.6 The Historical Development of Improvement and Improvement Science

One cannot commence exploring the development of improvement and improvement science in healthcare without first acknowledging the origins of the improvement movement, which is industry. The post-war Japanese manufacturing revolution in the

1960s and the Toyota Production Company are seen as the starting point for the many lessons, methods and philosophies of improvement. In particular, the work of W. Edward Deming, a statistician and the pioneer of quality and customer focus, and Joseph M. Juran, an industrial engineer, are credited in the literature with commencing the transformation of Japanese industry into a world leader through quality, productivity and improvement (Boaden et al., 2008, Bisgaard, 2008). Both Deming and Juran highlighted the importance of a whole-systems approach to quality and the role management plays in leadership, buy-in and support, and in the need for understanding the root cause of poor quality, rather than just the measuring and inspecting of it (Bisgaard, 2008). The experience and learning that Deming and Juran provided to Japanese industries were not just one-way interactions. Both Deming and Juran reportedly observed and absorbed, bringing back and applying many good ideas that they had drawn from their work with Japanese industry and contributing this to the quality movement in America and Europe (Deming, 1986, Juran, 1989, Juran and Gryna, 1988). Deming is credited with transforming the Ford Motor Company in the 1980s. The statistical and scientific basis to his work has been tested and shown to improve many different complex processes across multiple industries. Deming's scientific (and some would argue positivist) approach to complex processes seems to attract medicine's attention (possibly appealing to the positivist approach of medicine) as it struggles to understand and change the technical aspects of care (Peden and Rooney, 2009).

3.6.1 The development of clinical quality improvement

The development of clinical QI has mostly been influenced by the medical profession in its role of healthcare quality guardian (Atkinson et al., 2010). The profession's involvement in the quality process is generally viewed as a precondition for success (Siriwardena, 2009).

Although nursing and the work of Florence Nightingale (McDonald, 2010) can be argued to be the foundation block for clinical QI and measurement, it is the work of the Boston surgeon Ernest Codman in 1916 that is most often cited as the start point for clinical QI efforts and outcomes-based care (McIntyre, 2012, Boaden et al., 2008).

His published audits of end-result surgical care was reported to have been driven by his belief that outcome information should be in the public domain to guide the patient's choice of both hospital and physician.

This work was further developed by Avedis Donabedian in the 1960s and 1970s. He constructed a quality-of-care framework containing three interdependent concepts: structure, process and outcome (Donabedian, 1978, Donabedian, 1966). His work has developed and evolved with the QI movement. There is now much more focus on measurement and seeking to understand some of the contextual elements of quality, including the importance of doctor-patient relationships (Donabedian, 2005).

Don Berwick is well established in the healthcare quality literature as the clinician who developed, adapted and applied robust industrial models of QI into healthcare. He worked with the industrial QI leaders (Deming and Juran) to immerse himself in the fundamentals of improvement science and he has since developed a team of like-minded clinicians in the US to work on various national QI projects (Boaden et al., 2008). He is noted for his regular contributions in the medical literature calling for his colleagues to look beyond the model of outcomes and audit towards improvement and quality, and highlighting the failures of medical audit when implementing change and improvement.

Berwick and his ever-growing clinician followers can be credited with pushing healthcare towards scientific measurement, industrial QI methods and organisational change theories (Berwick, 2008). He has highlighted the pivotal role that professional teams and collaborative working have in embracing quality and he has recognised and described how medical culture and professional silos have discouraged and worked against QI and safety reporting (Berwick, 2003, Berwick et al., 1992).

Paul Batalden, a surgeon, improvement activist and keen supporter of the systematic improvement methods used at Ford, joined Don Berwick in the late 1980s to work on various national improvement projects and innovations in the US. Through their work they became committed to redesigning healthcare into a system without errors, waste, delay and unsustainable costs. Together they are responsible for the formation

of the Institute of Healthcare Improvement (IHI) in 1991. The IHI has grown into a reputable international healthcare QI movement, which focuses on best practices, improvement capability, patient safety, family- and person-centred care, and the quality, cost and value of healthcare (Bisognano and Kenney, 2012).

National and international healthcare policy, guidelines and evidence-based practice have also had a significant influence in the development of clinical QI and the evolving improvement science movement. As public interest in modern medicine grows, access to medical knowledge via the internet improves, and public spending on healthcare increases, there is an overwhelming demand from healthcare consumers for the provision of more accountable, safer, quality care with improved patient outcomes. Publications like *To Err Is Human: Building a Safer Health System* (Kohn et al., 2000), Lord Darzi's NHS Next Stage Review: *High Quality Care for All* (Darzi, 2008) and *Building a Culture of Patient Safety* (DOHC, 2011) have all helped to establish (and heighten) public expectations of quality, safety, performance and standards in healthcare. Consumers of healthcare are now less inclined to simply trust the system and its professionals to deliver the highest quality of care. They have access to published performance data and they are demanding results-driven, evidence-based healthcare. This tension and pressure has forced the healthcare industry to embrace all things improvement and the science that supports it (Shojania et al., 2004).

3.6.2 Improvement science research

The vast majority of the papers reviewed in relation to QI and improvement science appear to be case study in design and have tended to focus on describing the different types of improvement methods or QI approaches taken in the general healthcare environment clinical setting. There is a paucity of QI literature outside of the acute hospital arena. A review by the Health Foundation (2011) also found a scarcity of QI literature from community, mental health and primary care. My assessment of the QI literature is that it is vast, lacks diversity and is generally devoid of any scientific, empirical or theoretical coherence, a view that is similar to the experience of others (Alexander and Hearld, 2009).

Shojania et al. (2004), however, report more positively, highlighting that there is plenty of QI activity and evidence available, but that just a small percentage of it ever reaches the literature because of the very high scientific standards applied by clinicians to QI research. Many of the medical journals tend to focus on the effectiveness or outcome of the interventions. Many QI studies just do not reach the standard. Their work also suggests that there is a paucity of available information and data in relation to the other aspect of QI, namely safety, application and approach.

Walshe (2009) calls for a much more rigorous, scientific approach to all elements and aspects of QI research (not just the measurement of effect) in order to enhance its adoption and spread. He is critical of the methods used just to report effectiveness and certain aspects of implementation. He makes the point that the expectations we have for a high-standard evidence base for QI interventions should be no different to the high-standard expectations we have in relation to any other healthcare intervention.

Embracing a much wider range of scientific methodologies that retain and share information is proposed by Berwick (2008) as the way to accelerate the theoretical improvement systems of care into practice. He describes how QIs are mechanisms (requiring social evaluation design) and are contextual (requiring ethnographic or other qualitative design).

Some of the literature reviewed blames poor quality research in the area of improvement as the main reason for poor physician engagement, mistrust and uptake (McIntyre, 2012, Siriwardena, 2009, Davies et al., 2007). Further analysis of the literature suggests that poor uptake of QI is not as straightforward as just physician engagement however. Marshall et al. (2013) concur with the complexity of the problem. Their view is that generating and marketing improvement science wisdom (with generalisable or transferable knowledge) requires a genuine partnership between academics/researchers and all front-line practitioners. According to Marshall and Mountford (2013), these research partnerships or inter-disciplinary approaches have the potential to influence the cynicism, scientific rigour and methodological

expertise of the academic world and to fuse them with the vigour, content and context-knowledge of practical experience, engaging all in the progress of QI work. However, there is little evidence in the literature of collaborative or inter-disciplinary QI research. In fact, the opposite could be said to be true. A recent review of five QI programme evaluations highlighted 'tribalism' as one of the main challenges for improving healthcare (Dixon-Woods et al., 2012).

3.6.3 Improvement science as a framework and approach

Although much of the literature describes QI in terms of case studies and reports, there is a small, but growing, body of interest in attempting to understand the theory behind successful QI efforts. Environmental, contextual and other components of improvement science are all contemporary issues in the literature, with a current focus on the rigour of implementation (Langley and Denis, 2011, Langley et al., 2009, Bate et al., 2004, Walshe, 2009).

There are some practical examples in the emerging literature of conceptual frameworks being developed, which help to define the many components important for implementing improvements into healthcare (Bate et al., 2008, Shojania et al., 2004, Alexander and Hearld, 2009, Damschroder et al., 2009, Knapp and Anaya, 2012). Many use the theories of other disciplines to understand the behaviour patterns of clinicians, patients and organisations in QI. The majority tend to focus on what works, where and why. There are multiple examples of QI implementers attempting to develop an overarching theory which explains and predicts. The Consolidated Framework for Implementation Research (CFIR), for example, describes five domains: intervention characteristics, outer setting, inner setting, characteristics of individuals involved and the process of implementation (Damschroder et al., 2009).

Knapp and Anaya (2012) acknowledge the work of implementation theorists, concluding that there is no such thing as a typical implementation, and they attempt to integrate relevant elements of these theories into a simple six-step approach for implementing healthcare QIs. Their six-step practical framework ADAPTS (Assessment, Deliverables, Activate, Pre-training, Training and Sustainability) provides a practical

and concise guide for implementing quality implementations. These practical guides attempt to demystify the rigour of QI, increasing the likelihood of uptake by other healthcare professionals and promoting a practical team approach.

The improvement collaborative methodology/framework was developed by the Institute of Healthcare Improvement in the US and is sometimes described as the Breakthrough Model (Schouten et al., 2008). It has been used internationally and appears well accepted within the literature. The methodology is derived from continuous QI theories, combined with organisation-change theories (including the Model for Improvement). It requires a number of teams with common improvement interests working together in a structured way to plan, implement and monitor improvements in care. It essentially contains approaches that:

- Generate change ideas based on best practice
- Involve process mapping
- Employ rapid-cycle improvement using plan-do-study-act cycles
- Use a series of learning events followed by action and implementation
- Require continuous and ongoing communication with experts in the area
- Require regular review, feedback and comparison of improvement data.

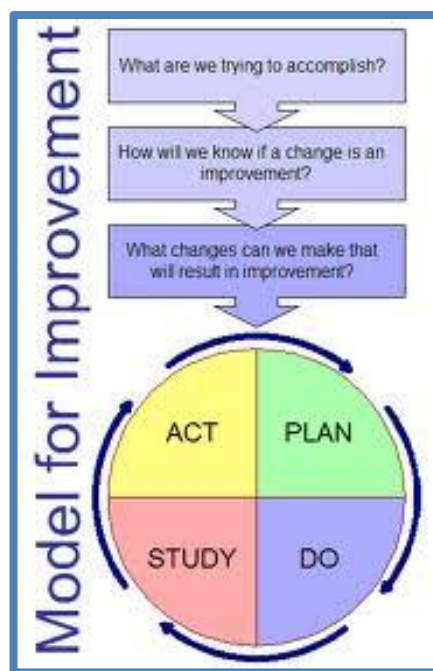
Attempts to develop a framework that fuses or integrates previous frameworks and learning into a simple checklist of determinants that enable improvements have proven difficult (Flottorp et al., 2013). Many studies and reviews (Powell et al., 2009, Boaden et al., 2008, Fixsen et al., 2005) have found multiple factors (including knowledge, cognition, attitudes, routines, social influence, organisation and resources) and determinants that affect the roll-out of improvement implementation and that are often specific to the innovation, context and professional group. The general consensus of the literature reviewed, however, is that there are many different paths to successful, sustained QI, and that the key is in finding a 'fit' of solutions and strategies which match the organisational context (Bate et al., 2008, Boaden et al., 2008). Similar conclusions were described in a summary of learning from the 'lining up' project, which followed 19 ICUs taking part in the international QI study 'Matching Michigan' (Dixon-Woods et al., 2013). It found that it is most probably a combination

of theories (implementation and contextual factors) which explain the differences in QI programme outcomes.

3.6.4 Using improvement science in quality improvement

As reported earlier, the most widely known approach to implementing improvement in healthcare described in the literature is the Model for Improvement (Langley et al., 2009). This approach combines the plan-do-study-act (PDSA) model with three fundamental implementation questions (see Figure 3.1).

Figure 3.1: Model for Improvement



The PDSA model has its origins in the work of Deming (1986) and is designed to improve processes and outcomes. The rationale for PDSA comes from systems theory and the concept that systems are made up of interdependent interacting elements and are therefore unpredictable and not linear – small changes can have large consequences (Langley et al., 2009). Rapid, small-scale tests, linked to reflection, can be useful as they enable healthcare teams to learn on the basis of action and its observed effects (Berwick, 2003).

The approach has been adopted extensively and is cited in many national QI programmes (Powell et al., 2009, The Health Foundation, 2011). Some researchers

have reported mixed success in using the PDSA cycle, with many organisations not progressing past the 'plan-do' part of the cycle (Bate et al., 2008) and thus reverting to traditional approaches of top-down change implementation (Glasgow et al., 2012). There is some evidence of managers not wishing to relinquish control of the PDSA process and activity to front-line teams, creating conflict and tension between the changes and improvements that the front-line team wants to make and the overall objectives and priorities of the organisation (Langley and Denis, 2011, Siriwardena, 2009). There is little doubt that these tensions and the perceived 'drivers' have an impact on the adoption and sustainability of interventions.

The application of the Model for Improvement approach for large-scale or systemic change was questioned by Newton et al. (2007). The call for a more social aspect to the approach (Bate et al., 2004), the popularity of the IHI Breakthrough approach, and the development of eclectic adaptations of the approach (Productive Ward) demonstrate that the rapid introduction of change through swift cycles may not suit all instances and that many contextual factors should be considered (Kaplan et al., 2010, Dixon-Woods et al., 2011).

3.7 QI and Context

As reported in 3.5.2 there is increasing interest in the literature in not only understanding whether it works (intervention impact), or how you do it (implementation), but also in trying to understand what environmental determinants or context foster QI effectiveness or success. Obtaining a standard definition or understanding of context from the QI literature presented a challenge, and it appears to be a term that is increasingly used but little understood, a situation not helped by the absence of a single standard definition. In a relatively recent systematic review of the QI literature (Kaplan et al., 2010), the authors took the decision to define context as anything not directly part of the technical QI process (including the methods and the intervention itself). The authors expanded this definition to include characteristics such as organisational setting, the individual, his or her role in the organisation, and the environment.

Other authors describe context as a list of factors or attributes that can affect improvement efforts (Krein et al., 2010, Ovretveit, 2011a). Whilst general examples of attributes can include organisational leadership, purpose, trust, climate or learning (amongst others), there is a tendency in the latest literature to steer clear of factorial lists and to examine the dynamic nature of context and its relationship with or influence on the intervention and implementation (Bate et al., 2014).

Despite the difficulties with definition, there are four main dimensions of context described in the literature: subjective and objective context, receptive and non-receptive context, inner and outer context and a new emerging concept of context as a dynamic ever-changing process.

- Objective context refers to objective phenomena – factors/variables/objects/events. Subjective context refers to how people selectively attend to, interpret and attach significance and relevance to things, and more importantly, how that impacts on their behaviour with others.
- Receptive context refers to factors which produce receptiveness to change and therefore increased innovation/performance, whereas non-receptive context refers to factors leading to a decline in performance and organisational stagnation. Much of this work, including some of the diffusion and adoption literature adaptations by Greenhalgh et al. (2004a), refers to the early Organisational Development (OD) work of Pettigrew (1993).
- Inner and outer context refers to the immediate, intra-organisational context (leadership, work culture, work-based relationships) as micro, and to the wider social and political context (health service, national government policy) as macro.
- A relatively new concept in the literature is that context overlaps and is not static between task, implementation and social context (McDermott and Keating, 2012). Context is seen as a process which is constantly changing.

The one constant reflected in the literature refers to the implementation efforts required to actively consider and manage context in order to effectively improve QI efforts.

3.8 The Requirement to ‘Engage’ in Quality Improvement Science

Attention is paid in the literature to the impact that roles, values and relationships have in the success of QI implementation (Langley and Denis, 2011). QI initiatives have typically faltered or failed to engage healthcare professionals, with reports of apathy and resistance (Davies et al., 2007). It is becoming widely acknowledged that engaging clinicians from whichever setting or discipline is a precondition for the success of QI initiatives (Siriwardena, 2009, Dixon-Woods et al., 2012). Engagement is described as not only showing interest in QI implementation, but also a zest for maintaining and sustaining improvements. How ‘interest’ and ‘zest’ are cultivated in contemporary healthcare environments (especially with austerity measures, wage-cuts, a reducing work force and having to do more with less) is an important element that does not seem to be addressed in the QI literature.

Gollop et al. (2004) provide organisational change findings which show that getting individuals to think and behave in different ways is not all that straightforward. They propose the main reason as being that not all healthcare professionals are convinced of the value and merits of improvement programmes.

Bate et al. (2004) suggest the use of social movement theory and the use of ‘bottom-up’ and ‘grass root’ energy as drivers to engage healthcare professionals in improvement and change. In an attempt to rally clinician support and engagement for QI activity, Gill (2012) outlines four ‘compelling’ reasons why every healthcare professional should engage in QI implementation:

- It should be now a natural part of one’s professional ethic.
- It is rapidly becoming an imperative for professional body registration.
- QI science is gaining increased academic legitimacy.
- Engaging in improvement can be personally and professionally rewarding.

Team leadership and the involvement or engagement of physicians has been significantly associated with the success or the perception of success of QI effectiveness in a number of studies (Kaplan et al., 2010, Dixon-Woods et al., 2012).

3.9 Programmatic Approaches to Quality Improvement (Lean etc.)

Recent reports in the UK and Europe indicate that despite the focus on quality, improvement and the introduction of 'science' into the equation, services are falling short of some very basic standards, nationally agreed performance targets and patient expectations (Keogh, 2013, Francis, 2013, OECD, 2013). Similarly, in the United States, national healthcare disparity reports since 2006 have consistently highlighted that healthcare quality and access are suboptimal, especially for minority and low-income groups (Clancy et al., 2013).

In response to these reports and trends, healthcare organisations worldwide have introduced and tested new programmes and systems of work organisation from the world of industry and business in an attempt to improve healthcare quality and patient safety, and to do more with less resources. These healthcare QI programmes have taken a variety of semblance, including Lean (Graban, 2012), Six Sigma (Charles et al., 2012), Total Quality Management (Qianmei and Chris, 2008) and the Model for Improvement (Langley et al., 2009). In an attempt to apply themselves to healthcare settings, many of these programmes have been remodelled, adapted and mutated, creating a little confusion and apprehension amongst the healthcare teams who have to implement them (de Souza, 2009, Walshe, 2009). Examples of modified or eclectic QI initiatives introduced into healthcare include Lean Healthcare (de Souza, 2009, Burgess and Radnor, 2013), Lean Six Sigma (Glasgow et al., 2010), Clinical Microsystems (Gobel et al., 2012), Transforming Care at the Bedside (Dearmon et al., 2013), and PW (Wilson, 2009).

There are some good reasons for the healthcare profession to be concerned about the effect and impact these new 'adapted-for-healthcare' programmes and systems of work may have on the front-line clinical teams who predominantly implement them. They are complex social interventions, with little robust evidence to suggest that they

can maximise effectiveness or avoid failure in healthcare settings (Ovretveit and Gustafson, 2002). The sociotechnical elements (Joosten et al., 2009), contextual elements (Ovretveit, 2011) and micro-political elements (Langley and Denis, 2011) involved in using these eclectic, adapted healthcare improvement methodologies have yet to be fully established and are not entirely understood. There is evidence emerging of a complete misfit with the logic of the public health service (Radnor and Osborne, 2012).

These sociotechnical, contextual and micro-political elements of QI implementation are often more noticeable in a QI intervention when they are absent than when they are present. Poor attempts at implementation and 'dabbling' with the tools and methodologies of industrialised QI can negatively impact employee engagement and enthusiasm, and promote a lack of appetite for any improvement effort (Gollop et al., 2004, Radnor and Osborne, 2012, Radnor et al., 2012). This may result in nurses and front-line clinical teams questioning the purpose of all QI initiatives (regardless of their best intentions) and promoting an air of cynicism around QI efforts as if they are just another passing management fad (Radnor et al., 2012, Morrow et al., 2012, Walshe, 2009).

3.10 Chapter Conclusion and Implications for Research

The following conclusions can be drawn from the exploration, analysis and discussion presented in this section:

1. In the context of the historical development of QI in healthcare, there has been a predilection for a natural science approach (and of positivism in particular). This has entailed a whole new set of language and an emerging theory suitably named 'implementation science'. The concept and term appear to be more commonly found in US healthcare literature than in UK and Irish literature.
2. QI has its developmental roots in clinical audit but the concept has moved away from the traditional approach of clinical audit (looking) to a more theoretically sound, structured approach (improving), which has been applied and proven in manufacturing and industry.

3. Because Deming (1986) focused on systematically exploring all the factors needed to improve quality and efficiency, his work, the use of PDSA cycles and the Model for Improvement are commonly seen and reported as *the* approach for the science of improvement. (This could also be viewed through a paradigm lens as the positivist approach asserting influence over the naturalist approach.)
4. Because many QI efforts fail, are questionable or are not sustained, there has been a noticeable shift away from simply publishing the improvement science methods and their results. There is a much broader view emerging which explores the factors that help or hinder QI efforts (implementation).
5. By critically examining the many ‘what’ factors or determinants (especially the contextual factors) that facilitate improvement and its roll-out, and by using more rigorous scientific methods for implementing and disseminating research findings, the science of improvement is finally moving away from solely focusing on whether initiatives or interventions are effective and successful or not.
6. There is growing evidence that engaging professionals in the culture of QI impacts positively on the use of improvement science and the sustainability of improvement efforts. In an attempt to cultivate engagement by healthcare professionals, many healthcare organisations have turned to QI programmes that have been tried and tested in industry (Lean being the best example).

There is no single definition of what QI and improvement science is. A number of the papers reviewed classify QI as a systematic approach that uses specific techniques (the science) to improve quality. The Health Foundation (2013) have consistently used Ovretveit’s (2009) general definition of healthcare QI (provided in figure 3.2) and as such I have adopted it as the working definition for this study.

Figure 3.2: Definition of Quality Improvement

..better patient experiences and outcomes achieved through changing provider behaviour and organisation through using a systematic change method or strategy.
Ovretveit (2009, p8)

Exploration of the QI and improvement science literature in this chapter has identified the following key areas with implications for research:

1. Much of the literature refers to the requirement and rationale for the concept, its development and application. There is some literature emerging in relation to how it is embedded with implementation theory and the many facets of implementation itself. None, however, could be said to be seminal pieces of work, leaving an unclear and somewhat clouded landscape of evidence about the field of improvement science. Therefore, from the above, it seems that an outstanding question remains, is improvement science really a science or is it, as it appears in the literature, more about the successful implementation of improvement?
2. There is a palpable desire in the healthcare QI literature to adopt and replicate the many successes of QI in industry into healthcare QI. Programmes which utilise scientific improvement methods from industry (used to energise and engage shop-floor teams) are very much in demand in healthcare. Although clinician engagement is portrayed as a key factor for QI effectiveness in the literature, what is the role engagement plays in the delivery of clinical QI? Engagement within the QI context is not fully understood and deserves to be further explored.
3. Due diligence and careful attention should be devoted to fully understanding the many contextual, organisational and environmental factors that influence the methods used in improvement and improvement science. However, these are bound to be both sparse and complex. The recent literature focuses on the dynamic state of context and its relationship with other key intervention and implementation factors. The pertinent questions one could consider are: What

are the most important key implementation factors and relationships? What is their impact on effectiveness?

Some of the points and themes raised in this chapter will also emerge in the following literature review chapters and will be taken into account during exploration of the literature in each domain, the analysis of key themes and the development of research questions.

Chapter 4: Lean and Lean Healthcare

4.1 Introduction

The objective of this chapter is to review the literature in order to explore the Lean concept and to extract the reported effects and impact that Lean healthcare initiatives have on the employees and organisations who implement them. This chapter also examines the connection between Lean and the PW initiative by comparing the reported effects and impacts from both sets of literature. Section 4.2 provides a broad overview of the context of Lean, and discusses some of the drivers for introducing what is essentially an industrial, car-manufacturing model of improvement into healthcare. Section 4.3 provides the background to the development of Lean as a concept. Section 4.4 details the origins of Lean in the Toyota Production System and highlights the importance of a whole-systems approach to improvement.

Section 4.5 describes the tools and methods most commonly used in the Lean approach. The development of Lean healthcare as a separate emerging concept of Lean is outlined and discussed in section 4.6. Section 4.7 describes the search strategy employed for this chapter and outlines the article selection criteria. A breakdown of articles selected is provided with details of the content analysis and emergent themes. The common effects and impact themes found in a content analysis of the literature and compared to the PW literature are highlighted in this section. The roles that engagement, leadership and empowerment play are explored in section 4.8. Section 4.9 provides a summary, highlighting the literature review findings and identifying three impact and effect areas – Engagement, Leadership and Empowerment – which appear to influence the implementation effectiveness and success of both Lean healthcare and the PW initiative. The socio-cultural impact generally found in the Lean literature and practically absent in the Productive Ward literature is explored.

4.2 Why Lean?

Health services worldwide are continually striving for more cost-effective, improved, quality-focused modes and models of care delivery (Ferlie and Shortell, 2001). The

emphasis in healthcare appears to be rapidly shifting from a model of low-cost provision to one that embraces low cost, improvement and high quality (Mazur, 2012). Expectations of improved performance and reduced costs have led many public services to look to the private sector, industry and management systems for tools and methods that can help meet these expectations. The Lean approach has been proposed as a method from industry which can achieve both substantial cost savings and quality improvement (Radnor and Walley, 2008, Radnor and Boaden, 2008).

Lean as a concept was popularised by Womack et al. (1990), who highlighted how the Toyota Production System (TPS) could simultaneously improve the quality and reduce the cost of Toyota's cars. The approach has revolutionised business processes in manufacturing globally. Utility and financial services and the public sector first engaged with the Lean concept in early 2000. Healthcare organisations began reporting Lean initiative implementation soon after (Bushell, 2002, Miller, 2005), and one can only surmise that healthcare was attracted to the Lean approach by the effectiveness and success achieved in other industries.

The impact of Lean on quality improvement in healthcare has been relatively positive (Fillingham, 2007, Mazzocato et al., 2010, Mazur, 2012). However, there appear to be challenges in relation to how it is implemented (Radnor et al., 2012, Mazzocato et al., 2010), how it engages healthcare professionals (Poksinska, 2010, Holden et al., 2011, Mann, 2009, Graban, 2012) and how leadership is a vital ingredient in its success (Miller, 2005, Mann, 2009, Emiliani, 2011).

The most prominent healthcare example of Lean in the UK is reported to be the Productive Ward programme (Waring and Bishop, 2010), which was designed to utilise Lean improvement techniques, the 'intrinsic motivators' of social movement theory and the front-line engagement theories of large-scale change in a healthcare environment (NHS Institute and NNRU 2010b).

4.3 Background to Lean and Lean Thinking

Lean and Lean thinking have their origins in the Toyota Production System (TPS), first established in the 1950s. Its creation is attributed to a Toyota chief engineer named

Taiichi Ohno, who consolidated many of the concepts already in Toyota into a set of tools, methodologies and culture (Womack and Jones, 1998). Taking the concepts of Fredrick Taylor's time and motion studies, Ford's just-in-time assembly processes and the measurement research of W. Edward Deming, Ohno inadvertently created the TPS, a methodology and way of working that dramatically improved Toyota's level of quality without increasing their costs. TPS is a philosophy that rejects waste (which is called Muda by the Japanese) in any form and strives to eliminate defects, continually attacking both in a never-ending pursuit of perfection (Womack et al., 1990). Lean thinking discourages temporary or interim solutions, classified as 'workarounds', and encourages resolution at the root of the problem (Womack and Jones, 1998).

Assuming that organisations are process driven, there are five core principles of Lean thinking, as described in Table 4.1 (Womack and Jones, 1998, Radnor and Boaden, 2008).

Table 4.1: Five Core Principles of Lean Thinking

1. Specify the value desired by the customer. It is also useful to identify who the real customer is and better understand their requirements, which can be complex.
2. Identify the value stream for each product providing that value and challenge all of the wasted steps.
3. Make the product flow continuously. Standardising processes around best practice allows them to run more smoothly, freeing up time for creativity and innovation.
4. Introduce pull between all steps where continuous flow is impossible. This focuses upon the demand from the customer and triggers events backwards through the value chain. In this way, inventory [or people waiting] and human activity is linked to customer needs.
5. Manage towards perfection so that non-value-adding activity will be removed from the value chain and the number of steps and the amount of time and information needed to serve the customer continually falls.

Adapted from: Womack and Jones (1998), Radnor and Boaden, (2008)

4.4 The 'Toyota Way': A Whole-systems Approach

Because of the success of the technical tools and elements of Lean, it is easy to forget the rest of the whole system that is the TPS. TPS is an integrated organisational culture that starts with people and human development at the centre. The people are then surrounded and supported by a balanced approach combining technical tools (what we do), managerial tools (how we manage) and a philosophy (what we believe) (Liker, 2004). This interaction between the technical elements and the social or human behaviour has been described as the sociotechnical aspects of Lean (Joosten et al., 2009).

Human development in the Lean approach means putting in place a solid framework to cultivate capable leaders and provide employees with the necessary practical skills (Womack and Jones, 1998). The Lean approach involves coaching, stimulating organisation-wide participation and employee empowerment (Emiliani, 2003). As a social-technical system, people are seen as the key resource which drives all other resources (Joosten et al., 2009).

Managerial tools in the Lean approach are described as the provision of leadership and management skills for implementing Lean methods (Mann, 2009). Once Lean methods have been implemented, sustained leadership and a system of management are required to sustain those improvements (Mann, 2009, Graban, 2012).

All of this taken together becomes the organisational culture that is Toyota, or the Lean culture (Graban, 2012). In one of the simplest and most holistic definitions of Lean, Liker and Franz (2012) describe Lean in two parts: (i) continuous improvement and (ii) respect for people. Ohno himself outlined the Toyota system as having twin concepts: production efficiency by consistently eliminating waste and a respect for humanity that has been passed down from the founder Sakichi Toyoda (1837–1930) (Liker, 2004). This respect for humanity extends to all stakeholders including customers, employees, suppliers and the communities in which Toyota operates (Graban, 2012). Although these concepts are well established in the TPS in what is called the Lean approach, many organisations that attempt to introduce or implement

Lean tend to focus only on the Lean tools aspect and the elimination of waste (Radnor et al., 2012). This results in the absence of the humanistic, people-centred aspect of the approach, which is a major, vital component.

4.5 Lean Tools and Methods

Although there are many tools and methods involved in the approach, the literature identifies five basic Lean tools and methodologies most commonly used for examining and eliminating waste:

- The 5 Whys: A method that involves starting with the problem and asking iterative questions until the root cause is determined (Liker, 2004). The response to the first question will in turn be questioned, and the response to that questioned again. This process repeats five times until the answer seems like the correctable root cause (Grabau, 2012).
- The 5 'S's: refers to a method of organising workplaces to reduce wasted time and motion for employees that involves: sorting, straightening, scrubbing, standardising and sustaining (Womack and Jones, 1998).
- Kanban: is the Japanese term meaning 'signal' and is usually a visual indicator that something is out of stock or will be soon. A Kanban may simply be an empty shelf. Visual indicators ensure that everything is available when and where it is needed. These may be signage, alarms or self-locking boxes (Liker, 2004).
- Visual Controls/Management: is a method for making problems visible, providing for a fast response and problem solving at the point of reference (Hines et al., 2011).
- Standard Work: involves the standardisation of all work processes. Through documentation and training it can be ensured that processes are performed in the same manner every time, by every person, so that errors are less likely to occur (Womack and Jones, 1998).

One of the most popular methods for implementing changes utilised by the Lean approach is through the use of Rapid Process Improvement workshops or Kaizen events (a Japanese word meaning 'continuous improvement' that focuses on workplace improvement by employees) (Grabau, 2012). The implementation of Lean in the majority of cases involves the identification of value streams, that is, areas of importance which can be made more efficient. The change needed in these areas is

usually effected through a series of coordinated Rapid Improvement Events (RIEs) that engage and utilise the most experienced employees (Graban, 2012).

RIEs can be three to five-day events in which front-line employees are taken from their normal daily duties to focus on the efficiency changes required. Participants are selected from the employees that actually do the work on a regular basis (Liker, 2004). Prior to the event, the management team meets with Lean leaders to carefully plan the event. RIEs usually begin with training or retraining on the Lean concepts and tools (Liker, 2004). The participants learn about the theories of Lean such as Kaizen (continuous improvement), elimination of Muda (waste) and the types of Muda, work standardisation and the 5S process.

Following training, workshop leaders walk the participants through developing a process map for the current state of the workflow. Using this map, they identify checkpoints, queues and other wasteful steps. The end goal is to remove all (or as many as possible) non-value-added steps. Value-added steps are those which add value from the perspective of customers or users (Womack and Jones, 1998).

Once as much waste as possible has been eliminated, a future-state map is developed. A list of small projects needed to achieve this new state is drafted. Over the next several days, the RIE participants work to complete these projects. They are given open access to resources (e.g. plant operations, information technology, administration) to accomplish these projects quickly. While some projects remain to be completed following the workshop, the goal is to complete all work prior to the close of the fifth day (Liker, 2004).

A number of authors have highlighted the differences between the simple application of Lean tools and methods and the systemic application of Lean (Radnor and Walley, 2008, Waring and Bishop, 2010, Poksinska, 2010, Mazzocato et al., 2010). Adopting Lean and the TPS philosophy requires a complete and radical change in organisational culture and leadership (Mann, 2009, Emiliani, 2003, Hines et al., 2011).

In their research on eight public sector organisations, Radnor and Walley (2008) identified two distinct approaches to Lean implementation. They distinguished between the Rapid Improvement Event (RIE)-type approach, which is characterised as short-term, focusing on a quick return, and a 'full implementation' systems approach whereby Lean is aligned to the strategic goals and vision of the organisation and focused around long-term improvement. Emiliani and Stec (2005) describe the distinctions in relation to the deployment of the principles and practices of Lean in terms of 'Real Lean' (the adoption of the system as a whole across the whole organisation) and 'Imitation Lean' (only selected Lean principles and practices are adopted, usually just the tools).

4.6 Lean Healthcare

The application of Lean into healthcare appears to have been driven by the necessity to do more with less (Fine et al., 2009, Kim et al., 2006). The term 'Lean healthcare' is a relatively new term, with a focus on efficiency and patient satisfaction (de Souza, 2009). It is a term that has not been precisely defined and has often been misunderstood (Mazzocato et al., 2010, Emiliani, 2011). It was first introduced into the healthcare literature by the NHS Modernisation Agency in 2001 (de Souza, 2009). The uptake by healthcare organisations did not gather any real momentum until around 2005 (Fillingham, 2007). Successful implementation in healthcare on an organisational scale is uncommon and disjointed, with only a handful of examples worldwide (Young and McClean, 2008, Dahlgard et al., 2011). There is some evidence emerging that this trend will continue as healthcare organisations pursue the unrealistic expectation of being able to 'fit' an industrial business-logic model of reform and improvement into a public service model and system (Radnor and Osborne, 2012).

Many healthcare organisations are guilty of the 'quick-win, tool-based' approach, and commence Lean implementation without fully understanding the cultural and structural preconditions which are necessary for its effective implementation (Dahlgard et al., 2011, 2010, Radnor et al., 2012). Poksinska (2010) reports that a high number of healthcare organisations take just a process improvement approach to

Lean implementation, adapting instead of adopting, and in some cases focusing just on a particular technique or tool associated with Lean, such as the 5S exercise.

5S, short for: Sort, Set in order, Shine, Standardise and Sustain, is succinctly described as:

‘A management system that is designed to help workers establish and maintain a clean and safe work environment that is easy to use and that makes it easy to recognise when something is out of the ordinary.’ (Kim, 2009 p. 558)

The consequence of such an approach is that the techniques or tools are then seen as Lean, some ‘quick-win’ improvements are made, and little additional energy or focus is spent on the development of a sustainable culture of structured problem solving (Radnor and Walley, 2008). This short-term thinking and ignorance of the total Lean management system has been referred to in the literature as ‘fake’ or ‘imitation’ Lean (Emiliani, 2011, Emiliani and Stec, 2005) and a recent UK study reported this phenomenon in the NHS (Burgess and Radnor, 2013).

Healthcare organisations who effectively engage with Lean principles not only see improvements in their organisations’ performance in terms of systems processes and quality, but also experience significant outcomes for employees (Poksinska, 2010).

Some of the reported employee impacts cited in the Lean literature include:

- Improved enthusiasm and involvement (Jimmerson et al., 2005, Holden et al., 2011).
- Leadership (Mazur, 2012, Kim, 2009, 2012, Mann, 2009, Emiliani, 2003).
- Reduced stress levels (Chow et al., 2009).
- Improved staff satisfaction (Cima et al., 2011).
- Empowerment (Wojtys et al., 2009, Vats et al., 2012).

4.7 A Content Analysis of the Lean Healthcare Literature

A review of the literature was carried out to identify the key determinants of Lean in healthcare from an employee-impact perspective. Because of the focus of this study and the prominence of PW in the Lean healthcare literature, a decision was taken to analyse all publications related to the implementation of Lean in healthcare and to the

PW initiative in order to identify reported effects and impacts on participating employees. The effects and impacts from the Lean healthcare literature and the PW literature were then compared to identify differential and common elements of employee benefit.

The review was limited to published journal papers from January 1990 to March 2013. This covers the period prior to the popularisation of Lean as a concept and its migration to healthcare, and before Lean healthcare had been defined, up until the date of review which was required for the guidance of the implementation stage of this action evaluation. Language restrictions were included which limited the search to texts available in English. Because the application of Lean now spans many industry and academic interests, no restrictions were placed on the type of literature (academic, editorial, professional discussion etc.) or its source (healthcare, business, management and technology etc.).

A number of electronic and web-based databases were utilised, accessed via the Multisearch platform at WIT library. The Multisearch system is described in the previous chapter (section 3.3 and Table 3.1).

In addition, this search led me to a unique healthcare-community website hosted by Mark Graban, a Lean healthcare consultant who is renowned for his Lean healthcare blogging. Many of his resources relate directly to acute-care facilities and were accessed directly from his website: www.Leanhospitalsbook.com.

The initial key search terms used were: 'Productive Ward', 'Productive Series and RTC', 'Lean', 'Six Sigma', 'Lean Sigma and Healthcare'. In addition, a secondary search was performed using the terms 'reports', 'experience', 'implementation' and 'impact'. The 'and' Boolean facility was used to focus and refine the search. The combined search retrieved over 900 items. An initial manual examination of the abstracts was then conducted to assess the appropriateness of the literature for inclusion in the review. The inclusion criterion was based on the extent to which the issue of 'employee experience' or 'implementation' was addressed in each individual piece of literature

with particular emphasis placed on research articles from high-impact journals and papers that included nursing or healthcare issues.

4.7.1 Paper selection

In an effort to summarise and identify key determinants from the published literature, some basic standards were used to establish inclusion criteria. To be included in the review articles were required to meet the following criteria:

- Be identified in the title or abstract as reporting on a Productive Ward, Productive Series or RTC project/initiative or a Lean, Six Sigma or Lean Sigma project/initiative
- Be focused in a healthcare organisation or environment
- Provide a description or overview of the research/study/project/initiative
- Offer impact/insights/improvements or reports.

Healthcare organisations and environments were defined to include any activity associated with the care and management of patients/clients, including hospital support services (for example laboratories, radiology, outpatients) that support the patient journey. In order to capture 'real life' experiences and reports, articles were accepted from a variety of sources and included peer-reviewed papers, professional journals, health-related publications and healthcare media.

This comprehensive search retrieved a total of 528 references from the 'Productive Ward: RTC' search theme and 414 references from the 'Lean/Six Sigma/Lean Sigma and healthcare' theme. A further search through the reference lists of the relevant publications and use of google and google scholar yielded nine additional Productive Ward: RTC papers and 12 additional Lean/Six Sigma/Lean Sigma papers. (See Table 4.2 below for retrieval totals and breakdowns of peer-reviewed papers).

Table: 4.2: PW and Lean Search Results

Productive Ward/Releasing Time to Care

- Total publications retrieved: 528 papers
- Duplicate and non-relevant citations removed: 419 papers
- Screened for thematic relevance: 109 papers
- Employee experience/outcome/engagement cited: 44 papers
- Peer reviewed: 12 papers, Evaluations/reports: 7, Professional journals: 23 papers, Editorials: 2

Lean/Six Sigma/Lean Sigma and Healthcare

- Total publications retrieved: 414 papers
- Duplicate and non-relevant citations removed: 262 papers
- Screened for thematic relevance: 152 papers
- Employee experience/outcome/engagement cited: 64 papers
- Peer reviewed: 38 papers, Professional journals: 24 papers, Editorials: 2

4.7.2. Analysis

The reviewed articles were then subjected to a systematic qualitative content analysis as outlined by Bryman (2012). All papers were examined for items relating to or reporting on the employee experience or employee impact. Forty-four Productive Ward papers and 64 Lean/Six Sigma/Lean Sigma and Healthcare papers met the criteria. Each paper was then explored and coded in terms of its employee impact or experience. The emphasis in using this approach was to let the categories or themes of employee experience/impact cited in the selected literature emerge from the text. Table 4.3 outlines the categories that emerged in both the Productive Ware: RTC literature and the Lean/Six Sigma/Lean Sigma (referred to as Lean from here on) literature.

4.7.3 Ranking

Because some papers contained multiple categories, subjects and themes, it was decided to employ a counting/frequency table of the categories as they were uncovered during analysis. This was explored further by examining the occurrence of keywords or determinants within the context of the cited employee experience or impact, and within the category or theme. The categories were then ranked by the frequency or number of references (see Table 4.3).

Table 4.3: Ranking of Categories as They Occurred in the Literature

Productive Ward: RTC Literature

1.	Empowerment	Allsopp (2009), Anthony (2008), Bloodworth (2011b), Bevan (2009), Blakemore (2009b), Blakemore (2009a), Beasley(2009) , QIPP NHS evidence (2009), Farrell and Casey (2011), Ford (2010), Foster (2009), Gray (2008), Gribben et al.(2009), HQC (2011), Lennard (2012), Liplely (2009), Mumvuri (2010), NHS Institute (2012), Staines (2008), Smith and Rudd (2010), Sheppard (2009a, Greenhalgh et al., 2004b), Taylor (2009), Wilson (2009), Ward and Parish (2009)
2.	Leadership	Bevan (2009), Blakemore (2009a)(2009b), Coutts (2010), Davis and Adams (2012), Eason (2008), Ford (2010), Grant (2008), HQC (2011), Morrow et al. (2010), NHS Institute (2011), Robert et al. (2011), NHS Institute and NNRU(2010a), NHS Institute and NNRU (2010b), Sheppard (2009), Sheppard (2008),
3.	Stress & Resistance	Armitage and Hingham (2011), Coutts (2010), Davis and Adams (2012), Gribben et al.(2009), HQC (2011), Morrow et al. (2010), Mumvuri (2010), Ross (2011), NHS Institute and NNRU (2010b),
4.	Engagement	Avis (2009), Grant (2008), HQC (2009), Liplely (2009), NHS Institute (2011), NHS Institute (2010a), Sheppard (2008), SRNA (2010)
5.	Improved Teamwork	QIPP NHS evidence (2009), Ford (2009), Ford (2010), HQC (2009), Robert et al. (2011), NHS Institute (2010b), Smith and Rudd (2010), Wilson (2009)
6.	Staff Morale	Blakemore (2009a), HQC (2011), NNRU (2011), NHS Scotland (2008), NHS Institute and NNRU (2010b), Smith and Rudd (2010),
7.	Role Enhancement	Bevan (2009), Davis and Adams (2012), Farrell and Casey (2011), Taylor (2009),
8	Socio-Cultural Impact	Gribben et al.(2009), Ward and Parish (2009)
9	Staff Satisfaction	NHS Institute and NNRU (2010b),

Lean Literature

1.	Socio-Cultural Impact	Black (2009), Bliss (2009), Brackett et al.(2011), Burgess (2010), Davis (2011), Dahlgard et al, (2011), Esimai (2005), Fine et al. (2009), Grunden (2009), Graban and Swartz (2012), Holden (2011), Hasle et al. (2012), Joosten et al. (2009), Kim (2009), Murrell et al. (2011), Mann (2009), Mazzocato et al. (2010), Manos (2006), Mazur et al. (2012), Papadopoulos et al. (2011), Poole et al. (2010), Patterson (2009), Radnor et al. (2012), Rooke et al. (2012), Robert and Singh (2009), Radnor and Walley (2008, Mann, 2009)
2.	Empowerment	Ahern (2007), Deans and Wade(2011), Deloitte (2010), Deihl (2011), Dickson (2007), Edwards et al. (2012), Graban and Swartz (2012), Khan and Channing (2007), Murrell et al. (2011), Mazzocato et al. (2012), Mazzocato et al. (2010), Poksinska (2010), Stonemetz (2011), Towne (2010), Tata and Jones (2011), Van Vliet et al. (2010), Wojtys et al. (2009)
3.	Engagement	Burgess (2010), Bliss (2009), Cima et al. (2011), Deans and Wade(2011), Fine et al. (2009), Holden (2011), Hydes et al.(2012), Jimmerson (2005), Kim (2009), Kaplan (2008), Nimtz-Rusch and Thompson (2008), O'Neill et al. (2011), Poole et al. (2010), Radnor (2011)
4.	Leadership	Bliss (2009), Fine et al. (2009), Grunden (2009), Holden (2011), Kim et al.(2009), Kaplan (2010), Mazur et al. (2012), Mann (2009), Poksinska (2010), Steed (2012), Toussaint (2009), Waring and Bishop (2010)
5.	Role Enhancement	Ahern, (2007), Davis (2011), Deloitte (2010), Edwards et al. (2012), Gebhart (2010), McIntosh and Cookson (2012), Manos (2006), Poksinska (2010), Sherman (2006)
6.	Improved Teamwork	Fillingham (2007), HCM (2010), Harrison (2009), Mazzocato et al. (2012), Manos (2006), O'Brien and Boat (2009), Robert and Singh (2009)
7.	Staff Satisfaction	Cima et al. (2011), Deloitte (2010), Esimai (2005), Vats et al. (2012)
8.	Stress & Resistance	Chow et al. (2009), Fine et al. (2009), Glasgow et al. (2010a), HCPN (2007)
9.	Loss of Power	Kaplan (2008), Mazzocato et al. (2012), Pedersen and Huniche (2011)
10.	Ownership	Hydes et al.(2012), Nimtz-Rusch and Thompson (2008), Rooke et al. (2012)

4.8 Exploring some of the Common Effects and Impact Themes Found in both the Lean and the Productive Ward Literature

Table 4.3 exhibits the findings which are organised by the common effects and impacts reported in the literature. Both sets of literature share three common effects and impacts in their 'top five' themes: Empowerment (24 Productive Ward: RTC, 17 Lean), Leadership (15 Productive Ward: RTC, 12 Lean) and Engagement (9 Productive Ward: RTC, 14 Lean). These three themes, although ranked, share no particular order nor are they mutually exclusive. They serve as a general 'impact guide' from the employee's perspective. It is important to also highlight that the literature reviewed represents many different Lean tools, methodologies, approaches and models of implementation. Each report and case study cited in the literature may also contain many contextual factors. As outlined in Table 4.2, the papers reviewed are an eclectic mix of peer-reviewed articles, professional journals, reports and editorials. It is acknowledged in the literature that Lean healthcare is a complex intervention that integrates divergent, multiple variations and components (Radnor, 2011, Mazzocato et al., 2010, Burgess and Radnor, 2013).

4.8.1 Empowerment

The empowerment effect and impact on employees reported in both sets of literature are very similar. The bottom-up philosophy of Lean is generally cited as the most empowering factor (Aherne 2007, Gribben et al., 2009, Deihl, 2011, Murrell et al., 2011, Graban, 2012). But there are also descriptions of how group ownership of an improvement project (Stonemetz, 2011) and front-line staff having a say (Lipley, 2009) empower participants in both Lean and PW initiatives. In both sets of literature, having control and increased control of improvement work is cited as empowering (Bloodworth, 2011, Edwards et al., 2012). Doing the job in a more efficient way, whilst directly helping patients, has also been reported as an empowering factor (Anthony, 2009, Blakemore, 2009b, Wojtys et al., 2009).

Using metrics, measuring and monitoring the improvements has been reported to empower. Tata and Jones (2011) describe how using metrics and measuring the

improvements and changes empowered the management team to challenge the status quo. Challenging the way work is organised (Wilson, 2009, Blakemore, 2009, Smith and Rudd, 2010), bringing about changes to work (Lennard, 2012), being encouraged to solve their own problems (Gray, 2008, Foster and Gordon, 2009, Health Quality Council (HQC), 2011) and challenging the traditional hierarchies (NHS Institute Bradford, 2011) and mind-sets (Ward and Parish, 2009) have all reportedly impacted on the empowerment of front-line healthcare staff.

Dickson (2007), Allsopp (2009), Bevan (2009), Deloitte (2010), Mazzocato et al. (2010, 2012) and Poksinska (2011) have all described empowerment as a key enabler of Lean, harnessing employees' eagerness to realise their own ideas as opposed to top-down process improvements. Towne (2010) and Deans and Wade (2011) report empowerment as a key component, which they claim is responsible for unleashing the true potential of a Lean transformation.

4.8.2 Leadership

The impact and effect that leadership has on employees, cited in the Lean and PW literature, appears to be no different from those referred to in other major change initiatives. There are three key areas of leadership reported as contributing to the success of Lean and PW implementation in healthcare, and they recur in several papers.

The first is the impact and effect that top-level, executive or CEO leadership sponsorship and involvement has on Lean and PW initiatives. Kim et al. (2009 p. 411) describes this executive support and project championing as 'Lean leadership'. It has also been reported as leadership visibility (Steed, 2012) and the holders of the role defined as 'visible leaders of Lean' (Holden, 2011 p. 274). Kaplan (2010) describes Lean organisations as those where leaders get personally involved in advancing the principals of Lean and improvement. Coutts (2010) and Bloodworth (2009, 2011) clearly outline the requirement for PW to have strong leadership support, with leaders paying visits to the ward and making time to talk through the improvements with staff. Mazur et al. (2012), in their study of Lean implementation, outline the need for

organisational leadership, commitment and persistence which can be seen as ongoing dedication to transformation, reassuring sceptical, uncommitted employees.

Corporate or CEO involvement is also reported as being fundamental to success. Both sets of literature report how CEO involvement in the initiative means it spreads more quickly (NHS Institute and NNRU, 2010a, Fine et al., 2009).

The second impact is the role that leadership plays in the improvement work of both the Lean and PW initiatives. This has been described as establishing and creating conditions for Lean (Mann 2009), and the 'how' and the 'when' ward staff can be enabled to carry out PW activities (NHS Institute and NNRU, 2010a). Grunden (2009) and Toussaint (2009) report the major impact for Lean is when leaders learn to move away from control and command towards arming front-line workers with the tools to improve, away from being bosses and towards being 'coaches and mentors'.

The leadership role in Lean is a much more subordinate role (Poksinska, 2010), where the front-line workers design and improve the standard work (Toussaint, 2009). Leaders can put appropriate structures in place (Mann, 2009), remove obstacles (Steed, 2012) during Lean implementation, and make the resource commitment (financial and manpower) required for Lean improvements (Mazur et al., 2012). Waring and Bishop (2010) outline the change challenges associated with Lean and the role effective leadership has in shaping and sustaining the change processes of Lean.

The third is the impact and effect of Lean and the PW initiative in growing and developing leadership in the employees who engage with it. The PW project has been described as a leadership development programme for nurses (Shepard 2009, Ford 2010), a method of leadership for nurse leaders (Shepard 2008), and an opportunity for an organisation to grow its leadership capacity (NHS Institute and NNRU, 2010b). Morrow et al. (2012) in their study reported that the PW programme was helping build leadership skills at ward level by introducing new theory and methods. The HQC in Saskatchewan, Canada (2011) reports that by working through the PW project some natural leaders emerged and helped spread, engage and get 'buy-in'. Similar reports are cited in the Lean literature where Steed (2012) identifies 'Lean learning' as a

leadership method for developing employees. Mazur et al. (2012) outline how employees grow and become emergent leaders and Mann (2009) describes the Lean mind-set and how it affects and changes the way that leaders practice and behave. The majority of papers are case study in design and many of the papers suggest further exploration of the leadership issue.

There is some agreement in the literature that the commitment of senior management is an essential component of the implementation of the Lean production system (Emiliani and Stec, 2005, Boyer, 1996) and it is reported as one of the fundamental ingredients for a Lean transformational change effort to be successful in a hospital (Steed 2012). However, it has also been noted that the leadership effort within the system (the front-line) is a determinant factor in the implementation of Lean and its sustainability (Emiliani, 2003, Pedersen and Huniche, 2011). Similarly, the most commonly reported facilitating factor for successful implementation of PW is project leadership (Robert et al. 2011).

What is not obvious from the literature is whether the 'system of improvement' activates/enhances leadership or if indeed leadership activates/enhances the 'system of improvement'. If the former is accepted (that the 'system of improvement' activates/enhances leadership), then there is some degree of reliance on the 'system of improvement' to engage individuals firstly. If the latter is accepted (that leadership activates/enhances improvement), then there is some reliance on leadership to empower individuals to improve.

This absence of clarity in the literature suggests three areas of research interest. The first relates to the many ways that leadership can interact and utilise the activities, tools and methods associated with Lean or PW. Leader competence and confidence with the tools, processes, and measurement may directly impact the improvement outcomes. In this regard one needs to ask what Lean or PW practitioner competence is required from leaders to maximise improvement outputs from their environments?

The second relates to the ability of leadership to motivate, engage and enrol the team and others in Lean or PW activities. Thus one might ask to what degree leadership

behaviours or traits influence or impact the improvement efforts, outcomes, successes and failures?

Finally the role and impact that Lean or PW activities (the tools, methods and implementation) play in providing development opportunities for the traditional leader as well as leadership opportunities that occur for frontline staff engaged in improvement activities deserves interrogation. One therefore needs to consider whether Lean or PW improvement activities naturally provide structure and processes for leadership development?

4.8.3 Engagement

The literature widely acknowledges that the engagement of employees is a key enabler for Lean and PW efforts. This review highlighted that the involvement and participation element of engagement are frequently cited as the most enabling and engaging determinants of Lean and PW. Jimmerson et al. (2005) and Holden (2011) outline how participation in Lean sessions, process mapping and redesign makes employees more likely to further participate and accept changes created by Lean. Radnor (2011) reported that staff behaved differently and became more motivated as a result of being involved in Lean project activities. The activities associated with the PW modules also report similar experiences (Lipley 2009, NHS Institute & NNRU 2010a, 2010b, Avis 2011). Cima et al. (2011) describes how involvement and active participation by all stakeholders ensured employee engagement in their Six Sigma project. Hydes et al. (2012) also highlight how active involvement in their Lean activities improved employee engagement.

Lean and PW activities appear to impact on the team engagement of healthcare workers. Lean differs from all other improvement initiatives probably because it engages front-line workers in developing ideas and making changes (Fine et al. 2009). The HQC (2011) report outlines how the PW project both engaged and motivated the team and the residents. Burgess and Radnor (2010) describe how rapid improvement events engaged managers and clinicians and Deans and Wade (2011) outline how their Lean learning events produced whole team involvement. Kaplan (2008) advises

involving resistant staff (nurses/physicians) or having them lead on some activities and initiatives, as this acts to engage others.

Fine et al. (2009) describe how addressing the issues of key concern for improvement work engaged the physicians in his organisation and got them actively involved in the Lean improvement processes. Kelly and Thompson (2008) and O'Neill et al. (2011) report that involvement in similar Lean process improvement activities engaged nursing staff.

Levels of engagement are reportedly affected by concerns that Lean means cutting jobs and the scepticism that Lean is another flavour of the month or management fad (Fine et al. 2009). It is also affected by uni-professional improvement activities (Grant 2008). Using dignity and respect and valuing all contributions in the Lean activities and exercises were reported to have helped with the engagement of staff (Deans and Wade, 2011, Holden, 2011).

What is absent from the Lean and PW literature is a clear definition of what engagement is. None of the literature reviewed examined the concept of engagement in the context of Lean or PW. There was no evidence in the literature of any attempt to define or measure engagement through the lens of Lean, PW or QI. It is also noted that there is a paucity of literature describing the consequence of poor or absent engagement on the implementation of Lean or PW. This therefore leaves a number of questions that need to be considered: Is there a definition that is a natural fit for Lean and QI? Can engagement be effectively measured in Lean or PW and is it linked to outputs, success or performance?

4.8.4 The socio-cultural anomaly

One notable result which emerged from the literature review is that only two PW papers referred to any significant socio-cultural impacts in their environments or organisations following implementation of the initiative, compared to the Lean literature which ranked the socio-cultural impact as its top impact/effect. Gribben et al. (2009) in their evaluation describe how the PW initiative helped 'link' their improvement work with other aspects of change within the organisation including the

patient-safety agenda. Kim and Parish (2009) report that the PW initiative helped change both the mind-set and culture of nurses who participated.

Over half (26) of the 44 Lean papers reviewed described or reported the socio-cultural impacts and effects their programmes had on employees and on their organisations. Most referred to the organisational culture shifts experienced as they worked through Lean activities or the shifts that needed to take place as they tried to replicate the Toyota Production System. Liker (2012) highlights the challenges for contemporary leaders in Lean organisations who have to balance investment in developing an internal culture which focuses on continuous improvement and respect for people with making positive contributions that satisfy the customer, eliminate waste and sustain the organisation in its business environment and the world at large.

Bliss (2009) explains how successful Lean healthcare organisations, like ThedaCare and Virginia Mason in the US, all share a commitment to cultural transformation and to leading the organisations in a new way. He also describes how many others have tried without great success to copy this model. This is evident by the absence of any whole systemic Lean healthcare organisations outside of the US. One explanation for this is that in order to be successful, Lean requires a complete organisational cultural change (Burgess and Radnor 2013, Brackett et al. 2009, Dahlgaard 2011). Cultural penetration of Lean concepts must be the prime aim of a healthcare organisation implementing Lean (Fine et al. 2009), and not just the quick win to be obtained by the use of Lean tools (Radnor and Walley 2008). Lean tools are just the first step towards culture change (Grunden 2009). The most crucial element of Lean is the cultural change required to support a continuous improvement mind-set (Roberts and Singh 2009). In fact, the challenge of Lean is to move beyond the tools of Lean and into the deeper learning of improvement (Mazur et al., 2012, Emiliani, 2003), paying attention to the more complex sociotechnical dynamics that Lean brings (Joosten et al., 2009).

Grunden (2009) outlines how organisations start to implement Lean without having understood the cultural and structural preconditions for implementing it, and find that without this firm and sustainable platform, Lean fails to exert any long-term impact, a

point echoed by Burgess and Radnor (2009). Fostering this culture of continuous process improvement ensures that the initial results achieved through Lean are not lost (Murrell et al. 2011).

Patterson (2009) concludes that culture change for Lean is not a short-term project. There are no shortcuts to understanding Lean's fundamental principles (Radnor 2012). It requires the structures to be changed and not just the processes (Holden 2011), and a shift from entrenched views, agendas and routines to a new socio-technical, process improvement organisation (Papadopoulos et al. 2011).

It is clear from the Lean literature that the absence of the socio-cultural (commonly referred to as the 'way we do things around here') from Lean programmes in public service (Radnor and Walley, 2008) and in healthcare (Burgess and Radnor, 2013) has consequences for the adoption and sustainability of Lean. What is not evident from the PW literature, and maybe it is too soon, are the consequences of an apparent socio-cultural absence from PW to date. It will be interesting to observe how the absence of the socio-cultural aspect of Lean in organisations involved with PW will affect the initiative's viability and long-term future.

This raises a number of questions that need to be considered for both the implementation and research of PW. Firstly and most importantly, there is an absence of evidence or commentary in the emerging PW literature in relation to the socio-cultural impacts of the initiative. It is therefore essential to consider what the barriers impeding it are? Secondly, if PW doesn't become the 'way things are done around here', it is pertinent to enquire if the initiative is likely or not to be sustained or eventually fail?

Finally it is important to understand the consequences of unsustainable PW efforts and the impact that it has on the ward teams who have tried to implement them. One may ask whether poor performing PW sites and initiatives can be rescued? Or if the initiative will be labelled by the participating ward team as another management fad?

4.9 Chapter Conclusion and Implications for Research

It is possible to identify a number of key conclusions and themes from this review and exploration of the literature. These can be summarised in the following points:

1. Despite the differences in terms of context, tools used, and implementation (Holden 2011), some common reports and themes regarding employee effects and impacts emerge from both the Lean and PW literature. These appear to have an impact and effect on those implementing improvement initiatives (like Lean or the PW) from both a participation and implementation perspective.
2. The top three employee effects and impacts highlighted in this review are empowerment, leadership and engagement. They appear to have impact consequences for both Lean and PW implementation.
3. Although leadership is extensively cited in terms of effect and impact, it appears to be both intrinsically linked with and reliant on engagement and empowerment in order to be activated with any degree of success. The interdependent roles that leadership, engagement and empowerment play in relation to implementation are not evident from the literature.
4. Successful implementation or transformation in any healthcare environment using quality improvement tools like Lean or PW requires the complete involvement and engagement of healthcare professional groups and employees.
5. Achieving a socio-cultural impact (the way things are done around here) appears to be a key component for the success and sustainability of Lean and Lean healthcare. Its absence from the PW literature should be a cause for concern amongst those involved in its implementation.
6. Paying attention to and seeking to understand the detail of employee impacts and effects may help reduce the risk of Lean healthcare and the PW initiatives being viewed by employees through the same lens as many other 'quick-win, short-lived' management projects imported into healthcare from industry.

The literature reviewed in this chapter has also highlighted a number of key themes and areas of research interest that would benefit from further investigation and they include:

1. There is an absence in the Lean literature of any explorative work aimed of identifying contextual and environmental factors for effective/successful implementation and spread of improvement initiatives like Lean healthcare and PW. Therefore, one may ask what are some of the contextual and environmental factors that influence successful Lean initiatives?
2. A definition of the Lean and PW impact: engagement is required. Analysis of the literature has identified that the term is used loosely in both initiatives and would benefit from further exploration and some definition. Therefore one may ask, what is meant by the term 'engagement'?
3. Leadership, empowerment and engagement are independently cited within the literature, but the degree to which the relationships and interplay impact on successful implementation of Lean healthcare or PW merits further exploration. Therefore one may ask if there is interplay and dependencies between leadership, empowerment and engagement?
4. This review has also identified the prominence of socio-cultural impacts within Lean healthcare programmes and the effect they appear to have on employees. The socio-cultural aspect would benefit from further investigation, especially as the concept is absent in the PW literature. One may therefore ask, what is the long-term effect of these impacts and their relationship to sustaining the improvement initiative?

Key themes from this Chapter will be developed into research questions in Chapter 7. The conclusions reached in this Chapter provide a backdrop to and an important understanding for considering the following Chapter, which reviews the literature to date from the PW initiative and further examines impacts and effects from its unique implementation to date.

Chapter 5: The Productive Ward: Releasing Time to Care™ Programme

5.1 Introduction

The purpose of this Chapter is to provide a detailed description of the Productive Ward (PW) QI initiative and to explore the published literature to date, identifying and examining key reported elements of implementation and the bibliometric trends. Section 5.2 presents a general overview of the PW programme in and outlines some of the many drivers behind QI initiatives like the PW programme. Section 5.3 provides background detail to the genesis, development and roll-out of the UK PW programme and the subsequent series of productive programmes that have followed. The modular design and content of PW are described in section 5.4.

The literature search strategy is described in section 5.5 and the two separate streams of search strategy and review are outlined. One review stream focuses on a review of the literature content; the other is a bibliometric review in order to examine publishing trends. Section 5.6 examines the results of a content analysis and outlines a number of themes (key contextual determinants) identified from the literature which were considered for both the implementation and the evaluation of the initiative. Each of the key determinants identified are then examined and discussed. The bibliometric analysis findings are presented in section 5.7 with some reflections in relation to the direction and future of the PW initiative. The chapter concludes in section 5.8 with a discussion of how the key determinants possibly interact with and relate to each other, a conceptual model to be considered from the implementer's point of view, and an outline of the requirement to further investigate the impact these key determinants may have on successful implementation.

5.2 The Productive Ward: Releasing Time to Care™ Programme

Healthcare organisations throughout the world have been focusing their efforts on quality, cost and improvement. Whilst focus in the past has been purely on cost, more emphasis is now being directed towards quality, outcomes and improvement. The

Productive Ward: Releasing Time to Care™ (PW) programme is a relatively new initiative in nursing terms. It is best described as a ward-based QI programme created to help ward-based teams redesign and streamline the way that they work, leaving more time to care for patients and empowering nurses to improve the safety, quality and delivery of care. It was designed and developed by the UK's National Health Service Institute for Innovation and Improvement (NHSI) in 2005 and it aims to:

- Increase the proportion of time nurses spend in direct patient care
- Improve experience for staff and for patients
- Make structural changes to the use of ward spaces to improve efficiency in terms of time, effort and money.

(NHS Institute and NNRU, 2010b)

The PW programme utilises some of the principles and tools of Lean or Lean thinking, a concept popularised by Womack et al. (1990) which is described in detail in section 4.3. Using some of these Lean improvement techniques, the intrinsic motivators of social movement theory and the front-line engagement theories of large-scale change, the PW encourages nurses to look at how their ward is organised and to make improvements which will 'Release Time to Care' (NHS Institute and NNRU, 2010b).

5.3 Background to Productive Ward

After early testing by the UK NHSI in four sites in 2006 (the Royal Liverpool and Broadgreen University Hospitals NHS Trust, the Basingstoke and North Hampshire NHS Foundation Trust, the Barnsley Hospital NHS Foundation Trust and the Luton and Dunstable NHS Foundation Trust), the PW was formally launched in the UK by the Chief Nursing Officer for England, Dame Christine Beasley, at the Royal College of Nursing Conference in 2007. Early phase implementation sites, also called 'Learning Partner sites' were recruited by the NHSI later in 2007 and widespread NHS implementation was commenced. In May 2008, Sir Alan Johnson announced a £50 million investment in PW (Nursing Management, 2008) and at the time of the 2011 NHSI report, over 80% of acute trusts in NHS England had signed up to the PW Programme (NHS Institute 2011).

The NHSI recently became one of the many casualties of the UK government's focus on reducing 'quangos' (quasi-autonomous non-governmental organisations) and reports of its abolition were confirmed in its 2012 end-of-year report (NHS Institute for Innovation and Improvement, 2012). The NHSI closed its doors on the 31st March 2013 and transferred its many roles, functions and products to a new improvement body, NHS Improving Quality (NHSIQ). The PW continues to be supported in the UK by various consultancy-based 'partners' and a licensed e-learning package. Continuing to maintain the momentum and legacy of PW will be challenging (Carlisle, 2013). The closing of the NHSI's doors may well have unintended consequences for the pace and scale of roll-out and the spread of this quality improvement initiative. Efforts to sustain this initiative will most certainly be impacted by the loss of the resources, expertise and intellectual capital previously provided by the NHSI.

The initiative has been positively reviewed and reported in the nursing and healthcare press (Taylor, 2006, Kay, 2007, Nolan, 2007, Castledine, 2008, Blakemore, 2009b, Bloodworth, 2009, Kendall-Raynor, 2010, Smith and Rudd, 2010, Davis and Adams, 2012), well evaluated (NHS Institute and NNRU, 2010b, NHS Institute and NNRU, 2010a, Avis, 2009, Gribben et al., 2009, NHS Scotland, 2008) and its implementation proven to produce significant savings in terms of productivity and efficiency (NHS Institute, 2011, QIPP-NHS Evidence, 2009, Foley and Cox, 2013).

It can be argued that the PW, and more importantly the strapline: Releasing Time to Care, appeals to nurses' desire to spend more time on direct patient contact and therefore have more time for a desired state of holistic, patient-centred care (Abdelhadi and Drach-Zahavy, 2012, Rudge, 2013). This may explain the high level of interest generated by the initiative, which has resulted in widespread adoption, particularly in England. It has recently been adopted by nurses in Ireland, the Netherlands, Denmark, Australia, New Zealand, Canada and the USA (Oregon). Despite this widespread interest, there would appear to be a lack of systematic, independent evaluation of the initiative. Since its introduction in 2006, much of the associated published literature has focused on experiences of introducing the programme, lessons learned in this process, some of the benefits of reorganising facilities and making

better use of patient data. Some of the literature does robustly examine the initiative via the theoretical lenses of 'spread' and 'adoption' (NHS Institute and NNRU, 2010a, Robert et al., 2011), and of 'diffusion' (Morrow et al., 2012), but the majority of papers provide reviews and rhetorical reporting. There is a paucity of literature measuring and examining the tangible impact or outputs of this initiative.

5.3.1 The Productive Series

PW is one of the most well-established improvement programmes within the NHS and is part of a cohort of improvement programmes referred to as the Productive Series (NHS Institute, 2011). This suite of service-improvement programmes, developed by the NHSI for different health settings (e.g. hospitals, operating theatres or community settings), has the aim of achieving improvements in the quality and cost of healthcare. The Productive Series is aimed at driving up both the quality and efficiency of care, by streamlining the way teams work, eliminating time-wasting and releasing capacity, to ensure better outcomes for patients. The programmes provide tools and proven methodologies from industry (like Lean) to support healthcare teams in redesigning the way they work, eliminating waste and releasing staff and resource capacity to invest in patient care. Teams are enabled to maximise quality, reduce harm, have efficient processes, and ensure that patients feel safe and well cared for. Implementing the programmes involves all grades of staff in making changes that improve the quality, reliability and safety of patient care (NHS Institute, 2012). The current Productive Series includes:

- The Productive Ward
- The Productive Mental Health Ward
- The Productive Community Hospital
- The Productive Leader
- The Productive Operating Theatre
- The Productive Community Service
- The Productive General Practice

5.4 Productive Ward Modules and Content

The NHSI offers the PW in the form of a self-directed improvement programme. The programme comprises 13 modules which provide tools and guidance that help nurses make the required changes to their ward environment and work processes.

The modules are arranged in a structure known as the 'Productive Ward House'. All modules and specific project-role guidance are included in the PW box set provided under licence from the NHSI. The box set includes a box file with 15 booklets which contain all the tools that serve as a reference guide and can be utilised over the life of the project. Included with the modules listed below are *The Executive Leader's Guide*, *The Project Leader's Guide* and *The Ward Leader's Guide* information booklets. The project initially focuses on the three foundation modules:

- i. *Knowing how we are doing* – introduces measurement systems that help in understanding/benchmarking the ward's performance and subsequently in making decisions on what to do to improve performance.
- ii. *Patient status at a glance* – focuses on the use of visual management to show important patient information so that it can be updated regularly, seen at a glance and used more effectively.
- iii. *Well-organised ward* – aims to increase the proportion of time spent providing direct care to patients, and improve patient and staff experience. This module also gives guidance for simplifying the workplace and reducing waste by having everything in the right place, at the right time, ready to go.

Once the foundation modules are complete, the ward team then progress through the following five process modules:

- i. *Meals* – Reduces the time the team spends physically delivering meals, allows more time for the team to assist with feeding and ensures proactive nutritional assessment for the patients in the team's care.
- ii. *Medicines* – Ensures medicine rounds do not clash with other ward processes. Reduces interruptions for staff and ensures everything is ready.
- iii. *Admission and Planned Discharge* – Removes the rush of admission and discharge by making the process planned. Ensures the team launch discharge

plans sooner and support functions to aid discharge at the correct point in the patient journey.

- iv. *Shift Handovers* – Reduces the time the team spends on handovers, while making the information handed over more appropriate, easier to remember and easier to understand.
- v. *Patient Hygiene* – Ensures the dignity of patients by delivering safe, clean and responsive care.
- vi. *Patient Observations* – Increases the standard of patient observations being carried out, ensures they are accurate and that appropriate action is taken on the results.
- vii. *Nursing Procedures* – Improves the supporting processes for nursing procedures so that they are consistent, provide a better patient experience and achieve the standards the Trust aspires to.
- viii. *Ward Rounds* – Ensures clarity of outcome and clear planning from ward rounds while making the ward round quicker and consistent.

(NHS Institute and NNRU, 2010a)

Although concern was raised from an internationalisation perspective in relation to the branding, the content and context language, the descriptors and the processes included in the module box set prior to commencing the initiative in Ireland, feedback from the national project team and participating sites has been particularly positive. The modular design with practical, pictorial examples obviously assists with international application.

5.5 Literature Search Strategy

The purpose of this review of the literature is twofold:

1. To identify key elements of implementation experienced during the introduction of the PW that would inform my plans and strategies for its further implementation in Ireland.
2. To examine the literature related to PW and provide a bibliometric profile that tracks the level of interest and scale of roll-out and adoption, discussing the implications for sustainability.

The review was therefore carried out in two distinct phases. Phase 1 (for the purpose of the content analysis and guidance with implementation) was limited to published journal articles from January 2006 to December 2012 which covered the period from when the concept was first designed and tested in the UK to its current stage of internationalisation. Phase 2 (for the bibliometric assessment) was limited to articles from January 2006 to July 2013. Language restrictions were included which limited the search to texts available in English. Because of the new, developmental nature of Productive Ward, no restrictions were placed on the type of literature (academic, editorial, professional discussion etc.). A number of electronic and web-based databases were utilised, accessed via the Multisearch platform at WIT library. The Multisearch system is described in Chapter 3 (section 3.3 and Table 3.1).

Initial key search terms used were: 'Productive Ward', 'Productive Series', 'time to care', 'releasing time to care' and 'RTC'. In addition, a secondary search was also performed using the above terms plus 'implementation'. The 'and' Boolean facility was used to focus and refine the search.

5.5.1 The content search strategy (Phase 1)

A first-level manual examination of the abstracts was conducted to assess the appropriateness of the literature for inclusion in the content analysis. The inclusion criterion was based on the extent to which the issue of 'implementation' or 'productive ward experience' was addressed in each individual piece of literature, with particular emphasis placed on research articles from high-impact journals and papers that included nursing or healthcare issues. Papers that reported on multiple or eclectic initiatives (such as Lean and Transforming Care at the Bedside) were excluded. Further de-selection was also carried out on articles reporting specifically on the Productive Operating Theatre (tPOT).

5.5.2 The bibliometric search strategy (Phase 2)

For phase two a bibliometric approach was undertaken to examine and review the PW literature. Bibliometric analysis is a set of methods used for the quantitative examination of publications (journals, books, grey literature or other digital media) and

has become a popular research method amongst information scientists (Gautier, 1998).

This approach was taken to analyse and measure the interest, spread and uptake of the PW initiative through bibliometric statistics. The purpose of using this method is to map the previous and current PW literature, identifying previous and contemporary levels of interest, author trends and outputs. Although it is not a perfect tool (Walshe, 2009), and it has its limitations (Nightingale and Marshall, 2011), most notably the absence of any type of content analysis, it can be adapted to analyse the quantity, quality and structure of most types of literature. The most popular bibliometric measures used are journal impact factors and their related citation analysis (Gautier, 1998). This method has previously been used to measure the dissemination and uptake of other similar QI initiatives over a period of time (Walshe, 2009).

5.6 Results for Content Search (Phase 1)

The search retrieved a total of 318 references from the 'Productive Ward' search theme and 210 from the Releasing Time to Care search theme. Once duplicate and non-relevant citations were removed, 109 potential references were screened for relevance and yielded 74 articles for consideration. A further search through the reference lists of the relevant publications yielded six additional references. A secondary trawl was undertaken with the same search criteria using 'Google' and 'Google scholar' to include possible grey literature and related news items if appropriate. This search yielded a further 10 references leaving a total of 90 potentially relevant papers and articles. I introduced further criteria for inclusion/removal with specific reference to: 'implementation/challenges/lessons learned'. The final result yielded 53 relevant articles (see summary in Table 5.1):

Table 5.1: Productive Ward Search Results for Content Analysis

Peer Reviewed Papers

- **15 were peer-reviewed articles from academic/professional journals.** (Allsopp 2009, Blakemore 2009, Bloodworth 2009, Foster 2009, Wilson 2009, Coutts 2010, Mumvari & Pithouse 2010, Smith & Rudd 2010, Armitage & Higgins 2011, Bloodworth 2011, Morrow et.al 2011, Robert 2011, Robert et.al 2011, Davis & Adams 2012, Lennard 2012)
 - **3 had identifiable research aims and a transparent research methodology.** (Robert et al.2011, Davis, 2012, Morrow et al, 2012,)
 - **2 of these authors were members of prior research and evaluation teams who were commissioned by the NHSI** (Morrow et al. 2012, Robert et al. 2011)

Evaluations & Reports

- **9 were Health Service Evaluation Reports.** (Morrow et.al 2010, NHS Institute & NNRU 2010ba, NHS Institute & NNRU 2010b, NHS Scotland 2008, Gribben et al. 2009, NHS Institute 2011, NHS Institute AND NNRU 2011, HQC 2011, HQC 2009)
 - **5 of these reports were commissioned by the NHS Institute or the National Nursing Research Unit.** (Morrow et.al 2010, NHS Institute AND NNRU 2010ba, NHS Institute AND NNRU 2010b, NHS Institute 2011, NHS Institute AND NNRU 2011)

Grey Literature

- **The remaining 29 papers were mainly news reports, cover stories and updates from professional journals and newsletters.**

5.6.1 Content analysis

The 53 relevant articles were then subjected to a content analysis (Bryman, 2012), allowing categories and key issues to emerge from the literature. The categories and related key issues were coded and arranged into a taxonomic map which highlighted all of the findings for reporting (Hart, 2010).

This process identified seven common contextual determinants (key issues) of implementation, and these are represented in Table 5.2. These implementation determinants have been previously identified to some degree in the change and implementation literature (Pinto and Slevin, 1989, Ferlie and Shortell, 2001, Kotter,

2007); however, their presence in the PW literature suggests that they do not appear to be fully utilised in PW implementation to date. The seven themes/determinants are discussed in detail below and in the following sub-sections.

Table 5.2: Seven Contextual Determinants

Key Theme/Determinant	Components		
A Robust & Engaging Communication Strategy	<i>Plenty of Information</i>	<i>Simple & Engaging</i>	<i>Identifies Groups for Change</i>
Enabling & Empowering Roles	<i>Access to an Improvement Resource or Facilitator</i>	<i>An Enabling Ward Lead</i>	<i>Project Team who Engage & Connect</i>
Project Planning & Management	<i>Choose the Right Ward at the Right Time</i>	<i>Pre-Implementation Planning</i>	<i>Phased Implementation</i>
Role of Leadership	<i>Someone to Lead Implementation</i>	<i>Share the Vision & Inspire</i>	<i>Devolves & Empowers</i>
Corporate/Management Engagement & Support	<i>Permission to Do Things Differently</i>	<i>Organisational Buy-in & Backing</i>	<i>Brings the Board to the Ward</i>
A Financial & Human Resource Commitment	<i>Budgets to Fund New Initiatives</i>	<i>Releasing Staff to Participate</i>	<i>Sends Message of Organisational Commitment</i>
Appropriate Training & Support	<i>Ward Lead has 'Tools' for the Job</i>	<i>Tailored, Site-Specific Training</i>	<i>External Facilitation</i>

Adapted from White et al (2013b)

5.6.2 A robust, engaging communication strategy

Having or developing a robust communication strategy around the PW project is reported as a key success factor throughout the literature. Morrow et al. (2012) identified communication as a key facilitator that was expressed in a survey of policymakers, senior managers and healthcare practitioners involved in implementation. The NHS Institute and NNRU (2010c) report, a National Nursing

Research Unit (2011) report, and commentary in the *Management Services Journal* (2011) all describe communication as one of the main ingredients for the spread of the PW. Keeping language simple, whilst engaging staff, was an early implementation message reported by Shepard (2009), suggested by Roberts (2011) and echoed in the evaluation report by Gribben et al. (2009). Attempting to ensure that everyone has an understanding of the project is identified as an ongoing challenge by Svedahl (2009), and is described in more detail by the Health Quality Council's 2011 *Long-term Care Pilot Project Report*.

Davis and Adams (2012) and the Saskatchewan Registered Nurses Association (SRNA) (2010) report on the large measure of success achieved by valuing communication during implementation of the PW initiative. Bevan (2009) encourages the use of nurse 'identity groups' to make communication more effective. *Releasing Time to Care 'leads'* in Saskatchewan found the opposite to be true, especially when allaying the fears that arise from change, and recommended talking one-on-one as a strategy to minimise the potential for resistance to implementation (Avis, 2009). Coutts (2010) outlines the need for a robust and intense information campaign to counter the negative job-cut rumours that accompany improvement initiatives like *Releasing Time to Care*. Similar convincing communication challenges in relation to change and the *Productive Ward* have been described by Armitage and Higham (2011) and Blakemore (2009b).

It is apparent from the literature that developing communication strategies which deliver key messages at both macro and micro levels are important. Ensuring the strategy tailors the message to corporate and senior management audiences, but also pays particular attention to the front-line, and engaging the entire ward team, patients and relatives is reported to positively impact on the smooth implementation of the PW. The impact that seamless macro/micro communication strategies have on the success of the programme, and to what degree, warrants further scrutiny and reporting. For example, if corporate communication plans are less than robust or absent, can good efficient local communication efforts compensate? Also to what degree does corporate communication impact on local engagement and effort?

5.6.3 Enabling and empowering facilitator/ward lead roles

The importance of having an improvement resource to facilitate and support the ward and project leads has been identified and reported since early implementation (Nolan, 2007, NHS Scotland, 2008). Allsopp (2009) views the role of facilitator as being key to the understanding and use of improvement techniques and the underpinning of the principles of the Productive Ward. This view is also reflected in the 'top tips' for spreading the Productive Ward within NHS Trusts (NHS Institute and NNRU, 2010c). Gribben et al. (2009) describe the advantages of using ward leads that are skilled and experienced with practice development techniques and how these can capture interest and engagement.

Facilitator roles have also enabled the transformation of staff ideas into actions (NHS Institute, 2011). Smith and Rudd (2010) outline the requirement for ward leads to be enabling, supportive and involving. They describe the many elements of change encountered whilst implementing the Productive Ward, and how encouraging the involvement of all staff influenced the sustained changes that took place. Staines (2008) reports that involvement and support helps nurses to help themselves when it comes to implementing improvements, and describes the initiative as 'bottom-up supported change' (Staines 2008 p. 5). Ward and Parish (2009) also comment on the empowerment aspect of this facilitated change and how it can challenge the mind-set and culture of top-down change processes.

Facilitating the transformation of ideas from front-line staff into improvement actions was one of the key lessons learned in the Saskatchewan long-term pilot project report (Health Quality Council, 2011). Discussing the determinants of spread and the lessons learned from their extensive PW case-study report, Morrow et al. (2010) identify the programme lead as a vital role in encouraging staff at different levels and in generating energy behind both the programme and the organisation. They also outline the relatively short nature of these seconded positions and the challenge of encouraging ward staff to work autonomously and take ownership of the initiative. This challenge and risk is echoed further by Avis (2011) who notes the loss of momentum or the halt of the project when Releasing Time to Care champions leave or burn out. The NHS

Institute and NNRU (2010a) report provides operational guidance for the spread of the PW to improvement leaders and facilitators and its adoption by them. These actions include: connecting with wider social and political agendas; understanding the needs and characteristics of the sites; engaging with these sites and with individual champions; and supporting sites in examining their organisational context.

The key messages for implementation appear to be in the availability of the right people in the right roles adopting a facilitative, empowering and encouraging style of project management. Ensuring that ward staff connect with the initiative and make it their own is an aspect of implementation that is highlighted as crucial for success. The professional background, project and improvement experience, and credibility and competence of the facilitator and ward lead will all impact on how the PW will be accepted, adopted and spread. The extent to which these role determinants impact on each PW site's implementation and the amount of engagement that these roles can generate deserves further investigation and reporting. For example, one may ask if the amount and type of facilitation/support from the ward leader affects empowerment, engagement or improvement outputs? One could consider whether the level of corporate facilitation and support impacts on whether the ward team accept ownership of the initiative as their own, or affect the degree of socio-cultural absorption discussed in Chapter 4.

5.6.4 Appropriate training

A key finding for implementation reported in the NHS Scotland Releasing Time to Care Evaluation (2008) has been the need for training and support both at ward and executive team levels. There were similar findings by Gribben et al. (2009) in the *Belfast Health and Social Care Trust Evaluation*; they suggest using both internal and external training and support. The advantages of engaging with training and support packages from the NHSI are reported positively by the NHSI and NNRU (2010b). These packages provide guidance and encourage progress. This report described multiple modes of training and support delivery: NHSI facilitation, study days, conferences, module implementation training, tailored support, self-support networks and web-based support. The most notable findings relate to how many organisations had to

tailor training and support because of the challenges of staff release and attendance, and the positive aspects attached to peer support and networks where learning and ideas about implementation could be shared.

Allsopp et al. (2009) outline the tailored support programmes developed for ward leads in Nottingham University Hospital, which included action learning skills, improvement technique training and support workshops. Leadership training was also provided to some ward leads to enable them to implement, communicate and manage change.

In a review of the Releasing Time to Care project in Saskatchewan, Avis (2011) reports on the leadership and management assumptions that are made of ward leaders who implement the initiative, and comments on the small amount of preparation and training provided for this new 'change' role. Avis (2011) also refers to the importance of networking and sharing experiences for participants in Releasing Time to Care, and recommends sharing improvement stories that highlight the positive effect QI work has on patients, families and healthcare employees. She describes how this was viewed as being important in maintaining momentum and focus in the Saskatchewan project.

The ability to fund facilitated training, study days and networking is described as a key facilitating factor by Morrow et al. (2012) and is reported in *Nursing Management* (2011) as a method for overcoming scepticism. Pilot sites in the long-term-care pilot project (Health Quality Council 2011) found the project extremely challenging to implement without having the training or having experience with continuous improvement.

Although the PW initiative is designed and intended to be a self-directed programme, there is some evidence from the literature that this model of information transfer, support and reassurance is not what participants involved in the PW want or require. Tailored training and support packages that are specific to each site appear to offer options in relation to project momentum, engagement, reinforcement and encouragement that the self-directed model apparently cannot. The types of training

and support packages that may maximise engagement and energy for this initiative is an area where reporting in the literature is weak and that would benefit from further exploration. Training and support is a high-cost element of this initiative and opportunities to examine models, modes and their impacts should be a priority.

A number of questions for implementation and research in relation to appropriate training therefore emanate from the literature. Firstly, one may enquire as to the types/styles of training that are the most effective for knowledge transfer? Secondly, one could consider if participants count 'on the job', informal exchanges of information about the tools and methods of PW, as training? Thirdly, because of the cost implications, one could establish if every member of the ward team attended formal training and if so what are the implications if this does not happen? Finally, one may ask whether training attendances affect individual ward team member's attitude to and engagement with the initiative?

5.6.5 Project planning and management

Choosing the 'right' ward as a productive ward is a key feature for implementation outlined by the NHS Institute and NNRU (2010b). They describe this in terms of 'going where the energy is' and selecting wards that want to work with the PW. Wilson (2009) reports on how most trusts in the east of England have asked their wards to apply to become PWs, describing how the process of application and selection has assured motivation and readiness for change at the outset.

The importance of project planning and project management for the PW initiative is well described and detailed by Allsopp et al. (2009). Standardised communication, standardised resources, agreed timelines, named responsibilities, agreed measures and project monitoring are all ingredients outlined in their preparation and planning. Bloodworth (2009) also emphasises the need for effective project management to allow for reading, reflecting and preparation. Pre-implementation time and planning are prerequisite requirements according to Coutts (2010), who describes the time needed to create and entrench support from all. Clear goals, feasibility and stages of

implementation are some of Robert's (2011) checklist items that encourage the spread of PW.

One of Armitage and Higham's (2011) learning points as regards implementation is the need for careful project management, as interest in the project naturally reaches 'highs and lows'. Allowing for these changes in the level of interest, and accepting them, enabled their PW initiative to continue.

Farrell and Casey (2011) report the advantages of using the module planner incorporated within the project leader guide contained in the PW box set. Structured meetings and goal setting enabled them to ensure targets were achieved. The step-by-step guides provided in the NHSI box sets also appear to have helped the pre-implementation/preparation planning in Saskatchewan (Avis, 2009). This report documents and provides details of a concise implementation strategy adopted following the pilot phase that includes: naming responsibilities, naming champions, proposed timelines and reporting structures.

Robert et al. (2011), similarly to the NHS Institute and NNRU (2010b) report, describe the local approaches to implementation planning taken in five case-study sites, with most sites describing a phased or staged implementation plan or strategy. Managing the expectations of all levels of stakeholders in relation to timescales of implementation is discussed by Morrow et al. (2012). They report that the expectations of pace and scale of progress in the NHS is dependent on the perspective of the stakeholder. Issues of variations in perceived progress and outcomes will have a direct impact on project reporting and objective benchmarking.

Having a robust project or implementation plan appears to provide structure, direction and momentum to the implementation of the Productive Ward initiative. Whilst grand-scale or organisational plans and strategies are important, local ward-based plans should also be encouraged. They facilitate participants to articulate their anxieties in relation to any changes and allow for open and honest discussions in relation to workloads and staff requirements. As the initiative is now emerging as a process of continuous improvement, it is important not to emphasise an actual end-of-

project date but instead to describe periods of evaluation and reflection, and improvement cycles. The literature does not comprehensively define the ingredients of robust project-management processes for the implementation of PW. More research is required into the extent to which they depend on, interact with and enhance the other key contextual issues. For example, one may consider if good project planning always result in progress and momentum? How reliant is project planning and management on good communication? Have all perceived 'good' ward leaders engaged in project planning and management.

5.6.6 Role of leadership

The NHS Institute and NNRU (2010c, 2010b) reports outline the requirement for clear leadership during implementation of the PW. The need for an overall leader to take charge of implementation is described in the reports as being one of the significant factors for success. Bloodworth (2011b, 2011a), with experience in an organisation that has implemented the PW across 92 wards, highlights leadership and commitment from the top of the organisation as one of the essential ingredients for success. This point is well made in the form of a recommendation in the NHS Scotland (2008) Releasing Time to Care Evaluation. The absence of strong leadership from senior management has caused problems during implementation in Saskatchewan, manifesting itself in slow funding responses and irregular visits from senior managers to implementation sites (Coutts, 2010).

Armitage and Higham (2011) view the role of leadership at ward level as one of the biggest influences on how well the PW is introduced. They outline how the timing of introducing the initiative was crucial. They describe starting their project with the backdrop of previous project learning and an assessment of readiness for change. They note the need for nurse leaders to share vision, inspire, empower and energise others in an attempt to ensure that ideas are generated from the ward and not the manager. Ford (2010) provides a headline: 'Productive Ward boosts Leadership' in response to findings in the NHS Institute and NNRU (2010b) report that PW improved staff skills and ward-level leadership. Details from some of the NHS Institute and NNRU (2010b) case-study sites suggest that the PW provided practical leadership skills

for all participants as it had allowed participants the opportunity to lead and manage modules or aspects of change and had unleashed talent at many levels of the organisation. The NHS Institute and NNRU (2010a) also report the ability of the ward lead to engage others as a key factor in spread.

Blakemore (2009b) reports on progress from 'Productive Mental Health Ward' sites and quotes an NHSI facilitator who attributes the success of the initiative to its devolution of power and concludes that PW is empowering nurses to become 'fantastic leaders' (Blakemore 2009 p. 9). Morrow et al. (2010) also identify that in order for a programme to be spread and sustained, skills in communicating a vision and goals and in encouraging others to lead and to manage are required. These skills are essentially leadership skills.

The literature clearly outlines and collectively agrees the many ways in which the role of leadership interacts with the implementation of the PW at all levels of the organisation. However, leadership at ward level is considered to have the biggest impact. The subtle leadership decisions in relation to how and when the initiative is introduced, marketed, communicated, articulated, energised and maintained all appear to influence the success of the PW.

These findings in the literature raise a number of questions for both research and implementation. The first relates to the leadership requirements at both the macro and micro levels of implementing organisations. One may ask how interdependent are they with each other? One could consider if corporate leadership is only required to commence the QI journey and start the PW off within the organisation? One could enquire to establish if corporate leadership is associated with progress, adoption, spread or sustainability?

Secondly, and similar to the finding of leadership as a key determinant in Chapter 4, one may ask if leadership directly influences or enhances the amount/type/output of improvement efforts or does the improvement tools/techniques/methods influence or enhance leadership? Finally, one could consider the PW improvement processes and activities create leadership opportunities for others within the team? How do they

present or manifest themselves? Or are they reliant on the empowering nature of the local ward leader?

5.6.7 Corporate/management engagement and support

Giving people the time, permission and explicit support to do things differently was part of some key advice reported during early implementation (Clarke-Jones, 2007). This sense of 'permission' is noted in results from the survey by Morrow et al. (2012) of front-line staff that had personal experience of PW implementation. These healthcare staff valued the opportunity that PW gave them to turn a critically reflective eye on their work practices and to make suggestions for change. The PW depends on the engagement, support, energy and talent of everyone at every level (Bevan 2009). This wide and high level of support is also reported as one of the key ingredients for success in the Saskatchewan implementation (SRNA 2010). It is well described as a critical success factor and 'top tip' in the NHS Institute and NNRU (2010b, 2010c) reports. Their case studies demonstrate the requirement to match participants' PW ambitions with a supportive organisational context in order to achieve progress. Organisational energy for PW is determined by levels of visible executive support (NNRU 2011). The authors outline how 'staff energy' drives the PW and how this, together with the ward manager's ability to engage other people in the QI work, is reflected as one of the determinants of 'spread' (NHS Institute and NNRU, 2010a). They further describe how this can only happen if staff feel they are backed by organisational energy and are given time and support to participate in meaningful ways.

Mumvuri and Pithouse (2010) describe how they used senior managers to participate in ward audits in an attempt to involve the senior team in the project and bridge the 'board to ward gap'. Wilson (2009) suggests that all board members need to visit the participating wards, listen to staff and patient stories, and try to understand the Releasing Time to Care concepts. She describes Releasing Time to Care engagement as an opportunity to create a powerful pathway between the ward and the board.

The Health Quality Council (2011) pilot report on long-term facilities outlined management support as vital to the success of Releasing Time to Care. The CEO and senior leadership were able to remove many of the barriers during implementation. Robert (2011) encourages the use of the executive team and existing structures to ensure a strong sense of governance for the spread of the project. Bloodworth (2011) views the need for senior executive commitment as essential because initiatives like PW are about changing the organisation and not just tinkering with systems and making small improvements. Without organisational engagement and support, PW sites run the risk of running out of energy, losing momentum and spread, and creating 'islands of improvement' (NHS Institute and NNRU 2010a).

It would be prudent to have corporate/management engagement and support for any improvement or change initiative. However, the PW literature is collectively consistent in identifying visible, active involvement as compared to distant boardroom or management approval. Encouraging and maintaining corporate/management engagement and involvement in the long term may well prove challenging, as the initiative competes with other emerging projects and priorities. Morrow et al. (2012) identify the main limitation of their study in terms of the shortage of data which they tried to source from busy people and busy hospitals that had all engaged and committed to the PW. There is an absence in reporting from sites where there has been little or no corporate or management engagement and support. One could therefore ask if there is a correlation between the degree of corporate engagement and the initiatives output's, progress and maintenance? There are many lessons to be learned by comparing the success or degree of success with the level of engagement and support at senior levels.

How ward-based teams feel about the support or absence of support is a key question. One could ask if participants only assess or gauge support at their immediate ward level? Does corporate engagement affect participant's uptake, engagement or relationship with PW? Is there a correlation between corporate/management engagement and participant views in relation to whether the initiative is a management fad or not?

5.6.8 A financial and human resource commitment

Although promises of substantial financial support (£50m) were offered at the start of the PW initiative in the UK (*Nursing Times*, 2008), there is an indication from some NHS sites that they have not received any financial support at all (NHS Institute and NNRU 2010b). In other countries, securing financial resources to devote to this initiative has also proven challenging (Avis 2009, Gribben et al. 2009). An under-estimation of exactly what the initiative entails and what improvements are required, and lack of understanding of the fact that there is no definite finish or endpoint, may not have helped.

Having dedicated financial support is reported as very important for implementation (Morrow 2012, NHS Institute and NNRU 2010b, 2010c, Gribben et al. 2009), as start-up, equipment purchase and environmental changes all require budget resources. Reporting on the organisational determinants of spread of the initiative, Morrow et al. (2010) and the NHS Institute and NNRU (2010a) highlight how the momentum of implementation can decline when funding dries up. They also suggest that this can be further compounded if 'late starters' do not get the same levels of resourcing as early implementers. Robert et al. (2011) describe sufficient resource provision as a 'key organisational factor' for implementation, especially in relation to the provision of backfill and staff replacement for staff time spent on the project. Morrow et al. (2012) highlight funding for the implementation as a key facilitator, with senior managers describing having available resources as invaluable. This point is well reflected in the NHS Institute and NNRU's (2010c) top ten tips for spreading the PW within NHS Trusts.

Challenges in relation to the human resource implications for implementing PW are well documented (NHSI and NNRU, 2010b, Avis, 2009, Gribben et al., 2009, Morrow et al., 2012, Robert et al., 2011, Dean, 2010, Mumvuri and Pithouse, 2010, Svedahl, 2009). Many of the sites evaluated found the module content and process-improvement activities time-consuming (Gribben et al. 2009) and as exceeding the time allocated to them (NHS Scotland 2008). Early reports of essential elements for implementation, including time for staff, were highlighted during initial test phases (*Health Services Journal* 2007, *Nursing Standard* 2008). Further reports in the

literature highlight staffing pressures impacting on commitment (Kendall-Raynor, 2010), understanding of the purpose of the initiative (Svedahl, 2009) and the overall success of the initiative (Dean, 2010).

Sites involved in the NHS Institute and NNRU (2010b) evaluation reported clinical workload, bed shortages, sick leave, increased winter activity and shortage of temporary/relief staff as barriers to progressing with some of the PW activities. Morrow et al. (2012) identified staffing shortages and the requirement to balance clinical demands as key challenges to programme implementation.

It is evident in the literature that securing once-off resources for implementation of the PW will not sustain the initiative. Many of the case-study reports suggest that they are only beginning to realise that the initiative is for the long term and as such requires long-term, recurring resourcing. It is an important aspect of implementation that organisations understand the financial and human resource implications involved and secure long-term financial commitment prior to commencing the initiative.

A number of questions for both implementation and research emanate from this section of the literature. The first relates to the central financing of the initiative. One may consider if organisations not being financed to participate are as ready and willing to engage with PW? Or does the financial resourcing of the initiative impact on the other key determinants, e.g. corporate engagement and facilitation?

The second is in relation to how the financial commitment translates into PW outputs and performance. One may enquire as to whether financial and human resource commitments always result in smooth running PW's? Or have well financed PW's ever failed? One may consider if the lack of human resource commitment impedes the ward team from engaging or taking ownership of the initiative in any way?

Finally, one should consider if PW sites without a financial and human commitment are able to actively participate, flourish and improve? If they can, one should establish what are the other key determinants that allowed them to engage and improve?

5.7 Results of the Bibliometric Search (Phase 2)

This search was performed a number of months after the content analysis and retrieved in excess of 3100 references from the 'PW' search theme and 1800 from the Releasing Time to Care search theme. Once duplicate and non-relevant citations were removed, 528 potential references were screened for relevance, selected based on their appropriate PW subject matter, yielding 90 articles for consideration. A further search through the reference lists of the relevant publications and using 'Google' and 'Google Scholar' yielded six additional references.

5.7.1 The bibliometric analysis

Included papers were further examined and categorised using an electronic Microsoft Excel database. Analysis was performed identifying authorship and co-authorship/collaborative patterns. Bibliometric measures of authorship and chronology were calculated. A simple collaboration index was used to identify and connect the number of authors involved in multiple research initiatives/collaborations.

Publications were also examined by type and by general subject. This enabled comparison mapping of authorship, research, evaluation and publication trends. For the purpose of this study, data was categorised into three simple categories: peer-reviewed publications (original research, systematic review or case study), evaluation or report (a published evaluation or report of implementation or experience) and grey literature (professional journal articles, general reviews/discussions, case studies, and editorials/opinions/letters).

At the time of reporting, 96 published papers met the selection criteria for bibliometric analysis (see Table 5.3) and were identified to be within the 90-month criterion period between 2006 and mid-2013 (a mean of just over 12 papers per annum).

Categorisation identifies that the majority of the PW literature is 'grey literature' (64.5%). Peer-reviewed papers represent 21.9% of all publications, and evaluations and reports represent 15.6% (please see Table 5.3 and Figure 5.1).

Table 5.3: Search Results Bibliometric Analysis

Peer Reviewed Papers

- **21 were peer-reviewed articles from academic/professional journals.** Grant 2008, Allsopp et al.2009, Blakemore 2009b, Bloodworth 2009, Foster et al.2009, Wilson 2009, Coutts 2010, Smith & Rudd 2010, Armitage & Higgins 2011, Bloodworth 2011b, Burston et al.2011, Kemp & Merchant 2011, Robert 2011, Robert et al.2011, Davis & Adams 2012, Lennard 2012, Morrow et al.2012, Rudge 2013, Van den Broek et al.2013, White et al.2013, Wright & McSherry 2013.

Evaluations & Reports

- **13 were Health Service evaluation reports.** NHS Scotland 2008, Avis 2009, Gribben et al. 2009, QIPP-NHS Evidence 2009, Morrow et al.2010, NHSI & NNRU 2010b, NHSI & NNRU 2010a, NHSI & NNRU 2010c, Avis 2011, HQC 2011, NHSI 2011, NHSI 2012b, Foley & Cox 2013.
 - 4 of these reports were commissioned by the NHSI to the National Nursing Research Unit (NNRU). (Morrow *et al.* 2010, NHS Institute & NNRU 2010a, b, c)

Grey Literature

- The remaining 62 papers were mainly news reports, cover stories and updates from professional journals and newsletters.

Figure 5.1: Productive Ward Publications 2006-2013

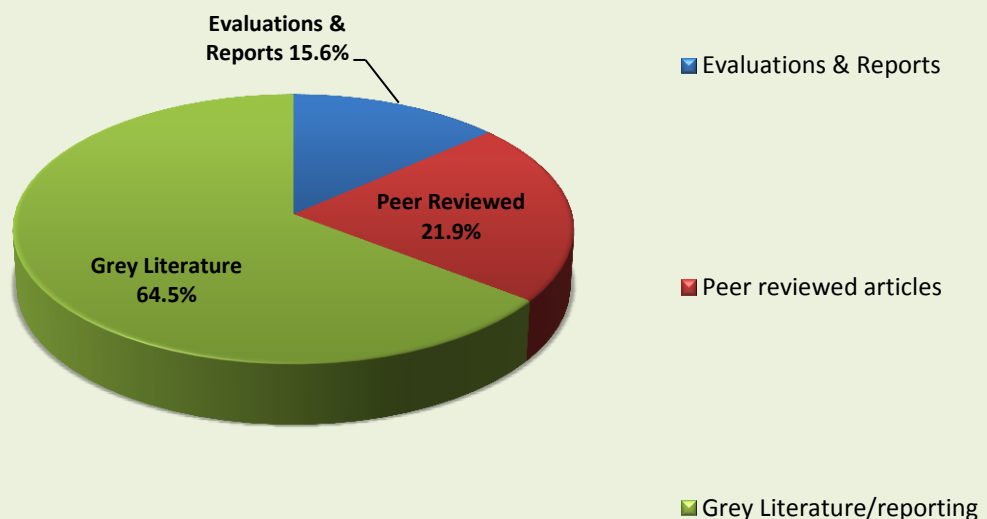
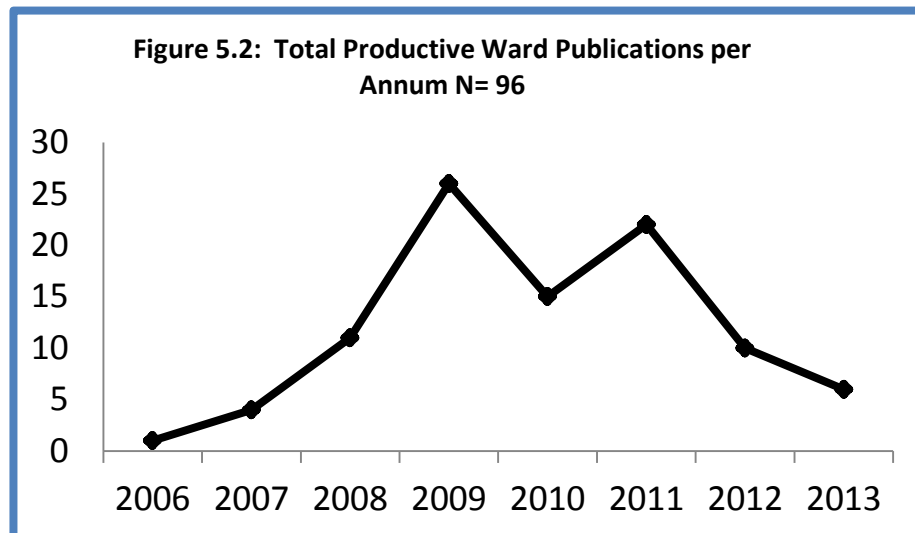
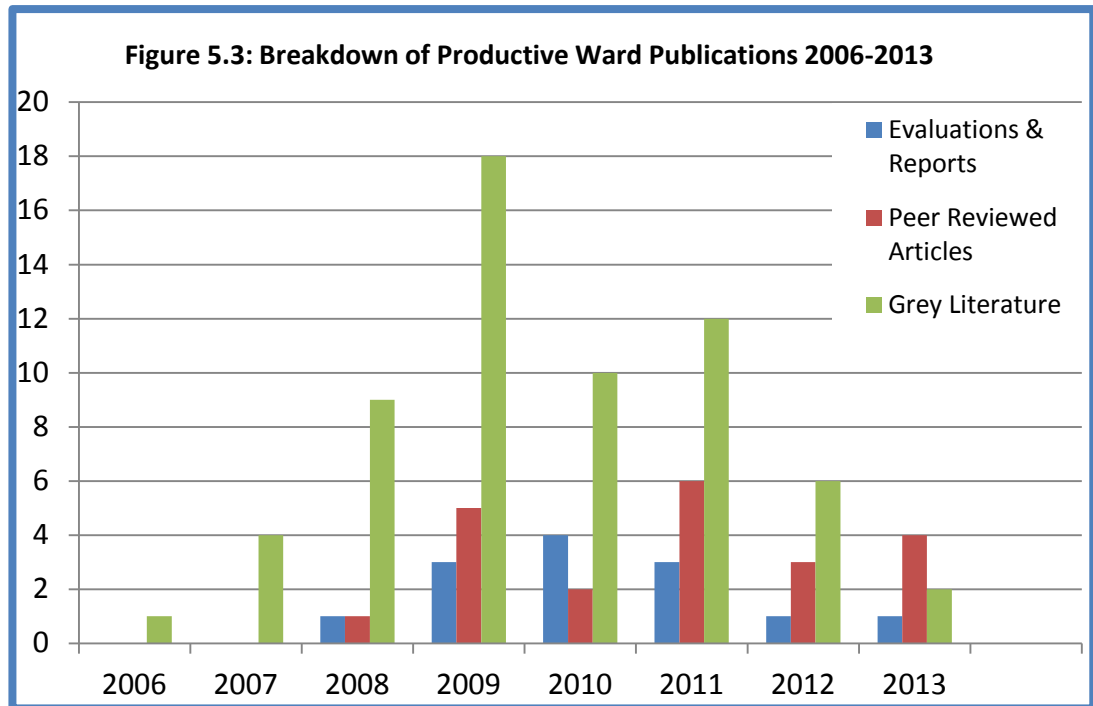


Figure 5.2 (below) shows the distribution of PW literature over the 90-month period from 2006 until 2013. The rise in the number of publications peaked in 2009 with a gradual general reduction in publications observed since. Declining popularity trends for quality initiatives like PW have been noted previously (Walshe 2009).



Further examination of the chronological trends and publication types show that the reduction in peer-reviewed, scholarly literature is not following the same distribution trends. Peer-reviewed publication trends appear as mild rises and falls in numbers annually, with four publications up to December 2013, and show no real pattern or sign of reduction (please see Figure 5.3). This may be due to the way that ideas are shared between healthcare professionals and academics (Greenhalgh et al., 2004a), or a result of the fragmentation of healthcare improvement initiatives and academic-learning partners (Perla et al., 2013), or perhaps simply the result of academic publishing timelines.



Just under half (47.6%) of the peer-reviewed papers were of sole authorship and the majority of authors only wrote one paper (Table 5.4). In terms of prolificacy, no author produced more than two peer-reviewed papers. In terms of collaborations, there only appears to be evidence of two authors (Robert and Morrow) in the peer-reviewed literature who have also collaborated on a number of national evaluations. Much of this collaborative publishing activity can be attributed to the employment of both authors/researchers within the same academic department, in this instance the National Nursing Research Unit (NNRU) at Kings College London. The NNRU were commissioned by the NHSI in 2008/2009 to undertake the evaluation of the PW in the UK.

In relation to the types of peer-reviewed publications, only one-third (33%) presented the results of original research (n=7) or outlined any methodology. The majority of papers contained anecdotal reports of implementation, improvements or commentary. Whilst this type of literature serves to guide interest in, demand for and reports of implementation, it provides no empirical offering vis-à-vis the evidence required to gauge success and impact.

Table 5.4: Author status for PW peer-reviewed & evaluation publications mid-2013

Name	Sole Author	First Author	Co-author Contribution	Original Research/ Method	Anecdotal Report- Update- Commentary	Evaluation/ Report Contribution
Grant	1	-	-	-	1	-
Allsopp	-	1	-	-	1	-
Blakemore	1	-	-	-	1	-
Bloodworth	2	-	-	-	2	-
Foster	-	1	-	-	1	-
Wilson	1	-	-	-	1	-
Coutts	1	-	-	-	1	-
Smith	-	1	-	-	1	-
Armitage	-	1	-	-	1	-
Burston	-	1	-	1	-	-
Kemp	-	1	-	-	1	-
Robert	1	1	1	1	-	4
Davis	-	1	-	1	-	-
Lennard	1	-	-	-	1	-
Morrow	-	1	2	1	-	4
Rudge	1	-	-	-	1	-
Van den Broek	1	-	-	1	-	-
White	-	1	-	1	-	-
Wright	-	1	-	1	-	-

In terms of papers from disciplines, all but three (14%) (van den Broek et al., 2013, Grant, 2008, Coutts, 2010) emanate from authors from the nursing discipline (or department) and these were also published in nursing journals. This may in part be due to how the PW has been marketed predominantly at nursing and how nurses have accepted and positively received the initiative (Davis and Adams, 2012).

Although this initiative has now had international implementation (Clews, 2011), the majority (76%, n=16) of peer-reviewed publications originate from UK authors. Three of the non-UK papers (Burston et al., 2011, van den Broek et al., 2013, Rudge, 2013) are theory-based papers and are not directly related to the roll-out of this initiative or its implementation.

5.7.2 Bibliometric discussions

The analysis of publication numbers over the lifespan of the PW initiative demonstrates both the initial, rapid growth and gradual reduction trend for this initiative. General interest and paper productivity appear to have peaked between

2009 and 2011. The constant process by which QI ideas come in and out of fashion is a phenomenon that has been described previously (Walshe, 2009). Public services, including healthcare, are constantly on the lookout for the latest QI panacea (Radnor and Boaden, 2008). This may provide some explanation for the reduced interest and reduced number of publications in relation to the initiative, as healthcare organisations scan the environment for the next QI initiative or ‘pseudoinnovation’ (Walshe, 2009).

The high-level political support (*Nursing Standard*, 2012, Kinnair, 2012) and financial backing (Wilson, 2009) that the PW has received in the UK should be considered an important success factor for this initiative, as evidence of the promised change and improvement is yet to materialise. However, as political priorities change in the UK, and the global economic climate continues to worsen, the trajectory of general interest by publication would appear to mirror the political and financial attention during the same time period. Without these political and financial drivers, large-scale QI initiatives like PW are challenged to succeed (Perla et al., 2013, Langley and Denis, 2011).

The low number of international contributions to the literature raises questions about the scale and intensity of global roll-out and merits further scrutiny in relation to actual numbers of countries and uptake. The success of this initiative in the UK and the reports, commentary, publications and marketing attention it has received are most probably the main reasons for initial international interest and participation. With the closure of the NHSI and the future of its worldwide section still uncertain, the momentum to make this initiative a truly global phenomenon may well already be lost.

It could be argued that the international literature is playing ‘catch-up’ and the trends of the UK peer-reviewed contributions will be observed in the coming years as the initiative spreads globally. However, the volume of international grey literature is much less than expected and does not appear to be following the UK bibliometric trends observed in the early stages of UK implementation. It could yet be discovered that the PW initiative is not as successful in other countries and healthcare systems as

it was reported to be in the UK. We have been led to believe that the initiative is flexible and adaptable and the PW box set contains all the solutions. However, the translation and impact of QI programmes across multiple healthcare settings is already reported to vary immensely (Dixon-Woods et al., 2011, Shojania et al., 2004). The important issues of condition and context (Ovretveit, 2011) for the international spread, adoption and success of this initiative have not yet been explored, tested or described in any detail.

The fact that peer-reviewed publications do not appear to show a declining bibliometric trend is a positive sign that this initiative, whilst continuing to be rolled out, is still attracting both academic and practitioner interest. With large-scale evaluations expected from Canada (Saskatchewan) and the Republic of Ireland in 2015, there is an opportunity to provide robust evidence of impact which may well stimulate clinicians and practitioners to contribute to the growing number of publications. It has been noted previously that insufficient data and competing demands in healthcare have impeded the adoption, spread and impact of PW (Wright and McSherry, 2013, van den Broek et al., 2013, Morrow et al., 2012). The large-scale evaluations in the UK have provided researchers with fertile data and experiences of implementation for publication. There is some evidence of crossover and collaboration between the researchers involved in these UK evaluations and their publications. The opportunities to evaluate and publish in academic or professional publications may also present themselves in other jurisdictions and there are promising signs of this in Ireland (White et al., 2013b).

The low number of authors producing empirical papers around the PW creates the impression that this QI initiative may indeed be a passing fad or fashion and that any 'low-hanging fruit' may already have been harvested (Radnor and Walley, 2008). Papers emanating from an author based in a PW 'whole-hospital site' (Bloodworth, 2011b, Bloodworth, 2011a, Bloodworth, 2010, Bloodworth, 2009), have not been updated or reported in recent years. The two authors who have written or collaborated on more than two papers are well-established researchers from the NNRU and appear to have already moved on to other interests (Morrow et al., 2013).

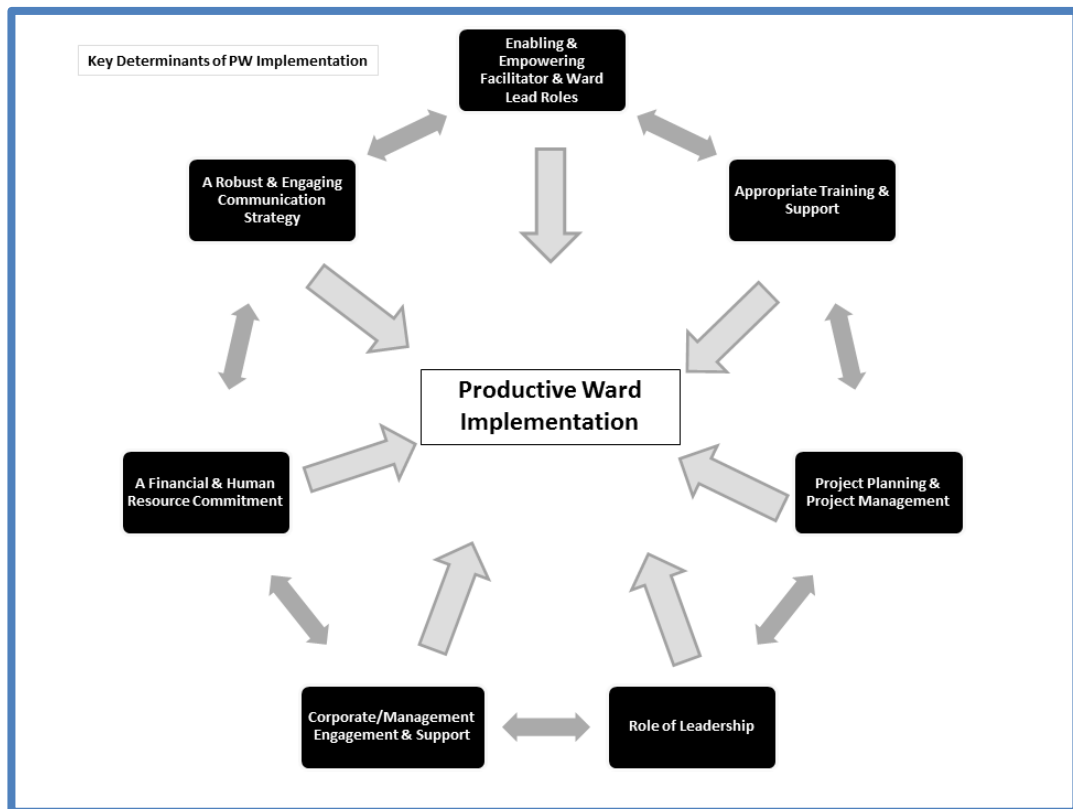
Managing scepticism and engaging clinical staff has proven challenging in other QI initiatives (Gollop et al., 2004, Davies et al., 2007). It has been argued that the desire to be 'productive' can easily be interrupted. Nurses who have been previously captured by the panacea of being 'productive' and of 'releasing time to care' may simply have escaped the captivity and control of that dream-like desire and are just refusing to engage with the dance of efficiency (Rudge, 2013).

5.8 Chapter Conclusion and Implications for Implementation and Research

The following conclusions can be drawn from the detailed examination and analysis of PW literature.

1. The evidence from the literature published to date reveals that there are many lessons to be learned in relation to the styles, approaches, factors and key issues which are critical for successful implementation. The main challenge is narrowing them into practical themes that senior nurse leaders could/may use when planning for PW implementation.
2. The NHSI and NNRU reports (NHS Institute and NNRU, 2010c, 2010b, 2010a) use the dissemination, diffusion, adoption, spread, assimilation and sustained change theories to highlight critical success factors for the adoption and spread of the PW. Other subtle aspects of practical implementation advice that appear to make an impact on the start-up and successful implementation of the PW are reported, namely the roles of appropriate training and robust project planning.
3. It is possible to map these elements of reported practical experience and implementation into seven areas for consideration prior to and at regular intervals throughout implementation of the PW (See Figure 5.4 below). The advice from the literature is to ensure that these factors are considered during planning and implementation. Many of these determinants have been described in other change/implementation models (Pinto and Slevin, 1989, Ferlie and Shortell, 2001, Kotter, 2007) but not necessarily all together.

Figure 5.4: Key Determinants of Productive Ward Implementation



4. When viewed collectively and within context, many of these key determinants do not neatly fit into any particular change or implementation model. In this regard, the synergies of these seven determinants are most probably unique. They are particular to the implementation experiences of the PW to date and could serve as a guide for implementation.
5. Bibliometric patterns of this large-scale, international, QI programme highlighted a general reduction in overall publication productivity in the course of the initiative.
6. Following the recent closure of its creator and main driver, the NHSI, the future of the PW initiative is uncertain. Other key drivers for PW in the UK, namely the political and financial support it has had until recently, also appear to be in decline and show signs of fading. With implementation continuing at pace in countries such as Canada, the US and Ireland, the expertise and competency in relation to delivering the initiative may leave the UK altogether.

7. Evaluations to date in the UK have yet to show any real hard evidence of organisational impact on a grand scale, or of sustained QI or real financial savings, and time and interest (as indicated in the reduced grey literature) appear to be running out.
8. If this initiative is to be sustained, and is not to join the growing list of failed QI and Lean-type initiatives in healthcare (Radnor et al., 2012, Radnor and Osborne, 2012, Walshe, 2009), it will require urgent political, professional and financial attention. It looks unlikely to get any of this in the UK and the lifeline for this initiative appears to lie within three veins:
 - i. The international implementation of this initiative is still in its early phases and the impact and evaluation of PW in other jurisdictions is one of the keys to its survival. Robust evidence of positive impact on the quality of the patient experience and employee well-being and of dramatic financial savings is required from the adopting countries. This robust evaluation evidence will provide credibility, which has been somewhat lacking in the literature to date, to the marketing 'improvement' claims made when this initiative was first launched. This should create enough international political and professional positive affirmation to sustain the initiative and continue to generate publishing interest.
 - ii. As the numbers of good empirical-based studies continue to emerge (and there is no evidence of any reduction in peer-reviewed publications), general interest and discussion can be maintained. Good research will stimulate further research interests and publications. This paper has highlighted the real paucity of theoretical, empirical and experimental research in relation to this initiative. Regular academic and professional contributions can only serve to promote, market and raise the profile of the initiative and the many elements of QI that it has been reported to deliver.
 - iii. Research and evaluations similar to this study allow lessons learned during implementation and evaluation to be shared and disseminated. Adding to the large volume of reports, research papers and grey literature already published about the PW and its implementation can only serve to expand the knowledge base, improve strategies for implementation and impact long-term sustainability.

The literature review undertaken in this chapter has also highlighted a number of key themes and items of research interest that would benefit from further investigation:

1. What interdependency and reliance do the aforementioned key determinants have on each other? How they interact and impact with each other warrants further investigation and exploration.
2. In what way do the key determinants help or hinder implementation? Understanding their impact on successful implementation (or lack of it) deserves further examination and scrutiny.
3. Are there any other contextual or environmental factors that may impact on the successful implementation of the initiative? Robust examination and testing of the determinants and an investigation into whether other elements (as identified in the literature (NHS Institute and NNRU, 2010a) as the determinants of spread) that may impact on successful implementation is required. There is evidence of other reported impacts of Lean in Chapter 4, section 4.8 which supports the claim that there may well be other factors (including socio-cultural elements).
4. It is worth noting the prominence of PW success stories in all the reports and literature. The absence of reports of PW implementation failures or of less-successful implementations, if indeed there are any, deserves further scrutiny. Are there examples of PW failures? Many lessons could be learned by investigating project sites that do not have successful implementation stories to tell (Pressman and Wildavsky, 1973).
5. The prominence of the terms 'empowerment', 'leadership' and 'engagement' within the themes of common contextual determinants highlights the importance of these key elements during implementation. To what extent do they impact and effect implementation? Their specific role within implementation deserves further examination and exploration.

Chapter 6: The Role of Engagement

6.1 Introduction

The prominence and development of engagement as one of the employee impacts shared in the improvement science, Lean and PW literature provides an opportunity to explore an 'emerging concept that continues to emerge' (Shuck, 2011). The objective of this chapter is to review, examine and discuss the literature in relation to the term 'engagement' and explore how it can be better defined in relation to this study and QI. This chapter also explores some of the many discussions and debates that have emerged as the terms 'engagement' and 'employee engagement' have developed and diversified. This Chapter also discusses why the work engagement (WE) construct is proffered for this study. The emphasis in this literature review is on a number of key themes that have emerged within the vast WE area which are pertinent to QI implementation and to this study.

Section 6.2 introduces the concept of engagement and the recent business interest in it, and provides a context as to why it might be pertinent for QI and this study. Section 6.3 describes the search strategy employed and section 6.4 the content analysis that was undertaken. The employee engagement construct is examined in section 6.5 and some of the distinct and differing views are outlined. Section 6.5.1 describes the concept of burnout, distinctly connecting it to the engagement construct. Section 6.5.2 introduces the construct of WE and describes the two dominant models/perspectives. The crossover of engagement into other work-related constructs is briefly described in section 6.5.3. Section 6.6 provides a brief description of other scholarly engagement frameworks and definitions. The antecedents and prerequisites for engagement are outlined in section 6.7 with discussion related to some of the outcomes and outputs of WE. Section 6.8 analyses the various elements of measuring engagement and introduces the two mainstream measurement instruments, the Utrecht Work Engagement Scale (UWES) and the Gallup Workplace Audit (GWA). The chapter concludes with points of conclusion and a list of implications for research that are pertinent to this study.

6.2 Why Engagement

The concept of employee engagement is a popular one. Companies with higher employee engagement are reported to have better outcomes (e.g. higher customer loyalty, increased employee performance, better business growth) than companies with lower employee engagement (Vogues, 2011, MacLeod and Clarke, 2009, MacLeod and Clarke, 2010). Human resource and government publications quote substantial financial sums to illustrate the cost to businesses of disengaged employees, with the assumption that these losses become gains when organisations can convert disengaged employees into engaged ones (MacLeod and Clarke, 2009). Given the substantial differences between engaged and disengaged employees in terms of employee activity, performance and output as well as the potential business advantages of converting the unengaged to engaged, employee engagement as a topic continues to grow interest amongst practitioners and researchers. There is some evidence in the literature that the engagement of front-line clinical teams is a precursor to achieving QI (Siriwardena, 2009) and improvement in general (The Kings Fund, 2012). A Recent review of QI programme evaluations established that many of the challenges were related to employee contribution and that stakeholder engagement was the key enabler for success (Dixon-Woods et al., 2012). Similar findings in relation to stakeholder engagement have recently been reported for Lean healthcare (Steed, 2012, Holden et al., 2011, Andersen et al., 2014) and PW (Health Quality Council, 2011, Avis, 2009, NHS Institute and NNRU, 2010a).

6.3 Literature Search Strategy

A review of the literature was carried out to explore the key elements of employee engagement. The review was limited to published journal articles from January 1995 to June 2013, which covers the period from when the concept was first defined to this phase of the current study. Language restrictions were included which limited the search to texts available in English. Because of the developmental nature of employee engagement, no restrictions were placed on type of literature (academic, editorial, professional discussion etc.). A number of electronic and web-based databases were

utilised, accessed via the Multisearch platform at WIT library. The Multisearch system is described in Chapter 3 (section 3.2 and Table 3.1).

In addition, this search led me to the Wilmar B. Schaufeli PhD website (www.schaufeli.com) and this was utilised for a list of his many publications in the area of WE.

The initial key search term used was: 'employee engagement'. In addition, a secondary search was also performed using the terms 'work engagement' and 'burnout'. The 'and' Boolean facility was used to focus and refine the search. The combined search retrieved over 1,600 items. A first-level manual examination of the abstracts was then conducted to assess the appropriateness of the literature for inclusion in the review. The inclusion criterion was based on the extent to which the issue of 'work' or 'job-related engagement' was addressed in each individual piece of literature, with particular emphasis placed on research articles from high-impact journals and papers that included nursing or healthcare issues. It must be emphasised that the scale and scope of literature in this field is vast. Whilst the intention for the purpose of this study is to provide a robust and comprehensive review, this search was neither forensic nor systematic.

After removing duplicate and non-relevant citation, the total was reduced to 110 papers, 48 references from the employee engagement search theme, 33 from the work engagement search theme and 29 from the 'burnout' literature.

6.4 Content Analysis

A wide variety of conceptual, contextual and interpretative papers were uncovered during the search; content analysis (Bryman, 2012) allowed category development from the literature, through which a number of key themes emerged. These will form the focus of this review and include the following topics: construct, burnout, WE, measurement of WE, antecedent development and outcomes.

6.5 The Employee Engagement Construct

In their paper exploring the meaning of employee engagement, Macey and Schneider (2008) reviewed the prior literature that they felt best identified the conceptual development of employee engagement. They present a conceptual framework through which to understand this loose engagement concept, helping to clarify the different meanings of the term. This useful framework not only helps the reader to clearly understand the engagement construct, but also serves to assist managers and practitioners in understanding how the construct is impacted by the work environment and, more importantly, how it translates to business goals and outputs.

Macey and Schneider (2008) identify three common threads across the various definitions of employee engagement which are helpful in the context of this study and the adoption of engagement into QI:

1. Employee engagement is a desirable condition
2. Employee engagement has an organisational purpose
3. Employee engagement suggests absorption, dedication, passion, enthusiasm, focused effort and energy on the part of the employee.

Robertson-Smith and Markwick (2009) articulate the development of at least two distinct views, models and definitions of engagement in the literature. These are: company or practice-based models which view engagement in terms of usability and actual outcomes (loyalty, effort and competitive advantage) and the academic model which focuses on the outcomes of engagement itself (advocacy, dedication, fostering a change culture, the psychological state and the two-way beneficial relationship) and its definition and validation (Shuck, 2011).

However, on examination, these models appear to define engagement, to some degree, into two categories:

- Business outcomes or outputs, or
- 'Something' given by the employee which can benefit the organisation.

The majority of the literature reviewed agrees in principle with Robertson-Smith and Markwick's (2009) assessment that engaged employees:

- Feel a sense of attachment towards the organisation.
- Invest themselves not only in their own role but also in the organisation as a whole.

The development of employee engagement as a construct has been mostly by comparison with disengagement or lack of engagement. This is not surprising as traditional organisational psychology literature has tended to focus on absenteeism, turnover, burnout, workplace stress, workplace violence and bullying. Engagement has provided an opportunity for organisational psychologists and human resource practitioners and managers to move away from negative concepts like burnout and towards its positive antipode, engagement.

It is important to note that engagement has been noted for some time as an important but latent feature of burnout. This association was explored in Maslach et al.'s (2001) early definition describing burnout as 'an erosion of engagement' with one's work or one's job. While identified and described, engagement did not feature in the literature that developed the concept of burnout or in the wider organisational literature describing employee well-being. It was only when engagement began to be viewed through the positive-psychology 'lens' that strong associations began to develop between the concept of burnout and engagement (Maslach et al., 2001).

Many authors have now established (and are in agreement to some extent) the understanding that employee engagement is different from employee satisfaction⁵ (Macey and Schneider, 2008, Maslach et al., 2001, Shuck, 2011). Employee engagement differs as it relies on activation on the part of the individual employee and is marked by a willingness to expend discretionary effort to help the employer. It would therefore follow that any measurement of employee engagement should

⁵ Employee satisfaction is distinctly related to satiation, that is, employee satisfaction is about the employee's individual appraisal of the many elements of their external work environment. Either the work environment has certain satisfying characteristics, or it does not.

extend beyond the work environment and focus on something about the individual employee, something internal.

Academic interest in employee engagement is relatively new and has resulted in numerous inconsistent definitions in the literature (Saks, 2008, Macey and Schneider, 2008, Shuck, 2011, Simpson, 2009b). Simpson (2009b), in her review of the literature, identifies four distinct lines of research that have focused on identifying engagement within the employee context. These four models of employee engagement have dominated the academic literature, each specifying that employee engagement is a construct unique from other similar constructs (e.g. satisfaction), and there is some empirical evidence to support them:

1. Personal engagement (Kahn, 1990, Rich et al., 2010).
2. Burnout/engagement (Maslach et al., 2001).
3. Work engagement (Schaufeli et al., 2002).
4. Employee engagement (Harter et al., 2002).

However, only two definitions and constructs appear consistently in the academic literature, mainly because of their scientific measures; these are:

- i. Kahn's (2001) construct, which was adapted by Rich et al. (2010) into the Job Engagement Scale (JES). The JES is wholly based on Kahn's (1990) definition of engagement, which is comprised of three components: physical, cognitive and affective, and is grounded in theories of individuals' expression of themselves in their work roles.
- ii. the Schaufeli et al. (2002) construct, which has developed into the Utrecht Work Engagement Scale (UWES) and has its foundations in the burnout literature (Maslach & Leiter, 1997). Originally, the UWES intended to conceptualise engagement as the opposite of burnout, and was comprised of three components: vigour, dedication and absorption, the opposites of exhaustion, cynicism and inefficacy respectively. Schaufeli et al. (2006) have since outlined that engagement is not quite the exact opposite of burnout, but the UWES as a valid measurement tool retains its fundamental scale structure.

Engagement appears to have evolved in an attempt to cover the entire spectrum from employee ill-being (or burnout) to employee well-being or engagement (Maslach et al., 2001). The relationship between WE and burnout remains the focus of much business and academic debate and attention (Demerouti et al., 2001, Dyrbye et al., 2008, Hakanen et al., 2006, Hakanen and Schaufeli, 2012, González-Romá et al., 2006) and is explored in the following sub-section.

Analysis from this review acknowledges that attempts to reach a consensus on the meaning of engagement will continue. However, progress in reaching consensual understandings are hampered by the tension that has been generated between European and American academics in understanding the construct and its applicability, coupled with the competitive business interests that want to maximise engagement's potential outputs. It could be argued that too much focus has been put on the measurement of engagement. In this regard there appears to be less interest in fully understanding the complex contexts, environments and determinants.

6.5.1 Burnout

Burnout has been defined by the three dimensions of exhaustion, cynicism and inefficacy (Maslach et al., 2001) and is experienced in response to chronic job stressors (Maslach and Leiter, 2008). It was originally described as a feature exclusively seen in employees working within the service sector who actively interacted with people (Maslach and Leiter, 1997). This perspective is no longer the case and the concept has been described in many areas of employment. The three components of burnout – emotional exhaustion, depersonalisation and reduced personal accomplishment – replaced the original concept which consisted of just two characteristics: exhaustion and cynicism (Schaufeli and Salanova, 2007). The match or mismatch between person and job is central to linking burnout and engagement. Maslach and Leiter (2008) identified how burnout can be caused by a variety of factors that fall into two major categories: (a) situational characteristics and (b) personal characteristics.

a. Situational Characteristics of Burnout

According to Maslach and Leiter (2008) the most important situational characteristics are: workload, control, reward, community, fairness and values.

b. Personal Characteristics of Burnout

Although there is evidence that there are significant situational and organisational factors that may predict burnout, it has also been observed that not all individuals in a specific job develop burnout. As the burnout construct was developing, it became obvious that susceptibility may additionally depend on personal characteristics (Vladut and Kállay, 2010).

People with high levels of burnout have been characterised by low self-esteem and depression (Hakanen and Schaufeli, 2012), and external locus of control and type 'A' behaviour (Maslach and Leiter, 2008). Schaufeli and Salanova (2007) describe low-level sense of coherence and high levels of neuroticism in people suffering from burnout.

Age is the most consistent personal characteristic identified in the literature related to burnout (Maslach et al., 2001). It appears that the frequency and complexity of burnout symptoms reduce with age. Young employees are reported to be more predisposed to the development of burnout than those over 35 are (Vladut and Kállay, 2010).

Despite the anecdotal arguments that burnout is a female experience because of complex responsibilities (home, family and work), there is no evidence that sex or gender is a strong predictor of burnout (Maslach et al., 2001). There are, however, subtle differences reported within the Maslach Burnout Inventory (MBI) scores between males and females. Male scores are reportedly higher in the area of cynicism whilst female scores are reportedly slightly higher in the area of exhaustion (González-Romá et al., 2006).

Marital status may also play a role in the development of burnout. Maslach et al. (2001) outline how single employees appear to be more predisposed to burnout than those who are married, live in couples or even are divorced.

It is important to highlight both the number and diversity of personal characteristics that are associated with burnout. With so many variables impacting on the construct, one may ask if measuring burnout is a valuable measure for QI? From an implementation perspective, one would have to consider the viability of commencing an improvement intervention where employees would indicate and measure their levels of 'burnout'?

6.5.1.1 Measuring burnout

Early empirical research by Maslach in the 1980s led to the development of the MBI (Maslach and Leiter, 1997). The scale has been tested in many environments, countries and cultures, and is proven to have strong psychometric properties focused on assessing the three core dimensions of the burnout experience: exhaustion, cynicism (a distant attitude towards the job) and reduced professional efficacy (Maslach et al., 2001). To date, well over 1,200 studies have used the MBI to assess burnout and it has become the 'gold standard' for measuring the construct (Schaufeli and Enzmann, 1998).

6.5.1.2 Connecting burnout and engagement

The antithetical relationship between burnout and WE are now well described (Maslach et al., 2001, Shirom, 2011, Shuck, 2011). Traditionally the focus of psychology has been on negative states rather than on positive ones (Maslach and Leiter, 1997). With contemporary attention now being paid to positive psychology and human strengths, it is little surprise that at the opposite end of the burnout spectrum, the concept of job engagement has emerged and began to flourish (Maslach et al., 2001). Vigour and dedication have been described as the conceptual antithesis of emotional exhaustion and cynicism. With this is the implication that they measure two bipolar dimensions, described as energy (vigour and exhaustion) and identification (dedication and cynicism) (Schaufeli et al., 2002).

Schaufeli and Bakker (2004) however argue that engagement is a construct in its own right, at the opposite end of the continuum to burnout but requiring its own separate measurement. Schaufeli and Salanova (2007) demonstrated the need for separate measurement scales in their study of Spanish and Dutch students, which highlighted that the directionality of the wording around the dimensions efficacy⁶ or inefficacy does make a difference. Their findings indicated that 'inefficacy' (negatively worded efficacy) related to burnout whilst efficacy beliefs were represented on engagement scores.

The findings from Schaufeli and Salanova's (2007) study would most probably influence the measurement dimension if either construct were considered for use within QI. It would seem more appropriate to use the positively worded efficacy measure 'engagement' with improvement activity, than to use the negatively worded burnout measure. However, one must question if using positive-worded measure have ever been used or tested within a QI environment?

6.5.2 Work Engagement

WE is considered a 'multidimensional construct that is a positive, fulfilling, work-related state of mind' (González-Roma, et al. 2006 p. 166). Put in simple terms, WE is feeling energised and dedicated to one's work (Hallberg & Schaufeli, 2006). Central to the concept of WE is the employee's relationship with work itself. Engaged employees can be characterised by high levels of work activity, work pleasure, energy and effectiveness, which enable them to deal with job demands (MacLeod and Clarke, 2009). A positive relationship has been found between enjoyment of work, health and well-being, and WE (Robertson-Smith and Markwick, 2009).

Examination and analysis of the literature identified many models and perspectives of work or job engagement. However, two dominant models and perspectives emerge and these are described in the sub-sections below.

⁶ The capacity for producing a desired result or effect.

i. Perspective One: Originating from Kahn's Theory

Using grounded theory, Kahn (1990) conducted a small qualitative study of counsellors and architects in an attempt to learn how employees vary in their investment in work, and to explore whether such investment varied between work settings and professional groups. Using the work of the eminent sociologist, Erving Goffman, Kahn examined individuals' attachment to and detachment from their work roles. Kahn observed the 'preferred self' in everyday work activities. The preferred self as outlined by Goffman (1990) refers to the identity and behaviour that people choose to use when in different roles. Kahn noted that counsellors and architects employed themselves physically, cognitively and emotionally in their work roles, and subsequently defined engagement as this three-dimensional expression of the employee's self in the work role. He examined the work experiences in both settings, gathering contextual and psychological explanations for why employees engaged or disengaged at work. He identified three psychological states – meaningfulness, safety and availability – which are central to employee engagement (Kahn, 1990). The concepts of the preferred self and the three psychological states form the basis of Kahn's construct of engagement, which has been further developed by Rich et al. (2010). At the kernel of Kahn's (1990) construct is the proposal that people enter a state of engagement, noted by the employment of their preferred selves cognitively, affectively and physically, when they find meaningfulness, safety and availability in their work roles (Simpson, 2009b).

ii. Perspective Two: The Schaufeli Definition

The Schaufeli construct and definition appears to be the most established and widely accepted definition in the academic literature (Simpson, 2009b). Freaney & Tierney (2009) propose that it is the best available definition because it explores the central meaning of engagement, recognising both cognitive and affective components.

Schaufeli et al. (2002) suggested that defining engagement as the opposite of burnout whilst using the MBI to assess both constructs created a measurement deficit in developing validity evidence for engagement. Hence, Schaufeli et al. (2002) redefined

engagement, retaining some of the elements of burnout, but argued that it was indeed a distinct construct. WE has therefore been defined by Schaufeli et al. (2002, p. 72) as 'a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption'.

Vigour was defined as having high levels of energy even in challenging situations and serves as the opposite of the MBI's exhaustion factor. It is regarded as the willingness to invest effort in one's work, persistence in the face of difficulties, and high levels of energy and mental resilience while working. Shraga & Shirom (2009) identified job significance, supervisory feedback and job identity as key ingredients of vigour at work.

Dedication is characterised by a sense of significance, enthusiasm, inspiration, pride and challenge and functions as the opposite of the MBI's cynicism factor. It is strongly related to work involvement and identification (the ability to separate oneself from work).

Absorption was the last component identified following an analysis of 30 in-depth interviews (Schaufeli & Bakker, 2001, cited in González-Roma et al., 2006). Absorption is characterised by the ability to concentrate and become engrossed in one's work, where time appears to pass quickly and it becomes difficult to detach from work.

The concept of 'flow' has been described in similar ways to WE, particularly in relation to absorption (Csikszentmihalyi, 2002)⁷. The fragile aspect of flow is what differentiates it in the context of absorption and WE (Schaufeli et al., 2008). While there are some similarities between the two concepts it has been argued that WE is a more stable, persistent and pervasive state rather than a momentary peak state (Schaufeli et al., 2002, Hallberg et al., 2006). Vigour and dedication are considered, however, to be the core dimensions of WE (Schaufeli & Bakker, 2001).

⁷ Flow is a state that describes when an individual is totally involved in the moment or is totally absorbed in the work that they are doing. Being 'in flow' is a dynamic interaction between the person and his/her environment when an individual can express him/herself and achieve peak performance (Csikszentmihalyi, 2002). The conditions that have been linked with achieving a state of flow centre round the need for perceived challenges and goals. Flow is associated with energised activity and focused engagement but has also been described as a fragile, sometimes momentary, state.

While the concept appears to have remained unchanged, Schaufeli and Bakker (2003) refined the definition of engagement as a 'persistent, positive affective-motivational state of fulfilment in employees that is characterised by vigour, dedication and absorption'. Renewed emphasis is now placed on persistency and the affective emotional component. The persistent nature of WE was further defined in a longitudinal study of Finnish healthcare professionals and found to be reasonably stable over a two-year period (Mauno et al., 2007).

6.5.3 Engagement crossover

WE is reported to have an almost contagious effect with the ability to crossover from one individual to another (Bakker et al., 2006). This has been found to occur in personal relationships and in work teams (Bakker et al., 2009b). Crossover of WE has also been described between husbands and wives, and found to be evident in different occupational groups (Hakanen et al., 2006, Bakker et al., 2005). A 'spill-over effect' of vigour from the workplace to the home was also noted by Shraga & Shirom (2009) in a qualitative study of employees in Israel. The findings from these studies demonstrate the bi-directionality of the crossover effect, that both positive (work engagement – dedication and vigour) and negative (burnout – exhaustion and cynicism) experiences at work can be transferred within relationships and to the home situation.

Examples of work experiences that can crossover with a positive effect include:

- Achieving work goals and targets
- Achieving promotion/advancement
- Financial compensation and bonus achievement.

Each of these examples has the ability to elicit a positive mood in the home. In a recent study of crossover between couples, the crossover of engagement from wives to husbands was shown to be positively moderated by the husbands' ability to adopt others' views (perspective taking) and their levels of empathy (Bakker and Demerouti, 2009).

The focus of research exploring crossover and WE has mainly focused on the interface between home and work (Bakker et al., 2009b). However, WE also has been found to

crossover from teams to individual team members. Bakker et al. (2006), in a study of Dutch police officers, described how team-level burnout and WE are directly related to individual team-member levels of burnout and WE. Could this be the same with team-based QI interventions and does participating in QI activities influence those less-engaged members of the team?

Although engagement is cited as a key component of QI (Dixon-Woods et al., 2012, The Kings Fund, 2012), there is a paucity of research examining the crossover relationships between WE and QI. The QI literature would benefit from many of the accepted terms and understandings of engagement that are available from the organisational psychology and business literature.

6.6 Other Scholarly Frameworks and Definitions of Engagement

Other definitions of engagement are also evident throughout the literature and deserve a mention. Harter et al. (2002 p. 269) define employee engagement as ‘the individual’s involvement and satisfaction with, as well as enthusiasm for, work’. Whilst the definition is not completely at odds with the definition presented by Kahn (1990), Maslach et al. (2001) and Schaufeli et al. (2002), the underlying concept, emphasis, and application are significantly different.

The Harter et al. (2002) satisfaction-engagement definition is based on a four-dimensional model of employee engagement, conceptually similar to Maslow’s hierarchy of human needs. Employees’ progress is always upwards. New employees start at the base where the focus is on ensuring the availability of resources.

The definition is a direct reflection of the Gallup corporation position on engagement. This is not surprising as Harter was a Gallup employee and his work was based on a meta-analysis of data collected by the Gallup organisation. The Gallup organisation is a US-based management consulting, human resources and statistical research service. The Gallup definition of employee engagement emphasises the importance of the supervisor or manager and their influence on levels of employee engagement. It relies on a definition of engagement as a state that can be changed through organisational or

managerial interventions. Employee engagement is also linked to the success or the self-efficacy scores of managers within an organisation (Shuck, 2011).

Gallup therefore mainly focuses on the aspects of the environment that managers can directly influence. This places the emphasis on organisational inputs and not the traits, beliefs or attitudes of employees. This enables organisations to take a more proactive view in identifying antecedents to engagement in order to realise the benefits to the organisation in performance and profit. This view is not too dissimilar from the Job Demands and Job Resources Model (Demerouti et al., 2001).

In the Gallup model, organisations are in a position where they can introduce strategies/inputs to reduce job demands and increase job resources for employees, in order to improve employee engagement. Freeney & Tiernan (2006) argue that this focus on organisational inputs and productivity differentiates it from other models of engagement.

Saks (2006) outlined a multidimensional perspective of employee engagement that was developed through a social-exchange model and was the first to suggest separate states of engagement: job engagement and organisational engagement (Shuck, 2011). The conceptualisation defines engagement as multidimensional and as a 'distinct and unique construct consisting of cognitive, emotional, and behavioural components that are associated with individual role performance' (Saks, 2006 p. 602). This view parallels and extends the two previously dominant views (Schaufeli et al., 2002, Kahn, 1990), suggesting that engagement could be experienced emotionally and cognitively whilst being manifested behaviourally (Shuck, 2011).

Subsequent work by Macey and Schneider (2008) extends the Saks (2008) model of engagement, suggesting that each proceeding state of engagement (cognitive–emotional–behavioural) builds on the next, leading to 'complete engagement' (Kahn, 1990). Macey and Schneider's (2008) work suggested that job characteristics, leadership and personality were all related to the development of engagement.

Zigarmi et al. (2011) propose an alternative construct 'Employee Work Passion' which builds on the work of previous understandings (Kahn, 1990, Maslach et al., 2001, Schaufeli et al., 2002) whilst deviating slightly from Saks' (2006) work. This model identifies job factors, organisational factors and relationship factors that are responsible for creating a motivating work environment (Zigarmi et al., 2011).

6.7. Antecedents, Theory & Outcomes

Antecedents

Engagement is associated with greater effectiveness in work linked to higher levels of participation, satisfaction and organisational commitment (MacLeod and Clarke, 2009, Harter et al., 2002). The antecedents, factors, circumstances, events or environments that influence or lead to engagement and specifically WE are of particular interest to QI and this study as they can provide insight into the nature of the concept and how it can be nurtured and utilised in QI work. Identification of antecedents also enables the influence and relationship of the different components of WE – vigour, dedication and absorption – to be understood. Antecedents to WE have been examined in a number of studies (Mauno et al., 2007, Bakker and Schaufeli, 2008). WE has been linked to a number of antecedents that are aligned to job resources. Positive job resources include:

- Social support and feedback (Schaufeli and Bakker, 2004, Hakanen et al., 2006)
- Supervisory coaching (Schaufeli and Bakker, 2004)
- Autonomy (Demerouti et al., 2001)
- Task variety (Schaufeli et al., 2008)
- Training facilities, self-efficacy (Salanova and Schaufeli, 2008)
- Manager self-efficacy (Luthans and Peterson, 2002, Cathcart et al., 2004)

Lack of job resources includes:

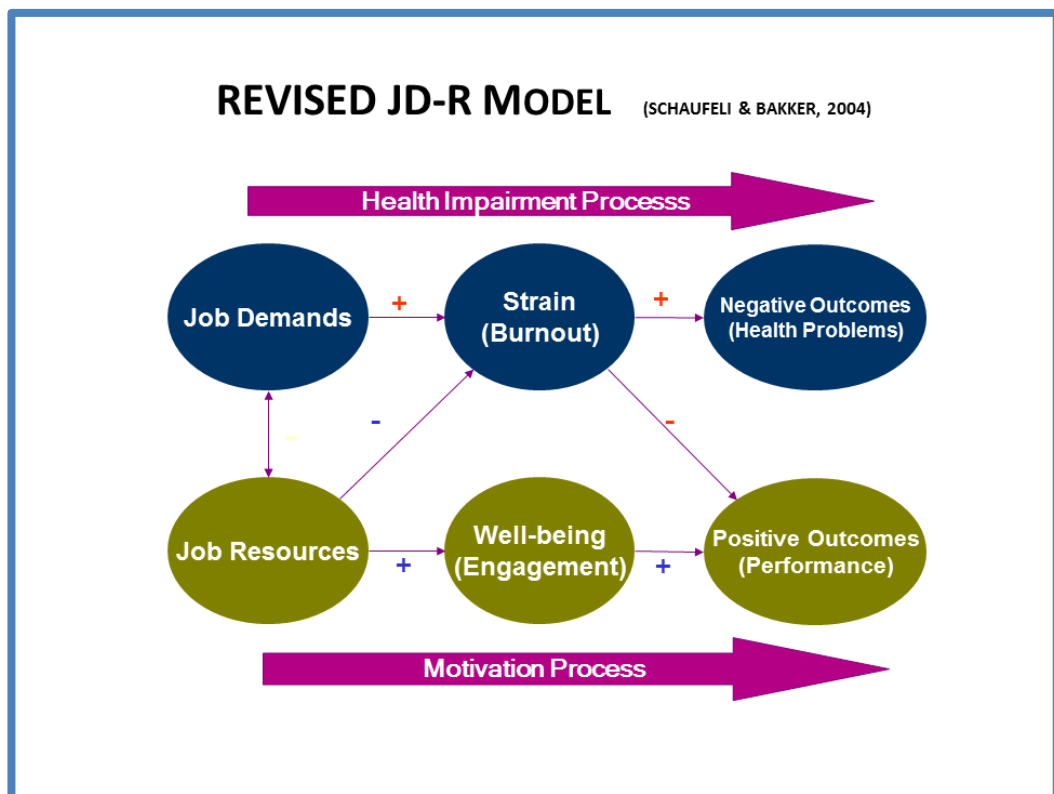
- lack of feedback
- poor job control
- lack of social support
- lack of participation in decision making (Demerouti, et al. 2001).

Cartwright and Holmes (2006) suggest that increases in job resources were predictive of future WE. Xanthopoulou et al. (2009) outline that there is a clear indication that the relationships between personal resources, job resources and WE should not be

considered in isolation as antecedents or outcomes, but rather as parts of a dynamic reciprocal cycle that depend on each other.

Freaney and Tiernan (2009) explore the factors that facilitate and act as barriers to WE in nursing. Their ethnographic study found that the main barriers and facilitators were related to work load, control, reward, fairness, community and values. Whilst WE antecedents are inextricably linked to job demands and job resources, the consequences are reportedly related to individual health and performance (Schaufeli and Salanova, 2007, Schaufeli and Bakker, 2004), as conveyed in Figure 6.1. Studies using the job demands/job resources model have shown that job resources (performance feedback, social support from colleagues and supervisory coaching) are exclusive predictors of WE while in contrast job demands were the most important predictors of burnout (Schaufeli and Bakker, 2004).

Figure 6.1: Revised JD-R Model



Similar results have been found in two professional groups of teachers (Hakanen et al., 2006) and healthcare professionals (Mauno et al., 2007). In both studies, job resources were found to predict WE better than job demands.

The role of efficacy and WE is well explored (Schaufeli and Salanova, 2007, Xanthopoulou et al., 2009). There is a developed understanding that efficacy beliefs play a mediating role between task resources and engagement. Engagement increases efficacy beliefs, which in turn increase task resources over time. The relationship between engagement and efficacy is a reciprocal relationship (Schaufeli and Salanova, 2007). Confidence in one's abilities has a positive influence on engaging with work and in turn enables the individual draw on efficacy as a resource to meet the demands of the job. Collegial support, self-efficacy and job environment have been found to be related to WE (Xanthopoulou et al., 2009).

The relationship between efficacy (capacity for producing a desired result or effect) and engagement has significant consequence in the world of QI. This appears to have been acknowledged previously in early QI work (Bate et al., 2004) and in the development of PW (Bevan, 2009).

The number of studies identifying antecedents to WE continues to develop and grow. However, the cross-sectional design of the studies may limit any inference or direction of causality to be drawn (Freeney and Tiernan, 2006, Mauno et al., 2007). This limits the extent to which causal inferences can be made regarding antecedents. There is a need for the diversification of methodological models to explore and test the concept of WE (Freeney and Tiernan, 2006).

Theory

The evidence from multiple cross-sectional studies of the revised JD-R model (see Figure 6.1) is convincing. The longitudinal evidence is also reliable (Hakanen et al., 2008) – job resources influence future work engagement and job demands predict burnout over time. As such the JD-R model has been utilised by many researchers and used as a conceptual framework (Nahrgang et al., 2011, Huhtala and Parzefall, 2007),

as well as being adapted, elaborated on and refined (Hakanen et al., 2006, van den Broeck et al., 2010).

Because the JD-R model is a descriptive model, specifying relationships between classes of variables, it generally requires other psychological theories to explain the underlying psychological processes behind the demands, resources and outcomes (Schaufeli and Taris, 2014). This restricted insight can be viewed as a limitation in terms of psychological mechanisms, but used with other explanatory designs or theories, it can still provide an elegant and robust framework (Schaufeli, 2014).

Outcomes

Outcomes can be considered from both the macro-organisational (or team) level and the micro-individual level, both of which have been the focus of employee engagement research. The MacLeod report (2009) outlines how employee engagement can make substantial differences and offer competitive advantage to organisations. Harter et al. (2002) examined the relationship between employee satisfaction/engagement and business outcomes. In their meta-analysis of nearly 8,000 employees in 36 companies, they found a relationship between employee satisfaction/engagement and a number of business outcomes that include customer satisfaction, productivity, profit, employee turnover and work-related accidents. The strongest effects have been found for employee turnover, customer satisfaction and safety.

WE has also been associated with other outcomes such as employee health (Schaufeli & Bakker, 2004) and stress (Morse et al., 2012). Hospital mortality rates have been linked with nurse WE (Bargagliotti, 2012).

WE and financial returns were the focus of Bakker et al.'s (2009a) diary study of fast-food employees. They argued that the more engaged employees are, the more productive they are, engendering success. The findings from the study (Bakker et al., 2009a) provide opportunity to reflect on the possible implications for QI activities and the PW initiative.

6.8 Measures of Engagement

Evidence-based practice refers to the practice of using a decision-making process combining critical thinking with use of the best available scientific evidence and business information (Rousseau and Barends, 2011). This review retrieved literature regarding a number of scales that have been developed and tested to measure engagement, many claiming to be highly effective. For the purpose of this literature review, the two most prominent measures will be discussed in detail.

6.8.1 The Utrecht Work Engagement Scale (UWES)

The most widely used measure of traditional WE in the academic literature is the UWES (Shuck, 2011). The UWES was originally developed by Schaufeli et al. (2002). The original construct of the scale consisted of 24 items. Following testing and psychometric evaluation, the scale was reduced to 17 items (Schaufeli et al., 2002). The revised seventeen-item scale consists of three subscales of vigour (six items), dedication (five items) and absorption (six items). An example from each subscale is:
Vigour: 'At my work, I feel bursting with energy'.
Dedication: 'I am enthusiastic about my job'.
Absorption: 'Time flies when I'm at work'.

A seven-point rating scale is applied to each item, ranging from 0 (never) to 6 (every day).

Following some demand for a quicker, easier measure that was shorter and more respondent friendly, Schaufeli et al. (2006) shortened the UWES to create a nine-item version of the measure, maintaining its psychometric properties, and demonstrated construct-validity evidence on testing. The three original components of the UWES were reduced to just three items each. Thus two different versions of the UWES exist, which are both used and tested in the literature. Because the 9-item scale does not have as much empirical support as the 17-item scale, most studies using Schaufeli et al.'s (2002) concept of WE use the 17-item scale. The psychometric properties of the UWES are well described and validated (Schaufeli et al., 2002).

One of the main limitations of the UWES appears to be the practicality of the many non-proprietary questions and measures used. The scale asks respondents how

'bursting with energy' they feel, leaving the respondent and the investigator questioning the practicalities of having someone not bursting with energy still possibly being engaged or perhaps questioning whether someone not bursting with energy could possibly be engaged (Shuck, 2011). The UWES has also been described as being devoid of earlier cognitive-engagement processes and theory and has been criticised for containing many items of negative correlation with burnout (in the original MBI) positively rephrased into the UWES (Rich et al., 2010).

6.8.2 The Gallup Workforce Audit (GWA) or Q12

Harter et al. (2002) and the Gallup organisation researchers have developed the Gallup 12 (Q12) or Gallup Workplace Audit to measure employee engagement. Generally in agreement with Kahn's (1990) personal-engagement definition, the Q12 is a twelve-item questionnaire that uses a five-point rating scale. Harter et al. (2002) report that these 12 items explain a large portion of the variance in 'overall job satisfaction' and are antecedents of personal job satisfaction and other affective constructs.

A sample of the items include 'Do you know what is expected of you at work?' and 'Do you have a best friend at work?' The questionnaire is described as a measure of employee perception of the quality of people-based, management practices in their organisation (Freeney and Tiernan, 2006). Respondents' scores are allocated to one of three categories: engaged employees, not-engaged employees, actively disengaged employees.

1. Engaged employees are viewed as innovative and contribute to the development of the organisation. They are passionate about their work and have a strong connection with the organisation.
2. Not-engaged employees are described as 'checked out' or retired on the job. They produce the work that is required but with little passion or energy.
3. The third category of actively disengaged employees are characterised as unhappy at work and are seen as undermining the achievements of their colleagues (Harter et al., 2002).

The results from organisational surveys are input into the Gallup database which now contains data from over 125 organisations and 24,000 work units. They conduct meta-

analytic procedures on employee engagement within multiple fields of industry allowing organisations to compare and contrast results (Shuck, 2011).

Freaney and Tiernan (2006) critique the Q12 as a tool that is not commonly used or suitable for academic research. Despite this, it is used by HR and managers globally in a variety of organisations. The Q12 is based on 30 years of quantitative and qualitative research conducted on thousands of employees. One of its limitations is that there is very little published detail of the psychometric properties of the scale (Freaney and Tiernan, 2006). This makes it difficult to establish the validity and reliability of the scale. Luthans and Peterson (2002), whilst supporting the measurement tool, argue that linking it to a recognised theory would be desirable. One should therefore carefully consider the use of a tool for which there is no apparent evidence base.

6.9 Chapter Conclusion and Implications for Research

It is possible to identify a number of key conclusions from this review relating to the concept of engagement, and more specifically WE. These can be summarised in the following points:

1. Although WE continues to emerge as part of the positive-psychology movement, it is possible to draw the conclusion that the concept of employee engagement suggests an underlying energy/effort component felt by the employee that influences their work and has a positive impact for the organisation.
2. It is understood best through some of its measures which have focused on feelings such as absorption, dedication, vigour, passion, enthusiasm, focused effort and energy on the part of the employee. Employee engagement has been conceptualised as a trait, a state and a behaviour.
3. Engagement is most notably recognised in the literature as the antipode of the more established concept of burnout, although not its exact opposite.
4. A considerable body of research has already been produced that has explored the relationship of WE with other work well-being concepts such as burnout, workaholism, job satisfaction, job demands and job resources.

5. There is growing body of evidence in relation to the crossover of WE into other areas of work/organisational/personal life (e.g. work teams, home life). There is no literature available relating WE to QI activity, impact or output.
6. Some employee-engagement measures reviewed here differ in both their purpose and their quality (organisation-led vs academic), leaving some debate in regard to the true measure of employee engagement.
7. Some measures lack a clear definition of the metric and the authors do not present the information needed to critically evaluate their measures (e.g. sample of items, reliability, validity) most notably the Q12 (Freeney and Tiernan, 2006).
8. Of the employee engagement metrics reviewed here, the best measure of employee or WE is the Utrecht Work Engagement Scale. This reliably measures three underlying components of employee engagement. Scores on the UWES measure the internal state of employees, not their satisfaction with working conditions. The UWES has consistently undergone a significant degree of testing and validation of its psychometric properties.
9. It is now well established that WE is a separate concept, but negatively correlated to burnout. Sifting out the relationship between the core concepts of burnout and WE continues to attract ongoing interest.
10. The number of studies examining the area of antecedents and consequences (outcomes) continues to expand. Some further work is required to gain a greater understanding and knowledge about how to create the right work environment to enhance WE to its full potential and to maximise its outcomes.

The literature reviewed in this chapter has also provided a number of key themes and areas of research interest that would benefit this study and QI research in general and they include:

1. There is paucity in the literature examining the impact of QI, QI activities or improvement (as having an efficacy) on WE and vice versa. One should consider whether using a WE measure within a QI context adds to the growing

number of reports of the impact that WE has on other business-related/performance outcomes?

2. There appears to be a gap in the literature in relation to examining any specific engagement antecedent intervention or work environment enhancement and the consequential impact on engagement measures (and/or organisational outcomes) using pre- and post-intervention experimental design. One could attempt to establish if QI activities can affect the WE measures of the implementing teams?
3. There is an opportunity to validate the UWES from a pre- and post-intervention design perspective, within the Irish context, and to contribute in some way to the body of research that is developing in the area of work and organisational psychology. One could therefore establish whether WE is a suitable measure for 'engagement' in QI?
4. There appears to be a scarcity of naturalistic enquiry in the whole area of WE and the JD-R model exploring and explaining the underlying processes from both a theoretical conceptual perspective and the experience of the employee. The Bakker et al. (2009a) diary study is one of the few detailed ethnographic accounts of engagement evident in the literature. One could therefore attempt to establish if there is more to WE than the UWES can tell us?

The conclusions provided by the literature reviewed in this chapter demonstrate the considerable scope for exploring the use and application of a robust WE instrument to measure the impact and effect of QI activities. The active definition and measure for engagement for this study is therefore the definition provided by Schaufeli et al. (2002) in figure 6.2.

Figure 6.2: Definition of Engagement for this study

Work Engagement (WE) is 'a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption'.

Schaufeli et al. (2002, p. 72)

The case for using an engagement measure in this QI study has been strengthened by the engagement themes that have emerged in previous chapters. In terms of suitability, WE and its validated instruments (UWES), its construct and proven associations with the JD-R model have been tested in many settings, and its use of positive psychological language appears a natural fit with the positive organisational behaviour of improvement.

Chapter 7: Key Themes from the Literature and the Implications for Research

7.1 Introduction

This chapter describes the focus of the study, extracting engagement as a point of convergence from the literature with which to formulate research questions and the linked propositions which will guide this study. Section 7.2 summarises the themes that have emerged from the previous chapters, outlining the reason for focusing on engagement. Section 7.3 explores the roles and relationships that engagement might play in QI, outlining how engagement is an integral part of QI activity and as such is the central focus of this action evaluation. The development of the research question is discussed and explored in section 7.4. In section 7.5 a number of propositions are outlined which provide the basis for selection of an appropriate paradigm and research design. Section 7.6 briefly outlines the research/knowledge/theory debate and provides an overview and broad theoretical exploration of the epistemological literature thus providing a position on the nature of opposing and competing ‘world views’. This discussion lays the foundation and rationale for adopting a mixed methods approach for this study and examines whether it is ‘fit for purpose’. A mixed methods design is then proposed as the middle ground for many healthcare evaluations and research environments and its suitability for this study is discussed. Section 7.7 provides a conclusion to this chapter, summarising a number of key elements that impact on the following methods chapter.

7.2 Themes from the Literature: Why Engagement?

It is apparent from the literature review in Chapter 3 that roles, values and relationships play a large part in successfully implementing QI (Langley and Denis, 2011), and that the engagement of the healthcare team is a critical success factor (Davies et al., 2007, Siriwardena, 2009).

Engagement also featured in the top three effects and impacts list which was identified and compiled in Chapter 4, the Lean healthcare/PW literature review (White et al., 2013a). It is acknowledged as an integral element of the Lean approach (Graban, 2012) and a key element of Lean leadership (Mann, 2009). Evaluation of any Lean-based approach should therefore incorporate an engagement aspect.

In Chapter 5, the PW literature review highlighted the engagement of corporate teams as one of the key determinants of implementation (White et al., 2013b). Previous evaluation findings of the PW initiative have also identified staff energy and engagement as key individual element of spread (NHS Institute and NNRU, 2010a), and whilst leadership and empowerment also featured strongly in the PW literature review, engagement as a requirement for QI is the one theme that spans all levels of ward staff, middle managers and the corporate team.

It must also be noted, however, that engagement is acknowledged as an integral element of leadership (Den Hartog and Belschak, 2012, Babcock-Roberson and Strickland, 2010) and empowerment (James et al., 2008, Laschinger et al., 2006, Boudrias et al., 2012, Salanova et al., 2011). It also is reported to impact on work performance (Luthans and Peterson, 2002, MacLeod and Clarke, 2009) and to influence change (Cartwright and Holmes, 2006), both of which are recognised as main goals of QI. The engagement of ward-based teams is a key component of the PW module work, and its relationship and interaction with other key elements or determinants of implementation justifies its inclusion as the main component of any research/evaluation framework for the initiative.

Chapter 6 provided a comprehensive overview of the engagement literature, analysed the many understandings of employee engagement, and identified the WE construct as the most widely tested and accepted understanding of the term employee engagement. The adoption of this construct and its associated measure (the UWES) for this study is based on:

- Its accepted use and validation as a reliable measure of WE.

- The testing and adoption of employee engagement/UWES into many organisations/professional domains confirms its suitability for 'crossover' and means it should be both robust and adaptable enough for this study (and QI in general).
- The use of the concept of 'vigour' with the construct may help in exploring previous PW evaluation findings (NHS Institute and NNRU, 2010b), which highlighted 'staff energy' and engagement as determinants for the successful spread of the initiative.
- There has been no published research or testing of the WE construct within the QI literature and this study serves as an opportunity to contribute to the literature and validate the UWES from a pre- and post-QI intervention design perspective.

7.3 The Possible Role that Engagement Plays in Healthcare Quality Improvement

The literature review in the previous chapter highlights the absence of clarity and definition when it comes to engagement, especially as it is openly used in QI, QI methods, interventions and programmes like PW. Introducing and testing a robust construct, definition and measure of engagement (in the form of WE) into the QI domain, through this study, provides a real opportunity to procure the clarity, accuracy and definition to fill this void. However, the role that engagement might play in healthcare QI remains uncharted territory. The following is a summary from the literature reviewed in the previous chapters which helps focus attention on aspects suitable for evaluation.

It is well recognised in both the business and industry literature that the 'employee contribution' is central to improved business and quality outputs (Harter et al., 2002, Bakker et al., 2009a, MacLeod and Clarke, 2010). To be competitive and to 'remain in the game', the best-performing companies in business and industry have no option but to 'engage', not only the body, but the mind and soul of every employee (Ulrich, 1997). Likewise most QI practitioners in healthcare would agree that it is the members of the team who make a critical difference when it comes to creating innovative ideas, contributing by thinking differently and piloting small tests of change (Grabau, 2012).

Knowing what we know from the business and industry literature about the correlations and confirmed links between employee engagement/employee contribution and improved quality, performance and outputs (MacLeod and Clarke, 2009, Harter et al., 2002), it is difficult to understand why this learning from business has not yet fully spread into healthcare QI implementation, performance and output (Marshall, 2009). This is more surprising when one considers healthcare QI's reliance on and relationship with the solutions, methodologies and tools that have their genesis in that very industry or business base. This could be seen as another example of the very considerable gap that exists between 'what we know', and 'what we do' when it comes to healthcare QI efforts (Shojania and Grimshaw, 2005).

It is acknowledged that the engagement of front-line clinical teams is a necessary precondition for QI initiatives (Siriwardena, 2009) and improvement (The Kings Fund, 2012). A recent study of 14 quality improvement programme evaluations established that the majority of the key challenges were employee/people contribution-related and stakeholder engagement was the key enabler for success (Dixon-Woods et al., 2012). Similar findings in relation to stakeholder engagement have been highlighted in literature reviewed in previous chapters.

Participation in QI activities requires healthcare team members to be willing to culturally and psychologically invest in a 'cause' to improve. Qualitative data investigating scepticism amongst staff involved in health service quality improvement in the UK reports that it is the engagement of staff in the practical activities and processes of improvement which converts the sceptics to improvement (Gollop et al., 2004).

Incentivising healthcare teams through intrinsic motivators or 'causes' (to improve the patient's and the ward team's experiences, and indeed their own efforts to improve) requires a level of engagement and involvement (Dixon-Woods et al., 2012). As a consequence, if healthcare organisations are to excel at improving quality, they will need to become increasingly more reliant on the affective, cognitive, behavioural and

motivational characteristics (the engagement) of their employees if they are to actively participate in QI (The Kings Fund, 2012).

It would therefore follow that if engagement does have a possible role in QI (as outlined above); the measurement of engagement (relating to QI) should extend beyond the satisfying characteristics of the work environment (satisfaction surveys etc.). It should focus on something about the individual employee or team member, some internal characteristics which stimulate and motivate the expenditure of energy and effort which are so vital for the successful implementation and outcome of QI. There is therefore a need to introduce, measure and further understand WE as an integral aspect of QI activity.

7.4 Developing the Research Question

The overarching aim of this study is to provide new implementation and impact insight into the reports that healthcare QI initiatives like PW 'engage' their participants. Analysis of the literature in Chapters 3-5 has confirmed engagement as a key element of implementation for quality improvement, Lean or Lean healthcare, and one of QI's most prominent programmes, PW.

Subsequent exploration of the engagement literature and a detailed analysis of the various engagement constructs and understandings indicate that the most pragmatic, appropriate and scholarly definition of engagement for this study is the well-defined and well-recognised construct of WE. It therefore follows that the associated extensively tested instrument, the UWES (Utrecht Work Engagement Survey), will provide the quantitative method to measure WE from a cohort of PW participant sites.

Developing pertinent research questions around the thematic domain engagement requires a return to some of the conclusions from the literature review chapters which identified implications for research, and an overall assessment of 'best fit' in terms of the national evaluation framework outlined in section 2.7.10.

Each research question (RQ) is set out below, preceded by a rationale and a reference to the literature review which has shaped the question:

RQ1. There is acknowledgement in the literature reviewed in:

- Chapter 3, section 10 (conclusion 6) that: ‘There is growing evidence that engaging professionals in the culture of QI impacts positively on the use of improvement science and the sustainability of improvement efforts’.
- Chapter 4, section 9 (conclusion 4) that: ‘Successful implementation or transformation in any healthcare environment using quality improvement tools like Lean or PW requires the complete involvement and engagement of healthcare professional groups and employees’.
- Chapter 5, section 8 (conclusion 7) that: ‘Corporate/management engagement and support is a key aspect of implementation. There is no reference or detail in the literature articulating the level and extent of engagement.’

Therefore RQ1 will enquire: ***To what extent does the PW initiative ‘engage’ the ward teams who implement it?***

RQ2. Conclusions in the literature reviewed identify:

- In Chapter 3, section 10 (implication 3) that: ‘Due diligence and careful attention should be devoted to fully understanding the many contextual, organisational and environmental factors that influence the methods used in improvement and improvement science.’
- In Chapter 4, section 9 (implication 1) that: ‘The absence in the literature of an exploration with the aim of identifying common contextual and environmental factors for successful implementation and spread of quality improvement initiatives like Lean healthcare and PW [would benefit from further investigation]’.
- In Chapter 5, section 8 (implication 3) that: ‘Robustly examining and testing the key determinants and investigating whether there are other contextual or environmental elements (as identified in the literature (NHS Institute and NNRU, 2010a) as the determinants of spread) that may impact on successful implementation [would benefit from further investigation]’.
- In Chapter 6, section 9 (implication 4) that: ‘There appears to be a scarcity of naturalistic enquiry in the whole area of WE exploring the concept from the perspective of individual employees’.

Therefore RQ2 will enquire: ***What are the participants’ experiences (perceptions and reflections) of the PW initiative and its implementation?***

Research Q3. The literature reviewed highlights:

- In Chapter 3, section 10 (conclusion 5) that: ‘By critically examining the many ‘what’ factors or determinants that are useful for facilitating improvement and its roll-out’, the science of improvement is finally moving away from solely focusing on whether initiatives or interventions are effective and successful or not.
- In Chapter 4, section 9 (conclusion 6) that: ‘Paying attention to the detail of employee impacts and effects may help to reduce the risk of Lean healthcare and the PW initiatives being viewed through the same lens as many other ‘quick-win, short-lived’ management projects’.
- In Chapter 5, section 8 (implication 4) that: ‘The absence of any reports of PW implementation failures, or of less-successful implementations, if indeed there are any, deserves further scrutiny and research’.
- In Chapter 6, section 9 (implication 2) that: ‘There appears to be a gap in the literature in relation to examining any specific engagement antecedent intervention or work environment enhancement and the consequential impact on engagement measures’.

Therefore RQ3 will ask: ***What elements of participants’ experiences impact on engagement?***

RQ4. As provided in the section conclusions in Chapter 3:

- In Chapter 4, section 9 (conclusion 4) that: ‘Evaluations to date in the UK have yet to show any real, hard evidence of organisational impact on a grand scale, or sustained QI’.
- In Chapter 6, section 9 (implication 1) that: ‘The absence in the literature of an examination of the impact of QI activities on WE and vice versa. This would add to the growing reports of the impact of WE on other business-related/performance outcomes’.

Therefore RQ4 will enquire: ***Is there a relationship between engagement and improvement performance?***

The four research questions are represented in figure 7.1

Figure 7.1: The Four Research Questions

RQ1: *To what extent does the PW initiative 'engage' the ward teams who implement it?*

RQ2: *What are the participants' experiences (perceptions and reflections) of the PW initiative and its implementation?*

RQ3: *What elements of participants' experiences impact on engagement?*

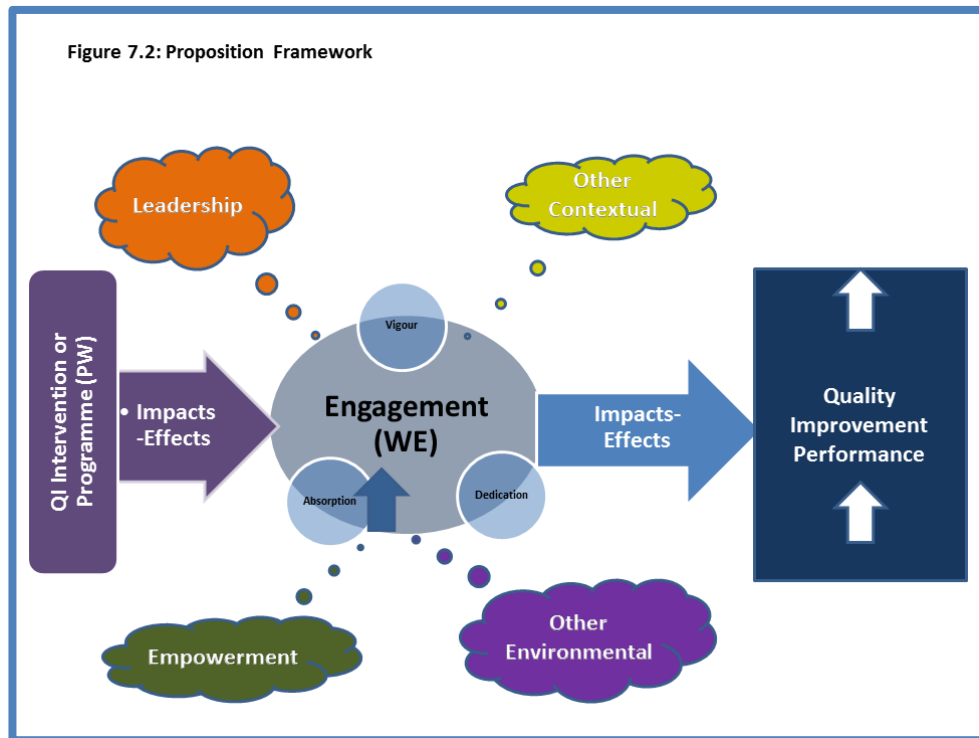
RQ4: *Is there a relationship between engagement and improvement performance?*

7.5 Propositions

A total of five propositions have been formulated based on the conclusions reached from the literature reviewed in Chapters 3, 4, 5 and 6, and the four subsequent research questions. These are conceptualised in an overall proposition framework in Figure 7.2.

- P1: That there will a positive relationship found between the sample (ward teams involved in PW) and WE.
- P2: That the positive relationship to WE will be greater in the sample (ward teams involved in PW) than in a control group.
- P3: That a positive relationship will be found between PW participants' experiences (perceptions and reflections) and WE.
- P4: That there is a positive linear relationship between WE and QI performance.
- P5: That there will be common key elements/factors of implementation that have both a positive and negative impact on WE and thus on QI performance.

Figure 7.2: Proposition Framework



The proposition framework conceptualises that a QI intervention or programme like PW essentially acts as a ‘job resource’ and will positively impact or affect the WE of participants. This in turn will have a positive impact or effect on QI performance. This proposition acknowledges the role that other key determinants have, and whilst it is acknowledged that everything except the intervention can be classified as contextual (Ovretveit, 2011), the findings from the literature review would indicate that leadership and empowerment have a significant role to play.

7.6 Debating the Paradigm, Influencing the Research Design

When considering the paradigm for this study, some cognisance was taken of the norms and shared belief structures of the healthcare arena, which tend to promote the experimental medical research or positivist paradigm as the only real paradigm (Ovretveit and Gustafson, 2002). In fact a large portion of content in section 3.2 is dedicated to exploring some of the tensions that have become entangled around the use of language and common understandings, and the positioning of all things QI firmly into the natural sciences or positivist domain. Efforts to view QI through a

'naturalist' lens have been met with strong position statements and attempts at re-branding elements of QI as improvement science, implementation science and the 'science of improvement'. The irony in this is that the majority of QI programmes, like PW, are essentially complex social interventions which involve real people and require the implementers to know about people's experiences and judgements.

Whilst reflecting on the paradigms with which to tackle this evaluation, I considered Ritchie and Lewis's (2003) pragmatic approach which advocates a lot more attention to the research design, and methods that address and fit with the research question, than the philosophical coherence or epistemological position. However, for the purpose of reflexivity, it is worth discussing some of the epistemological positions considered prior to the research design.

Through exploring some of the literature it became apparent that the term paradigm has many different and sometimes conflicting meanings. In a research or knowledge context it provides broad conceptualisations about epistemologies (questions about truth, what we accept as truth and how it has been constructed). Essentially a paradigm (broad conceptualisation) represents a 'world view' which incorporates the assumptions that are typically associated with that view (Robson, 2002).

Within the literature there are just two general classifications of the knowledge paradigm concept – quantitative (positivist) or qualitative (interpretive). Whilst using this global definition is helpful, it does not assist in understanding that a paradigm addresses much more than just models and patterns (Denzin and Lincoln, 2005).

Bryman (2012) does provide some clarity, explaining that paradigms are the beliefs that influence, shape and 'dictate' what is studied, how the study is carried out and the conclusions drawn from the findings. The discussion in this section has taken a very general approach to the concept of paradigms, and the 'disentangling' of the literature relating to the knowledge paradigms. The main focus has been obtaining some very basic personal understandings which would provide a rationale for an appropriate research design that would provide the benefits of combining both 'world views', an approach commonly described as the mixed methods approach.

7.6.1 Healthcare evaluation and research: room for the middle ground

A practical interpretation is that all healthcare research/evaluation should probably be immersed in both positivism and interpretivism in order to meet the numerous requirements of its many stakeholders, critics, subjects and funders. By its very nature, a mixed methods design would tick all of these boxes and imply that the researcher recognises and understands the qualities of both the positivist paradigm and associated quantitative methods, as well as having an appreciation of the constructivist/interpretive paradigm that is associated with qualitative methods. The main advantage of the mixed methods approach, from this study's perspective, is that the combining of the two approaches will also improve the validity of the evaluation by providing a multiple perspective or triangulation lens on the subject.

7.7 Chapter Summary

In this chapter I have provided a convergence of the emerging issues and questions highlighted by the literature reviewed in the previous chapters and linked them to the aims of this study and the research questions. The main section of this Chapter sets out the research questions which will shape the research design of this study and the propositions to be tested. A proposition framework in section 7.1 illustrates the conceptualisation of this study.

The paradigms in which the research questions might well be answered conclude this chapter and allow the philosophical, methodological and practical aspects of this study to develop prior to adopting a methodological perspective. A sensible, pragmatic blend of paradigms is offered in the form of taking the best from both 'world views' to develop a mixed methods design approach.

Adopting a mixed method perspective provides this study with more scope to accommodate the expectations and requirements placed on it from a national perspective – the expectation of the production of a robust, practical HSE evaluation report. A mixed methods approach allows the researcher to develop a balanced skill-base (allowing for development in both the positivist and constructivist paradigms) and

is proposed as the best fit for the development of the 'action evaluation' framework which will be discussed further in the following chapter.

Chapter 8: Developing a Research Strategy: Methodology and Methods

8.1 Introduction

The aim of this chapter is to outline, discuss and provide a robust rationale for choosing the data collection and analytical approaches used in this study. Section 8.2 outlines the objectives of the study and some of the design constraints presented by the author's position as both implementer and researcher. In section 8.3, details of how this study has evolved and of the methodological considerations are outlined. The framework, strategy and instruments are discussed, and how they were aligned to and matched with the research questions. Details of the research setting and context provide a backdrop for the design discussion.

Section 8.4 discusses the ethical considerations applicable to this study. Issues such as safeguarding participants in relation to informed consent, confidentiality and anonymity are detailed. In section 8.5 the first of the four phases of research are outlined, with discussion focused on the instrument used, the longitudinal follow-up and the reliability and validity of the measure. Section 8.6 focuses on the qualitative element, the in-depth interview and data collection. This section discusses the issues of rigour, validity and trustworthiness, and the issue of quality in qualitative research is explored using a framework assessment tool (Spencer et al., 2003). The section concludes by assessing/referencing the qualitative element of this study against this framework. Section 8.7 articulates the data-analysis strategy and the experience of using NVivo. Section 8.8 describes the use of secondary data and the experiences of capturing and applying this data. This chapter concludes with a summary highlighting the main methodological issues of this study.

8.2 Research Objectives of this Study

My role (as national lead and implementer) and the requirement for me to provide a formal evaluation of the PW initiative have restricted some aspects of the research questions, design and method, in that many of the parameters were set by the PW

programme's overall two-phase research strategy (outlined in Chapter 2, section 2.7.10). The evaluation focus for this national implementation phase was assigned a research angle of staff/employee impact and 3 broad aims (outlined in section 1.2):

- to examine the relationship between QI activity (participation in a QI intervention like the PW programme), engagement and a QI outcome
- to explore the experiences and perceptions of participants involved in the national PW initiative in Ireland in order to identify possible key determinants that may be attributable to the concept of 'engagement'
- to reflect on the value of 'action evaluation' as a suitable approach for ascertaining appropriate research and evaluation data for a QI intervention

This obviously influenced the overall investigation direction and strategy, including the scope of the literature review. However, within this limitation, there was freedom to develop an appropriate research design and analysis.

Ovretveit (2002) outlines three main approaches for evaluating a QI intervention – experimental and quasi-experimental, observational and action approaches. As I was actively involved in the intervention, an action evaluation approach was the most appropriate, as it facilitates the implementer–evaluator in designing or redesigning the intervention for future phases of implementation. This evaluation approach, coupled with the findings from the literature review and the development of my research questions and propositions, have informed the following research objectives:

- To collect WE measures from ward teams commencing a phase of national PW implementation and to follow up one year into implementation.
- To collect WE measures from a control group at similar time cycles for comparison.
- To gather experiential data from PW participants to gain an understanding of impacts, implementation, environment and context.
- To collect ward-based improvement data as the ward teams undertake QI activities.
- To disseminate all findings using the data and outputs as a basis for informing and shaping further roll-out and implementation.

8.3 Research Design

The main aim for the research design of this study was the use of methods which would create a framework that would both be practical and produce new knowledge about the PW initiative. In their five steps for designing QI research, Ovretveit and Gustafson (2002) describe the importance of measuring participant impact and effect as well as identifying 'other explanations' for discovered effects outside of the quality improvement programme. Later work by Ovretveit (2011) outlines the need for methods to address the multiple elements of implementation or 'context' in order to understand the conditions for improvement effectiveness and success. Although an action evaluation does not control for, or attempt to minimise, the effect of the research on the intervention (or vice versa), other issues for consideration in this study's research design are the prominent organisational evaluation criteria of:

- reliability (concerned with the question of whether the results are repeatable)
- replication (the study is capable of replication)
- validity (the integrity of the conclusions generated from the research).

(Bryman and Bell, 2011)

Considering the research questions, objectives, requirements and parameters, the challenge was to find a framework that naturally sought to establish the combinations of objective measurement (the 'if') and the philosophical ideas (the 'why'). A mixed methods approach (Creswell, 2009) seemed most appropriate and fit for purpose, with an experimental aspect to focus on whether the intervention caused a change in engagement and a naturalistic aspect to examine the variables or influences.

8.3.1 Why the mixed methods approach?

One of the main influencing factors reported in the literature in relation to research design is the tendency to base the design within one's epistemological and ontological paradigm (Bryman, 2012). The position underpinning this study is outlined in the previous chapter as a health service 'middle ground', with an evaluation expectation to meet the numerous requirements of the initiative's many stakeholders, critics, subjects and commissioners. Commitment to any one epistemological position could potentially restrict the research design and objectivity. Therefore it was felt that in

order to capture the range of individual, group and organisational processes and outcomes, and to maximise the benefit of mutual perspectives, a mixed methods approach would be the most appropriate fit.

The chosen approach uses a triangulation of research methodologies to maximise the validity issues associated with action evaluation, and includes measures which:

- meet the requirements and complexity of the research questions and objectives (Ovretveit, 2002)
- provide a stronger, more robust information base than any one single method or technique would (Creswell and Clark, 2011)
- highlight the 'other factors' implicit in QI initiatives (Ovretveit, 2011, Ovretveit and Gustafson, 2002).

Mixed methods approaches have become increasingly used and supported in organisations and business (Bryman and Bell, 2011) and in QI evaluations (Ovretveit, 2002). They have acquired credibility as the use of more than one method enhances confidence in the findings (Webb, 2000). This approach is strongly advocated by a number of business and social researchers because of its pragmatism (Creswell, 2009, Robson, 2002). Easterby-Smith et al. (2008) advocate mixed methods approaches, highlighting the variety that they introduce into the research process, thus preventing the process being 'method bound' or restrained in any way.

Mixed method approaches also capitalise on the benefits of triangulation (crosschecking results from one research strategy/method against others, based on an adaptation of earlier work by Webb (2000)), which primarily enhances the understanding and corroboration of the quantitative research findings. Denzin (1970) established this method in the social sciences as a method for finding out where something is 'at', or getting a 'fix' on a phenomenon from two or more places and drawing comparisons between them. A secondary benefit of triangulation in this study was outlined earlier in relation to maximising the validity issues related to action evaluation. Mixed method design in this study is anticipated to also provide complementarity, which seeks further elaboration, enhancement, illustration and clarification of the results from another method (Creswell and Clark, 2011).

8.3.2 A sequential mixed methods design

When choosing a mixed method design, some authors promote the design of very specific sequences within the framework. Tashakkori and Teddlie (2010) for example promote the development of just one mixed methods question as an overarching principle that encompasses all of the qualitative and quantitative sub-questioning. Other mixed methods authors (Creswell, 2009, Easterby-Smith et al., 2008) advocate the use of separate quantitative and qualitative questioning and the subsequent integration of findings. Creswell (2009) distinguishes between concurrent mixed methods design and sequential mixed methods research design. Concurrent design refers to the simultaneous or continuous occurrence of qualitative and quantitative research, whilst sequential design refers to a research design with two or more distinct phases of data collection sequenced one after the other, with each element integrated for interpretation.

In choosing a sequential mixed methods research design, this study uses a quantitative baseline measure of WE as the primary method of addressing the research question, combined with a qualitative method to explore additional implementation or contextual factors, followed by a second longitudinal quantitative measure to gather evidence of sustaining effect. A third method was deployed to retrieve longitudinal improvement data (a quantitative measure specifically used in the PW programme) from participating sites which would be triangulated with the other collected data.

8.3.3 The research framework

Figure 8.1 and Table 8.1 summarise the sequence and combination of each research phase and the empirical methods adopted for collecting the appropriate data as it relates to the specific research questions and objectives (detailed in Chapter 7, section 7.4). Both Figure 8.1 and Table 8.1 illustrate that this study uses an explanatory sequential design (Creswell and Clark, 2011) which has been guided and developed to answer the sequence of research questions.

By phasing the quantitative and the qualitative elements sequentially, a detailed picture of WE scores in the PW sample sites can be established, compared to a control

group (experimental test outcome), before proceeding to the exploratory phase. This initial quantitative measure of impact also serves to inform the implementation or roll-out strategy. An in-depth examination of ward teams' views and experiences of implementation and impact in the second phase provided a rich and detailed assessment of the influencing factors. A 12-month longitudinal follow-up (T2) of WE scores in both PW and control sites provided the detail to examine whether the effect observed at T1 was sustained. A comparison with corresponding T1 and T2 improvement data from the sample provided a secondary analysis.

Figure 8.1: Research Framework

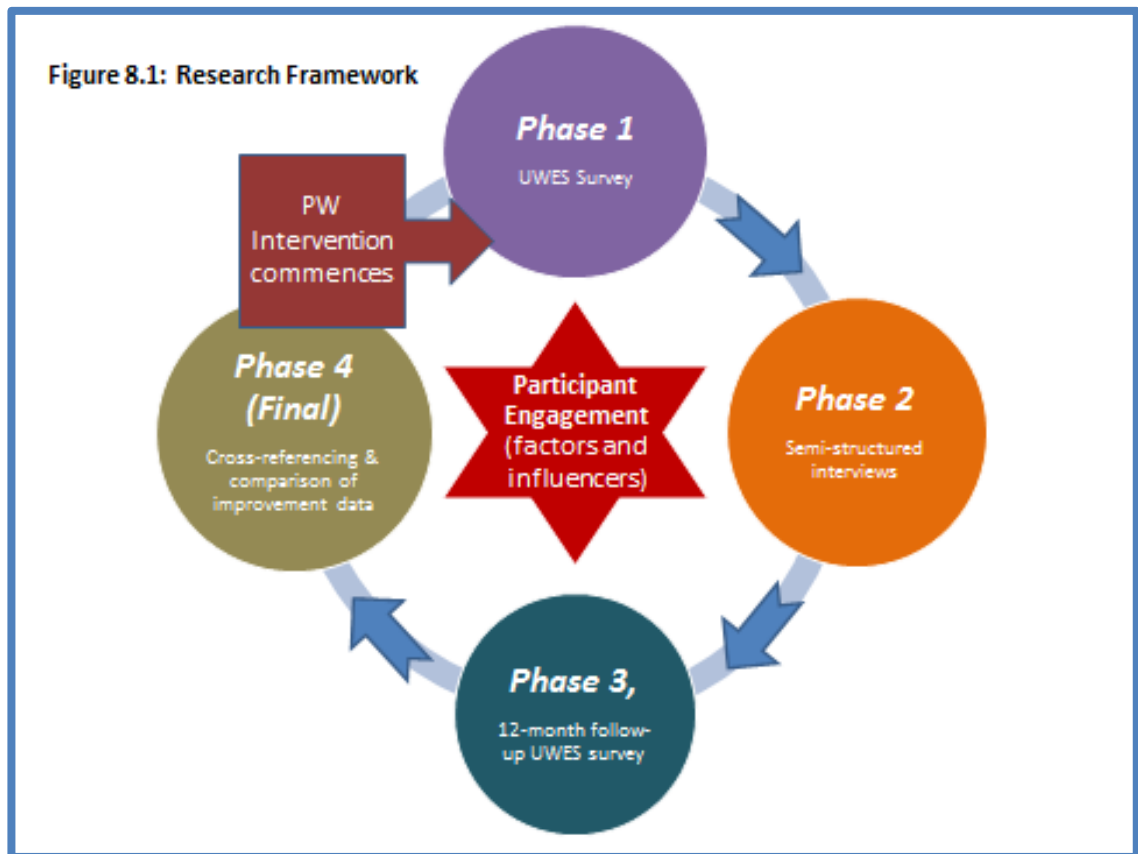


Table 8.1: Summary of the Explanatory Sequential Mixed Methods Design		
Research Question	Research Method	Analysis
<p>Research Q1: To what extent does the PW initiative 'engage' the ward teams who implement it?</p>	<p>Quantitative</p> <ul style="list-style-type: none"> • UWES survey with experimental control group (Phase 1) • UWES survey with experimental control group (Phase 3) 	<ul style="list-style-type: none"> • SPSS • SPSS
<p>Research Q2: What are the participants' perceptions of and reflections on the PW initiative and its implementation?</p>	<p>Qualitative</p> <ul style="list-style-type: none"> • In-depth interviews (Phase 2) 	<ul style="list-style-type: none"> • NVivo
<p>Research Q3: What elements of participants' experiences impact on engagement?</p>	<p>Qualitative + Quantitative</p> <ul style="list-style-type: none"> • In-depth interviews (Phase 2) • Secondary analysis with cross-referencing with UWES survey score patterns (Phase 1, 3) 	<ul style="list-style-type: none"> • NVivo • NVivo
<p>Research Q4: Is there a relationship between engagement and improvement performance?</p>	<p>Quantitative + Quantitative</p> <ul style="list-style-type: none"> • UWES (Phase 1, 3) • Improvement data analysis (Phase 4) 	<ul style="list-style-type: none"> • SPSS

8.3.4 My role and the tension of bias

In many post-graduate situations where research projects are carried out as a part of one's role or as part of a succinct evaluative piece on behalf of the organisation, balancing one's own organisational needs and the needs of an academic institution can be challenging. Action evaluation places the researcher within the intervention itself so that the 'insider view' actively helps to improve the service or intervention (Ovretveit, 2002, Robson, 2002). This approach (just like action research itself) causes a great deal of tension between research academics and business practitioners in relation to how robust academic research can be applied to organisational issues and problems (Bryman and Bell, 2011). Depending on one's paradigm view, using any 'non-pure' or 'non-experimental' research design has of course the potential for research bias (Bryman, 2012). It could be argued at one extreme that being an insider conducting my own study whilst implementing and managing a national QI intervention would affect the feasibility, credibility and objectivity of the enquiry. It has been suggested previously that being 'involved' creates research bias and/or contamination of the results (Denzin and Lincoln, 2005).

I challenge this perspective. Early on in my own role, with both a project management and a research portfolio, I recognised the need for me to frame both my work and my research in a 'real world' paradigm (Robson, 2002). In essence, this involved the need for me to carry out some form of evaluation or investigation into the issues and complexities involving 'real people' in 'real-life' situations and to make changes to the implementation of the QI initiative as a result. Healthcare QI initiatives generally contain many forms of non-treatment change activities involving complex social interventions (Ovretveit, 2011). These conditions do not lend themselves well to carefully controlled, experimental investigation or evaluation. They require, and benefit from, 'flexible approaches' and 'insider' understandings or perspectives (Ovretveit, 2002, Robson, 2002, Dixon-Woods et al., 2011).

It is important to firstly acknowledge that action evaluations are not preoccupied with minimising the effect of the research or researcher on the intervention (Ovretveit, 2002). The research or evaluation aim is to improve the intervention. However, robust research practices are not ignored in action evaluations. Based on their experience in designing case studies, Hancock and Alozzine (2006) suggest implementing as many strategies as possible to mitigate against potential biases when working in case-study-type research. I have adopted some of these strategies by ensuring my national lead role never involved any 'hands-on/ward-based' facilitation or implementation, which protected participants against any undue influence.

My second strategy for mitigating bias is contained in my mixed methods study design. This design is intended to firstly measure impact or effect, and then, to utilise the unique, powerful nature of both methods to explore, capture and reveal the many elements of complex cultural contexts in which ward teams operate (Ritchie and Lewis, 2003). This allows the opportunity to follow up a statistical research enquiry with an explorative study (Bryman, 2012).

A related strategy relates to my choosing different data sources and not relying on just one site or case. This is a purposive attempt to assure the integrity of any inferences

drawn from the data or results (Ritchie and Lewis, 2003), which are more convincing by virtue of being based on multiple sources.

The third strategy I have employed is allowing and encouraging participants to have an authoritative voice, acknowledging to them that their feedback during this pilot phase of implementation can and will contribute to an active evaluation that will possibly shape, stop or continue the PW initiative (Ovretveit, 2002).

The fourth strategy I have utilised to reduce bias in my role as project manager/researcher is the PhD process itself. The maintenance of a project/research journal, regular academic supervision, discussion and reviews, and the peer-review publication process have all helped to robustly examine the many aspects of my study's design, procedure and findings.

Finally, understanding and acknowledging my personal biases as a project manager–researcher, with explanations of how I reflected on and managed them, or prevented them influencing the research process, lessens the likelihood of contrived finding inferences (Robson, 2002, Ritchie and Lewis, 2003). These issues are explored in detail towards the end of this study in reflexivity passages in Chapter 11.

8.4 Research Setting and Sample

Table 8.2 lists and describes the nine PW sites (the entire cohort of a national phase of PW implementation) that were selected for each phase of this study. This sample contains members of nursing and non-nursing grades, and for the purpose of this study they are referred to as ward-based teams. This second national phase of PW implementation sites also provides general representation of acute Medical/Surgical, Rehabilitation and Elderly services. All of the team members in this cohort were invited to participate in the quantitative element (Phases 1 & 3) of this study.

Site	Hospital	Ward name	Head-count N =	Clinical Specialty	Phase1 T2 Survey N=	Phase 2 Interview N=	Phase 3 T2 Survey N=	Phase 4 12-month improvement data
1	NRH	Patrick's	20	Rehab	17	3	13	√
2	Macroom CH	Long-stay	45	Elderly	43	3	25	√
3	MUH	Catherine's	38	Surgical	23	3	24	√
4	UCHG	Michaels	27	Surgical	22	2	17	√
5	UCHG	Anne's	25	Medical	9	2	22	√
6	NGH	Med 1	19	Medical	13	3	7	-
7	NGH	Med 2	28	Medical	19	2	20	-
8	Peamount	Eld-Rehab	24	Eld-Rehab	17	3	17	√
9	Our Lady's	Male-Med	27	Medical	24	3	24	√

For the quantitative phases of this study (Phases 1 and 3), a matching control quota sample was recruited from a list of local wards/departments provided by local PW project leads, and used as a comparator for PW sites – see Table 8.3. A full description is provided in section 8.7.2.

Table 8.3: Matched Control Sample Phases 1 & 3 Quantitative Survey

Hospital	Ward name	Head-	Clinical Specialty	Phase 1	Phase 3
		count		T1 survey	T2 survey
		N =		N=	N=
NRH	Brigid's	22	Rehab	18	18
St John's	Long-stay	45	Elderly	18	14
MUH	Patrick's	38	Surgical	19	20
UCHG	Gerard's	27	Surgical	20	17
UCHG	Mary's	25	Medical	14	8
WGH	Joseph's	19	Medical	22	26
WGH	Brigid's	28	Medical	18	20
St John's	Eld-Rehab	24	Rehab	15	21
Our Lady's	Fem-Med	27	Medical	14	17

For the qualitative semi-structured interviews (Phase 2), a convenience sample representing all grades was employed, the sample being designed to help establish a broad sweeping perspective from ward stakeholders in each ward/site. A full description is provided in section 8.8.

8.5 Phases and Timings of Research Framework

The timings and phases of research design and fieldwork are represented in Table 8.4. The first empirical phase, the UWES survey, was undertaken in quarter 2 of 2013. The objective of this first phase was to establish a baseline measure of engagement in the PW and control groups.

Table 8.4: Timings and Phases of the Research Framework

Table 8.4: Timings and Phases of the Research Framework																				
No	Task	Year 1 – March 2012- April 2013					Year 2 – April 2013-March 2014					Year 3 – April 2014-March 2015								
		2	4	6	9	10	12	2	4	6	9	10	12	2	4	6	9	10	12	
1.0	Research Planning																			
1.1	Research Proposal & PGI application	■																		
1.2	Extensive Literature Review	■	■	■	■	■														
1.3	Plan empirical research strategy			■	■	■	■													
1.4	Ethical Consideration, debate and approval		■	■	■	■	■	■												
1.5	Establishing of Metric reporting systems from sites and testing			■	■	■	■													
1.6	Baseline reports and collection/storage testing			■	■	■	■													
1.7	Identify sites appropriate for Sample			■	■	■	■													
1.8	Explore ethical issues & obtain approval			■	■	■	■													
1.9	Design/Test Qualitative tool for Data Collection					■	■	■												
2.0	Data Collection/Management/Analysis																			
2.1	Collation & reporting of 'improvement Data'					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2.2	Quantitative method (UWES) & analysis for baseline (Phase 1)								■	■	■	■	■	■	■	■	■	■	■	■
2.3	Qualitative interviews including pilots (Phase 2)									■	■	■	■	■	■	■	■	■	■	■
2.4	Resurvey using same UWES tool (Phase 3)														■	■	■	■	■	■
2.5	Explore Qualitative analysis tools and select.														■	■	■	■	■	■
2.6	Data cleaning/Analysis/theme-building/reporting. (Phase 4)																■	■	■	■

The second phase of research was undertaken in quarter 4 of 2013 and involved semi-structured interviews from a purposive sample of ward team members involved in the PW arm of the study. The main objective of this phase was to explore the detail, context and experience of implementation and engagement with PW.

The third phase of research was undertaken in quarter 2 2014 and involved the re-surveying of the PW participants and the control group who were surveyed one year earlier. The main objective in this phase was to ascertain whether the levels of engagement obtained in Phase 1 continued, improved or dropped off during 12-months of implementation.

The final phase of research took place in quarter 3 2014, and the main objective of this element was the analysis of improvement documentation from the participating sites in order to explore and cross-reference the measures of engagement in Phases 1 and 3 of the study.

8.6 Ethics and Ethical Approval

Participants involved in any research activity are at risk of being exposed to situations that may cause anxiety and stress (Robson, 2002) or cause harm (Ritchie and Lewis, 2003). Each situation and environment is different, can be complex, unexpected and may vary. This requires the researcher to be well prepared for each stage of their study and to take aversive action if required (Robson, 2002, Ritchie and Lewis, 2003), e.g. suspending interviews, offering comfort, support and appropriate referral in cases of upset or distress, with full regard to one's professional code as a nurse foremost.

This aspect of action evaluation is particularly challenging and I found some elements exceptionally hard to manage, as I was operating in a dual role, being the 'corporate' implementer at one level and carrying out fieldwork with participants in their workplace at another. I was regularly in situations dealing with disgruntled, short-staffed ward teams who had sensitive organisational and political issues with improvement and change. The challenge that action evaluation posed for me was trying to disentangle and manage the information/data pertinent to implementation, whilst trying not to interfere with other work-related issues. In order to overcome these issues I constantly referred to Bryman and Bell's (2011) business research ethical principles (based on Diener and Crandall's (1978) earlier work), ensuring I did not transgress them. These four ethical principles/considerations are outlined in Table 8.5, and provided a point of reference during academic supervision.

Table 8.5: The four ethical considerations in business research

- i. Whether there is harm to participants;
 - ii. Whether there is lack of consent;
 - iii. Whether there is an invasion of privacy;
 - iv. Whether there is deception or fraud involved.
- (Bryman and Bell, 2011).

Considering the mode of action evaluation that I was undertaking, I also regularly reflected on the 'common ethical mistakes' of evaluation referred to by Ovreteit (2002), during stages of design, fieldwork, analysis and reporting. These include:

- Clientism: doing whatever the customer wants;
- Managerialism: seeing managers as the only users;
- Methodologicalism: assuming that following the technically correct method equates to being ethical;
- Relativism: assuming that all opinions are of equal value;
- Elitism: giving the most powerful the strongest voice.

(Ovreteit, 2002)

The following sections describe the ethical processes and issues involved during the course of this study, and how they were addressed.

8.6.1 Obtaining ethical approval

Ethical approval was sought for this study through the WIT Research Ethics Committee at the early stages of research planning (February 2012) and was granted in May 2012 (see Appendix H). Once approval was received from WIT, I then applied to the Regional Ethics Committee, Health Service Executive (HSE) South-East Area. A formal and detailed application was required, with a full outline of the research proposal. Some applications require a formal interview with the Ethics Committee; however, my application was approved following some informal enquires in relation to confidentiality rights of employees, the professional responsibilities (duty of care to others) that would be placed on the researcher as a nurse (in one's code of professional practice), and the storage and reporting of data (see Appendix H).

One difficulty with the HSE ethics committee process in Ireland is the requirement to apply to each and every regional ethics committee, using regional versions of the nationally agreed ethics application form. I provided details of the research proposal, timeframes, proposed consent forms and information guides. Approval was received from HSE South, West, Mid-west and North-east. Independent approvals were sought

and received from the appropriate voluntary hospitals (see Appendix H), which allowed the process of data collection to begin.

8.6.2 Confidentiality, anonymity and informed consent

Bryman and Bell (2011) concur with Easterby-Smith et al. (2008) in highlighting that in work or business research, the most likely ethical dilemma for the researcher is the betrayal of confidences given by the participants, who are often junior employees. The risks are heightened when the researcher is a senior member of staff, or is perceived to have a vested interest. With this in mind, I felt obliged to emphasise the safeguards for control and use of my data to all participants in all phases of my study (please see Information Sheet in Appendix I). The research methods employed in this study were designed to assure anonymity and confidentiality.

No coercive, persuasive or inductive methods were employed to encourage participation in this study. The sample used in this study were not considered or identified as a vulnerable group.

Whilst the results from this study will be made available to the HSE organisation in the format of a formal evaluation report, access to the questionnaires, interview transcripts and 'participant-related' data is restricted to me, as the researcher/evaluator, and to my academic supervisors. The issue of a possible conflict of interest was raised by my dual role of implementer–evaluator. This issue was recognised from the onset of this study as a potential ethical issue, and was explored at length through academic supervision and at both stages of the ethical approval process. Careful consideration was awarded to the research design which:

- Acknowledged that the role of the evaluation was to actively inform implementation and vice versa.
- Emphasised that participation was wholly voluntary.
- Presented no face-to-face interaction in Phases 1 and 3. Subjects were invited to participate by letter, with no risk of penalty for non-participation.

- Empowered project leads to facilitate the recruitment of participants for the purposive sample in Phase 2 (interviews). Each site was provided with a date that I would attend to perform the interviews. Willing participants (one nurse manager, one staff nurse and one care attendant, representing all grades from the ward team) were identified to me on the day of my arrival and recruited into the sample.
- Employed strict criteria for data management, transfer, input and analysis ensuring the highest ethical and confidentiality standards were adhered to. Input, analysis and results were double-checked by a statistics advisor and by my academic supervisors in the case of the quantitative phases, and by an NVivo advisor and my academic supervisors in the case of the qualitative phase.

Acknowledging the obvious challenges of action evaluation, these quality assurance steps were taken in order to reduce insider bias or interference, and to minimise any feelings of obligation or gratitude sometimes observed in situations where subjects feel they have a professional relationship with the researcher (Ritchie and Lewis, 2003). Table 8.6 presents the responsibilities for assuring ethical consideration during the four empirical phases.

Table 8.6: Responsibilities for Assuring the Research Stages

Research Stage	Phase 1 Survey T1	Phase 2 Interviews	Phase 3 Survey T2	Phase 4 Improvement Data
Design	<i>Researcher</i>	<i>Researcher</i>	<i>Researcher</i>	<i>Researcher</i>
Distribution of Survey	<i>Researcher</i>	<i>N/A</i>	<i>Researcher</i>	<i>HSE + Researcher</i>
Participant Recruitment	<i>Researcher (invitation by letter)</i>	<i>Identified by site, consented to by Researcher</i>	<i>Researcher (invitation by letter)</i>	<i>N/A</i>
Data Collation	<i>Researcher (by post)</i>	<i>Researcher</i>	<i>Researcher (by post)</i>	<i>HSE + Researcher</i>
Data Analysis	<i>Researcher</i>	<i>Researcher</i>	<i>Researcher</i>	<i>Researcher</i>
Data Storage	<i>Researcher</i>	<i>Researcher</i>	<i>Researcher</i>	<i>HSE + Researcher</i>

8.6.3 Arrangements for the questionnaire

In Phase 1 (the T1 UWES), information letters and informed consent sheets were distributed with the questionnaires, fully informing the readers and inviting them to participate (see Appendix I). Separate letters and informed consent sheets were distributed to the control sites, as their information and assurance needs were slightly different (contained in Appendix J). Contact details for further information were provided with each information sheet. The questionnaires were subtly coded and participants were provided with free postal for return. Participants were also informed that they could withdraw from the study at any stage. Consent was implied by the decision of the participant to return the survey.

Phase 3 (T2 repeat of UWES) deployed the same strategy as Phase 1. Letters of invite with information and informed consent sheets were sent to the PW and control sample participants. Again in this repeat survey, consent was implied by the decision to return the survey.

8.6.4 Arrangements for the semi-structured interviews

Phase 2 (interviews) involved the recruitment of interviewees, who were invited to participate, firstly by the PW project leader, and then by me on the day. Each participant was reassured and made aware of the study's anonymity and confidentiality provision. Information in relation to this phase of the study was circulated to the PW sites one week prior to my visit to allow expressions of interest for participant recruitment. Times for individual interviews were agreed with all participants and their managers on the day of interview. All interviews were held at the PW sites. Prior to the start of each interview session, all participants were informed once again of the research study and the purpose of the interviews. All participants were also reminded that they could withdraw from the study at any stage, decline to answer any question(s) and have the recordings discontinued on request.

All participants were encouraged to ask any question during any stage of the interview or afterwards by phone or email. It was explained that informed consent was required for the interview, and this was completed with the participant prior to commencing

the interview (see Appendix K). Completed consent forms were taken as full consent for participation, recording and transcription. All participants signed the consent form. Participants were also offered the option of checking and verifying all transcripts and given the option of withdrawing from the study at any stage.

8.6.5 Arrangements for the QI data collection

Phase 4 of the research design involved the collection, cross-referencing and comparison of QI data from each of the sites involved in Phases 1 to 3. Bryman and Bell (2011) highlight the difficulties of describing data that the researcher has been involved in collecting. The main challenge relates to distinguishing where primary and secondary data analysis boundaries start and finish. As the responsibility for collecting this data is integral to my primary role as implementer, but the data is owned by the HSE, I am treating this data as secondary data for the purpose of analysis. Consent to use this data was negotiated in my role as national lead, and I provided assurances that I would acknowledge the data, and the role of the HSE, if any work was published.

The main issues from an ethical perspective were raised through the ethics committee forums, and related to storage. Assurances were provided to the various ethics committees that all documents, project reports and QI data from the PW sites, whether in hardcopy and electronic format, would be treated in line with all confidential research data. All QI data that was made available to me was securely stored by me, with access restricted to one HSE officer (who assisted in collating same) and my academic supervisor.

8.7 Method 1: Quantitative: Measuring Engagement (A national cross-sectional longitudinal survey of WE in ward-based teams)

This section describes the quantitative element of this study and the methods that were adopted in Phase 1 (T1) and Phase 3 (T2). Section 8.7.1 outlines the aims and objectives of the quantitative phases of the study. Section 8.7.2 describes the baseline cross-sectional survey that was undertaken in all PW sites involved in this particular cohort of implementation, and also provides a description of the control group used for comparison. Section 8.7.3 describes the repeat longitudinal follow-up survey

undertaken 12 months later. Details of data collection, and the data collection instruments, are provided in sections 8.7.4 and 8.7.5 respectively. A detailed account of the quantitative data analysis method is provided in section 8.7.6.

8.7.1 Aims and objectives

The aim of this quantitative phase of the study was to examine the effect of QI activities on the work engagement of ward teams involved in a national pilot phase of the Productive Ward initiative.

The objectives of this quantitative phase were to:

- Measure WE in ward-based teams commencing a national pilot phase of the PW (T1).
- Compare these measurements against a control group of similar size, from similar clinical specialty areas, who were not involved in a quality improvement programme or activity.
- Measure changes in WE scores within both the intervention and control group again approximately 12 months later (T2).
- Compare changes in WE mean scores (T2-T1) in the Productive Ward and control groups, controlling for other variables.

8.7.2 Phase 1 (T1): Description of the sample

A stratified sample of 253 ward-team members from the nine wards/units involved in the QI initiative Productive Ward (the total eligible population of a national phase of Productive Ward implementation) were identified through the project lead in each ward, and surveyed in early 2013. Data was collected approximately 12 weeks into the implementation of the QI programme, and compared to data from a matched (approximate fit) control group collected around the same time. Although Productive Ward is predominantly a nurse-led initiative, all core members of the ward team involved in direct and indirect patient care were surveyed, as it is my belief that ward-based QI interventions of this nature impact on the entire ward team.

The stratification characteristics of the control group (described in 8.4.1), a purposive sample, were: consent to participation in the study, non-participation in a QI initiative,

similar ward and sample size (n=249), similar number of wards/units (n=9), and similar ward specialty/environment or match. Non-respondents were sent a postal reminder after four weeks.

The Productive Ward and control samples represented wards/units from a range of clinical specialty areas in both acute and non-acute clinical care environments. Both samples consisted mainly of female registered nurses aged between 25 and 44. A descriptive breakdown of participants and the clinical specialty of the wards/units are provided in the results section in Chapter 9.

8.7.3 Phase 3 (T2): Description of the sample

This phase of the research design was a repeat of the T1 survey, using the same instrument with the same intervention and control groups, approximately 12 months after T1. At T2, 233 ward-team members from the same nine PW sites, and 236 from the control group, were again surveyed using the same data-collection procedures described in section 8.7.4. A descriptive breakdown of participants is provided in Chapter 9, section 3.

8.7.4 Data-collection process

On both occasions of measurement, participant questionnaires and instructions (see appendix I) were hand-delivered by the researcher to the ward manager in each participating ward/unit in both the PW and the control sample. Detailed instructions were communicated to each ward manager in relation to using the internal hospital mailing system. The ward manager posted questionnaires to ward staff on extended leave or a long period following night-duty.

The T1 survey was conducted during April and early May 2013, the T2 survey in April/May 2014. On both occasions, details of the survey, information leaflets/consents and my appointment times were emailed to the respective ward managers the week prior to my visit to the ward and the planned day for questionnaire delivery and distribution. Ward managers in both the PW sites and the control sites were asked to positively encourage participation and to promote both the voluntary

and confidential aspect of the survey. It was explained to each ward manager that the questionnaire could take up to 15 minutes to complete properly. This point was also emphasised to the participants in the accompanying informed consent letter (see Appendix I). Participants were given a two-week period to complete and return the questionnaire.

The survey was extended for ten additional days in an attempt to maximise responses. Surveys were returned to the researcher via stamped addressed envelopes. Unique identifier codes were used on every questionnaire, which provided the researcher with the option of following up non-responders once the ten-day additional period had elapsed. A total of 194 reminders were issued and yielded 50 additional responses at T1, and a total of 241 reminders yielded 36 additional responses at T2.

8.7.5 Instrumentation/measurement tools

The 17-item Utrecht Work Engagement Scale questionnaire (UWES-17), a three-dimensional model of vigour, dedication and absorption (Schaufeli et al., 2002), described in Chapter 6, section 8, was used to measure the total levels of engagement (see overleaf and appendix I). Vigour is measured with six items, dedication with five items and absorption with six items. An item example of each subscale question is: vigour – ‘At my work, I feel bursting with energy’; dedication – ‘I am enthusiastic about my job’; and absorption – ‘Time flies when I’m at work’. Each item is scored on a seven-point rating scale from 0 (never) to 7 (every day).

Work & Well-being Survey UWES©

I am: Male <input type="checkbox"/> Female <input type="checkbox"/>	My Age Grouping is: 18 – 24 <input type="checkbox"/> 25 – 44 <input type="checkbox"/>
My Grade is best described as: Nurse Manager <input type="checkbox"/> Staff Nurse <input type="checkbox"/> Clerical/Admin <input type="checkbox"/>	

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the "0" (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

	Almost Never	Rarely	Sometimes	Often	Very Often	Always
0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

1. At my work, I feel bursting with energy 0 1 2 3 4 5 6
2. I find the work that I do full of meaning and purpose 0 1 2 3 4 5 6
3. Time flies when I'm working 0 1 2 3 4 5 6
4. At my job, I feel strong and vigorous 0 1 2 3 4 5 6
5. I am enthusiastic about my job 0 1 2 3 4 5 6
6. When I am working, I forget everything else around me 0 1 2 3 4 5 6
7. My job inspires me 0 1 2 3 4 5 6
8. When I get up in the morning, I feel like going to work 0 1 2 3 4 5 6
9. I feel happy when I am working intensely 0 1 2 3 4 5 6
10. I am proud of the work that I do 0 1 2 3 4 5 6
11. I am immersed in my work 0 1 2 3 4 5 6
12. I can continue working for very long periods at a time 0 1 2 3 4 5 6
13. To me, my job is challenging 0 1 2 3 4 5 6
14. I get carried away when I'm working 0 1 2 3 4 5 6
15. At my job, I am very resilient, mentally 0 1 2 3 4 5 6
16. It is difficult to detach myself from my job 0 1 2 3 4 5 6
17. At my work I always persevere, even when things do not go well 0 1 2 3 4 5 6

The UWES has consistently been reported as having acceptable psychometric properties with satisfactory construct validity and reliability (Seppala et al., 2009, Storm and Rothmann, 2003) across multiple professions and occupations (Nerstad et al., 2010, Palmer et al., 2010) and in many international settings (Schaufeli et al., 2006). It has also been recognised as the most established and widely accepted definition and measure of engagement in the academic literature (Simpson, 2009b), recognising and measuring both cognitive and affective components (Freeney and Tiernan, 2009).

Although there have been some reported adaptations of the UWES (including shorter adapted versions), the questionnaire used in this study was not altered in any way from the original 17-item questionnaire published by Schaufeli et al. (2002). Permission to use the UWES was granted to the author following email contact and subject to the conditions outlined via www.schaufeli.com (Appendix L).

8.7.6 Data analysis

Data was analysed using the SPSS (version 21) software. Frequency and descriptive statistics were generated for each of the variables contained in the questionnaire. These provide an overview of the characteristics of the sample and the process also facilitated the cleaning and checking of the data file for errors (Field, 2009).

Statistical analyses performed included:

- a. Standard reliability analysis of the questionnaire items, in order to confirm suitability of the UWES-17 scales in both a QI and an Irish setting;
- b. Comparison of UWES scores (total work engagement score (WE) and individual constructs) in Productive Ward and control groups, using independent samples t-tests;
- c. Investigation of relationships between WE scores and other variables, using t-tests or contingency table analysis, as appropriate, and
- d. Analysis (using general linear models) of WE scores in Productive Ward and control groups, controlling for confounding variables identified in (c).

Non-parametric analogues of t-tests were also employed, as appropriate, e.g. when UWES scores were found to be non-normally distributed. The 5% level of statistical significance was adopted throughout this study, without adjustment for multiple testing.

8.8 Method 2: Qualitative: Semi-structured Interview (Exploring the Impact of Implementation), Phase 2

The second method of data collection used was the semi-structured (in-depth) interview, designed to explore the impact of PW through the experiences and views of participants. Section 8.8.1 outlines how the semi-structured interview guide was developed from the thematic findings of the literature review, and how the interview process was piloted, developed and tested. Section 8.8.2 details the sampling and recruitment processes that were undertaken in this phase of the study. The pre-interview checks are described in 8.8.3 and the data-collection processes are provided in section 8.8.4. The interview process itself is described in 8.8.5 and issues in relation to quality, rigour, validity and trustworthiness are covered in 8.8.6, with an overview of the Spencer et al. (2003) quality-assurance guidance. The data analysis framework is introduced in 8.8.7; it provides an overview of Creswell's (2005) six-step analytical process, which guided the qualitative aspect of this study.

8.8.1 Using semi-structured interviews, a developmental approach

In-depth interviews are often categorised by the extent of the depth or response required and the degree of structure or standardisation, ranging from unstructured to semi-structured to fully structured (Robson, 2002). They are one of the main methods of data collection used in qualitative research (Ritchie and Lewis, 2003). The main benefit of the interview is its ability to create conversations with a purpose (Webb, 2000), and it is generally viewed as a flexible and adaptable way of finding things out (Robson, 2002). The purpose of the interview process in this study was to encourage conversation and reflections from PW participants in order to ascertain their involvement, engagement and experiences with the PW initiative (RQ 2 & 3).

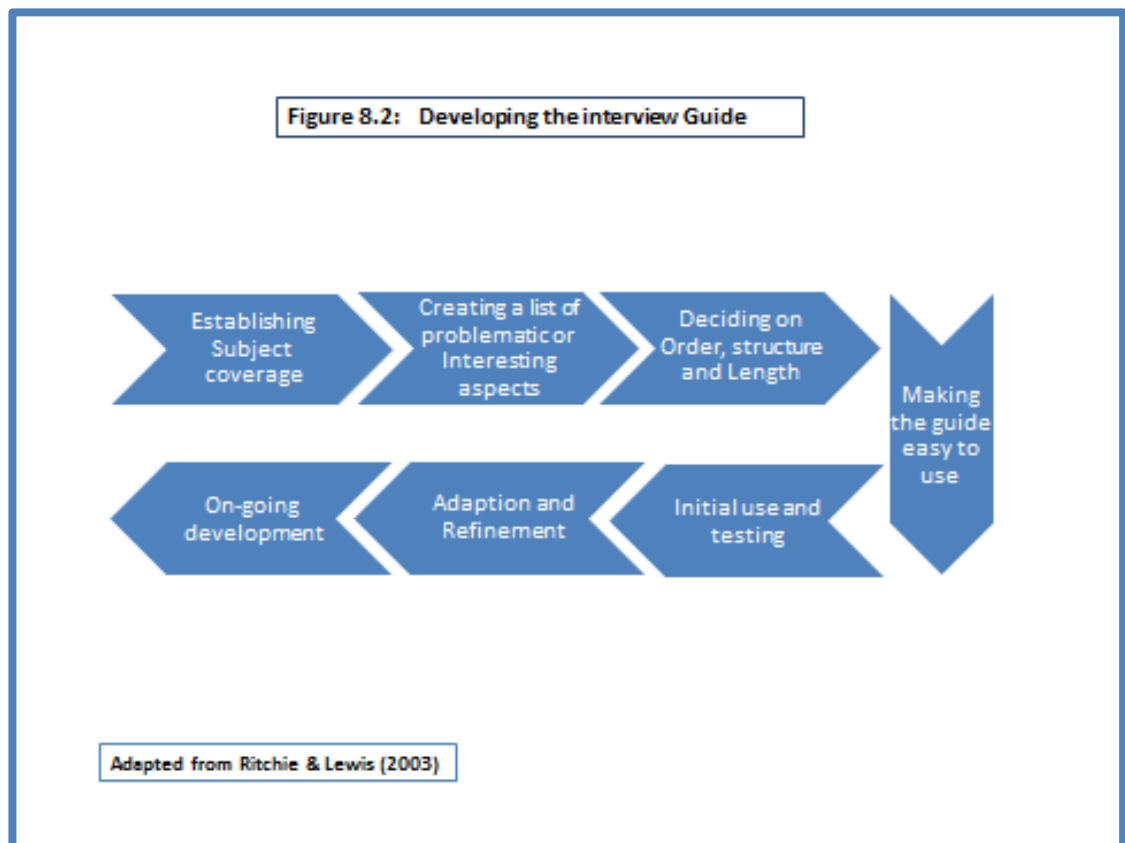
There are many traditions in qualitative interviewing with multiple perspectives on how specific or structured the interview questions should be (Ritchie and Lewis, 2003). In this study, in order to maintain some flexibility and structure, a semi-structured in-depth interview was used. This allowed me, as the researcher, to develop conversations in some areas of enquiry (where appropriate) and discontinue or omit questions or areas of enquiry that were inappropriate. The central point for me was to maintain some form of control and flexibility with my predetermined agenda or purpose (Robson, 2002). A topic guide (Appendix M) was used, but it merely facilitated some prompting on my behalf and provided an occasional reference point when trying to maintain flow and continuity. Ritchie and Lewis (2003) advocate using a very disciplined, developmental approach (framework) to qualitative research design (including the interview design), and many elements of their developmental stages have guided the planning, phasing and implementation of my qualitative design; these are outlined and detailed in the subsequent sections.

8.8.1.1 Developing the interview guide

Topic (interview) guides are widely used in the flexible design of respondent interviews, and they serve the purpose of creating a list for the researcher for which responses are required. It is common to give careful consideration to, and to incorporate, highly structured sequences during the design phase to allow the development of topic, question and prompt (Robson, 2002). The interview guide developed and tested for this study was simply a list of memory prompts to help steer discussion (Bryman and Bell, 2011). It did provide some consistency to the data collection, but more importantly, the guide was not rigid and was flexible enough to allow some meanderings in order to ascertain the way in which participants view their social world. It was, in essence, an aide-memoir (Burgess, 2002). During the early stages of piloting, the guide served as a mechanism for steering the discussion, but it was certainly not prescriptive (Ritchie and Lewis, 2003). Towards the end of the schedule of interviews arranged, it became almost redundant and I only referred to it occasionally. Robson (2002) advises that when operated correctly, the participant's response triggers the extent to which the guide/prompts are used. In the case of this

study, developing the topic guide became an organic process which I **regularly amended** during the developmental and pilot phase. I adapted some of the approaches outlined by Ritchie and Spencer (2003) to facilitate this process (see Figure 8.2).

Figure 8.2: Developing the Interview Guide



8.8.1.2 Utilising the literature review for subject coverage

The topic guide (Appendix M) was initially designed around some of the themes/subjects that were extrapolated from the content-analysis findings in the literature review in Chapters 3-6. This appears to be the most common starting point in interview-guide design, as it represents the existing literature/knowledge in the field and is thought to connect current knowledge to one's own research design and research objectives (Ritchie and Lewis, 2003). The subject coverage area from the literature review that formed the basis of discussions with my academic supervisors is represented in figure 8.3. Once these were identified, problematic or interesting aspects were listed alongside and these were discussed with colleagues and peers.

Figure 8.3: Broad Subject Coverage in the Interview Guide Design

- *Ward Environment/Context, Demographic*
- *Leadership Styles*
- *Empowerment*
- *Engagement*
- *Stress/Resistance*
- *Teamwork*
- *Staff Morale*
- *Role Enhancement*
- *Staff Satisfaction*
- *Socio-cultural Impact*

This was not as straightforward as I had thought it would be, as colleagues and peers are influenced by their own research/theory interests (e.g. leadership and empowerment), and I found myself referring to the subject literature again for clarity in relation to the angle or lens with which to report participants' experiences, and the impacts and effects.

8.8.1.3 Piloting and refining the interview guide

Prior to testing and piloting the flexible structure that had emerged from the development of the interview guide, I consulted with two colleagues, both very experienced qualitative researchers, for advice and guidance in relation to the guide's content, length, flow and language. The consensus view was that 'live' testing would bring issues to the fore and both colleagues advised of potential issues around the length of the interview.

There is some evidence that undertaking fieldwork with professional groups in their own work environments should be kept within a timeframe of approximately 30 minutes to minimise distractions and preoccupation with work absence (Bryman and Bell, 2011). The interview guide was initially tested on three nurse colleagues within the academic setting using a digital recording device. Feedback from the participants in relation to introductory comments, flow between topics and prompts was positive.

Timing was difficult to assess and averaged approximately 32 minutes. Some of the topics contained distinct language associated with the PW initiative and this caused some misunderstandings from my colleagues, who were unfamiliar with many of the PW terms used.

Following discussions with my academic supervisor and other colleagues, I approached a local PW site (Waterford Regional Hospital) that had been involved in the earlier Phase 1 implementation (and that was covered under this study's ethical approval) to test the interview. The project lead identified a ward lead and a staff nurse to pilot my interview and test my interview guide. The two interviews were digitally recorded and transcribed for analysis and assessment. Three minor adaptations were made in relation to some prompts used, their subject headings and the bullet points used to highlight these prompts.

During a consultation with an academic colleague, it was brought to my attention that I should improve my 'ground mapping' questioning technique⁸ (Ritchie and Lewis, 2003) as I was not following up on some of the dimensions or angles that were being highlighted throughout the interview. Reflecting on the interview pilots, I noted that my attention and concentration had been consumed with 'engaging' the participant and that the level and depth of my field notes were suffering. A conscious effort was made to adapt and correct my technique and I believe that this was achieved as each interview progressed.

8.8.2 Sampling and recruitment

Choosing a sample pervades all aspects of both quantitative and qualitative research and tends to create debate regardless of what technique is used (Robson, 2002, Creswell, 2009). In October 2013, a purposive sample of three potential participants from every PW site was identified via a selection strategy for interviewing. Qualitative

⁸ Ground mapping questions are the first questions asked to 'open up' a subject. They are generally widely framed questions designed to encourage spontaneity and to allow the interviewee to raise the issues that are most relevant to them. With minimal probing at the early stages, participants will often generate a rich list of dimensions which will then be followed up. Adapted from: Ritchie and Lewis (2003).

research typically tends to use non-probability sampling as a strategy for selecting the population with the required features or the 'group' for study (Ritchie and Lewis, 2003). They tend to be purposive⁹ instead of random and there is no intention to have statistical inference. Ritchie and Lewis (2003) describe a wide range of different approaches to purposive sampling which produce different types of sample compositions depending on the study's aim and scope.

As part of this homogenous sampling process it was decided to try to recruit a representative sample of the ward team (one manager, one staff nurse, one attendant or care assistant). The total identified sample (27) would be invited to participate in an in-depth interview coordinated via the PW project lead in each site. Twenty-four ward team members were recruited and are represented in Table 8.7. Details of contact and recruitment are reported in the following sections.

Table 8.7: Purposive Sample Recruited for Phase 2 Interviews

	PW site 1	PW site 2	PW site 3	PW site 4	PW site 5	PW site 6	PW site 7	PW site 8	PW site 9	Total
Site Specialty	Rehab	Elderly	Surg	Surg	Med	Med	Med	Rehab	Med	-
Nurse Manager	1	1	1	0	1	1	1	1	1	8
Staff Nurse	1	1	1	1	1	1	1	1	1	9
HCA/Attendant	1	1	1	1	0	1	0	1	1	7
Total	3	3	3	2	2	3	2	3	3	24

Although a case could be made for describing the sampling in this phase of research as 'critical case sampling' in that cases and grades were chosen because they are pivotal to the delivery of the PW initiative and draw attention to particular features of a 'process' (Patton, 2002), a homogenous approach to sampling was adopted, that is, an

⁹ Purposive samples are created when researchers, using their own judgement, deem a particular group 'of interest', recruiting them to meet the specific needs of a project (Robson, 2002). Purposive sampling strategically samples those that are relevant to the research (Bryman and Bell, 2011) and is therefore not generalisable to a population.

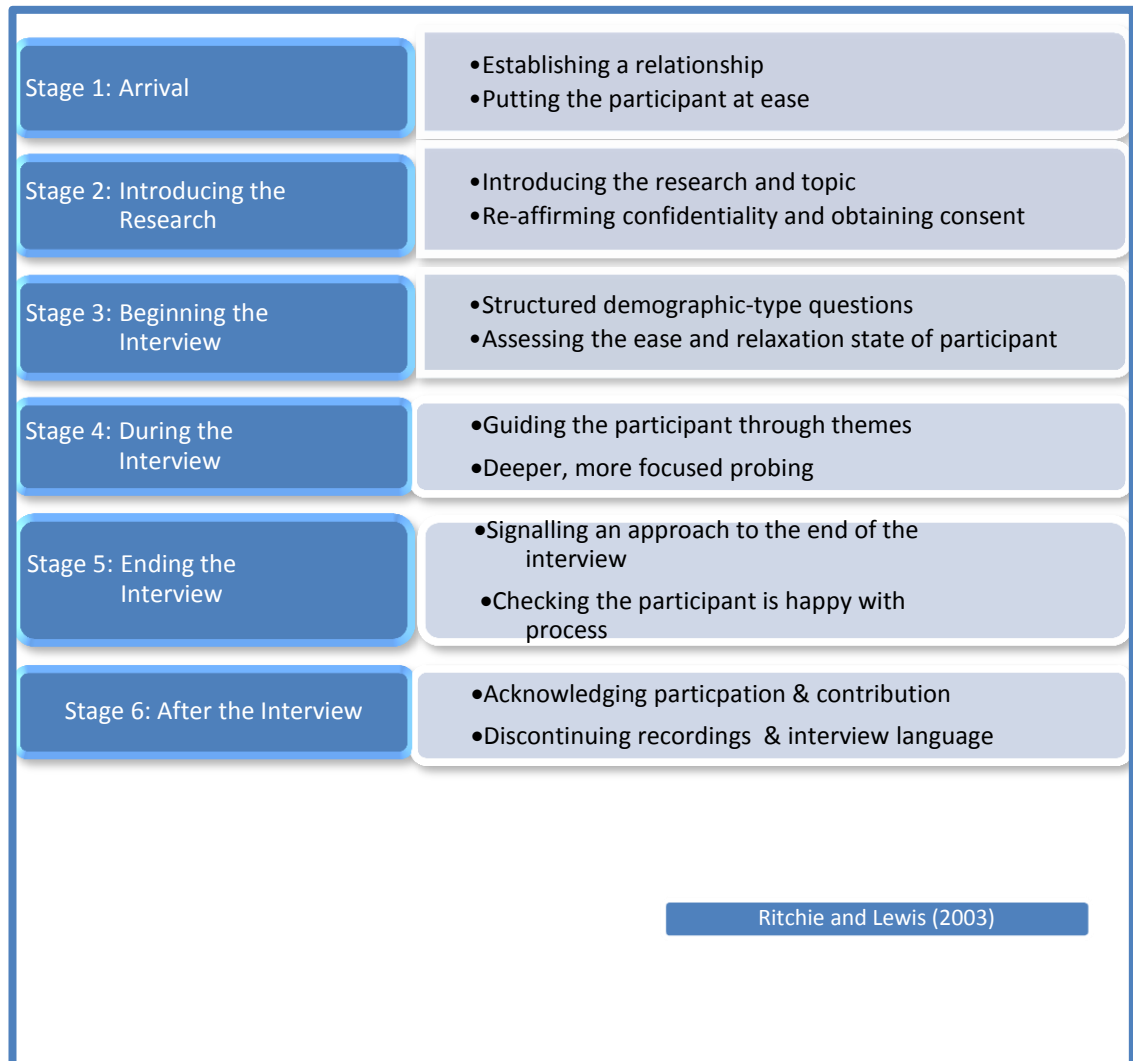
approach designed to give a picture of a phenomenon/social process experienced by individuals belonging to the same subculture.

8.8.2.1 Making contact with consenting participants

The PW project lead in each site was asked to facilitate the recruitment of participants from each PW. A letter of invitation with details of the three phases of the study was provided in multiple-copy for the project lead to circulate on each ward (see Appendix N). On the day of the allocated site visit, a quiet room within a short distance of each ward was secured. In the majority of sites the project lead had identified participants through an expression of interest based on who was on duty on the day, and participants had provisionally agreed to participate. In two sites, no pre-provision was made and a direct approach was only made by the ward manager when I arrived on-site. All those approached and recruited had seen or read the invitation letter and the attached information leaflet (Appendix N). There were 3 occasions when staff were unable to attend, or be released from their clinical duties to participate in an interview resulting in 24 complete interviews (see table 8.7).

All participants were met in the reception area of each ward where I introduced myself, checked that they were available for interview and still happy to participate, answered any queries and completed the consent form (Appendix K). All in-depth interviews involve a number of phases or stages (Robson, 2002). For the purpose of managing the stages of the interview process, I adopted the six stages of interviewing outlined by Ritchie and Lewis (2003) and represented in Figure 8.4. I then usually accompanied each participant to the allocated room for interview. During this period I utilised 'small talk' to relax each participant, establish rapport and a relationship, (Ritchie and Lewis, 2003) and informed them in relation to requirements for consent. I treated this initial meeting as stage 1.

Figure 8.4: Six Stages of Interviewing



8.8.3 Pre-interview checks

Bryman (2012) provides a number of basic elements for preparation which guided me through stages 1 to 3 of Ritchie and Lewis's (2003) framework. Amongst the most practical tips that I adopted from Bryman (2012) were:

- Adapting my language so that it matched each participant's comprehension. Because the participants varied in age, grade, experience and culture, I had to gauge my tone, language and conversation speed in every interview.
- Remembering from the bullet points on the interview guide to phrase each question carefully so as not to lead the participant (I wrote notes over a number of questions to prevent this from occurring).

- Ensuring that the allocated room for the interview is within a short distance of the ward, has no background noise and is interruption free.
- Checking the voice-recording device for batteries, storage and quality prior to commencing any interview. Making sure I brought a spare recording device and plenty of batteries.
- Employing a well-thought-out timetable. Interviewing large numbers of participants in any one day is exhausting and I learned very quickly to just do one site per day (a maximum of three interviews).

I found that once I was well prepared, I became relaxed and the early 'small talk' was natural and effortless. This immediately relaxed participants and they settled into a conversation and questioning rhythm quite easily. Robson (2002) describes how the researcher's behaviour has a major influence on participants' willingness to talk freely.

Before the interview commenced (stage 2) I ensured that all participants were happy to read and sign two copies of the consent form (one copy for their own records) and to be recorded. I offered copies of typed transcriptions to all participants. Six participants requested copies and these were emailed after transcription.

8.8.4 Data collection

Data was recorded on a Philips digital recorder DVT 1500. This device can facilitate three different levels of quality MP3 stereo recording. Additional memory was used with the device so that the optimum-quality recording setting was utilised. The device is extremely slim and unobtrusive, and utilises twin microphones. The device works best when it is strategically placed with one microphone in the direction of the participant and the other in the direction of the researcher. Permission was sought from each participant prior to switching on the device. There were no adverse technical encounters experienced.

Transcriptions were undertaken in the weeks following the interviews and were stored on Microsoft Word. All recordings and transcripts (including interview notes) were transferred to NVivo 10 for analysis in February 2014.

8.8.5 The interview process

A total of 24 PW participant interviews (n=24) took place within a three-week period in October and November 2013. All the interviews took place on-site in a variety of offices, education rooms and 'quiet' rooms attached to the PW clinical areas. The duration of interview recordings varied between 28 and 49 minutes, with the average interview recording approximately 35 to 36 minutes. Variations in time were experienced for a number of reasons, including the degree to which participants engaged with the topics and the questions offered. Some participants were particularly shy, requiring lots of follow-up questioning around some topics. Other participants relaxed into effortless exchange and into a rhythm which needed to be managed and curtailed at times. Robson (2002) identifies with this issue when using open-ended questions. The dilemma I found was in striking a balance between holding someone back and letting the interview flow. I found the guidance from Ritchie and Lewis (2003) in this area of 'rambling' or 'dominance' most helpful, in particular three strategies:

- i. Asking a question at the first available opportunity to re-route the conversation.
- ii. Using body language, in particular sitting forward gesturing an attempt to talk.
- iii. Bringing individuals back with minimal intervention in the form of a 'what about you' question.

There were no episodes of participants refusing to answer or engage with any of the topics or questions. Some participants, however, provided short, succinct answers in some of the topic areas.

8.8.6 Post-interview checks

All participants were notified approximately five minutes from the end of the interview as advised in stage 5 of the Ritchie and Lewis (2003) interview stages. Strategies for notification included, 'we are coming to the end of my topic guide' and 'before we conclude'. Although Ritchie and Lewis (2003) advocate leaving the recorder even when the interview is complete (in order to capture any final reflections), I found most participants were anxious to see the recorder powered-off before entering into any

additional commentary or discussion. Once the recorder was switched off, some participants took a deep sigh and indicated that the experience was 'exhausting'. Any additional commentary was entered into the field notes. Participants were thanked again for their contribution and were again reassured in relation to confidentiality. The researcher's contact details were included on the information leaflet which was taken away by the participant with their copy of the consent form. Bryman's (2012) post-interview advice in relation to note taking was adopted and brief notes were taken in relation to how the overall interview went, new avenues uncovered and the setting. These notes were transferred with the transcripts and recordings onto NVivo 10 in February 2014.

8.8.7 Issues of quality: rigour, validity and trustworthiness

Reliability and validity are the most important criteria in establishing quality in quantitative research (Bryman and Bell, 2011). Qualitative research should be subject to the same quality standards (rigour and validity) if it is to be considered amongst the sciences (Morse, 1999). However, much of the argument in the past comes from the misfit that occurs when applying, or trying to apply, evaluative criteria (rigour and validity) to flexible, qualitative designs (Lincoln and Guba, 1985). Analysis of the arguments from my perspective as implementer–evaluator leads me to believe that the issue does not appear to be simply the desirability of quality in qualitative research, but more so the application of the terms and conditions usually enforced so rigidly in fixed quantitative design (Robson, 2002). It is generally accepted now, however, that the desire for quality in qualitative research is a universal concern for all involved – professionals, organisations and businesses (Seers and Toye, 2012, Hammersley, 2007, Bryman and Bell, 2011) and this concern alone has advanced the design and standard of qualitative research and its utilisation (Ritchie and Lewis, 2003).

Although interpretations and adaptations of the terms 'validity' and 'reliability' have been proposed (LeCompte and Goetz, 1982), reaching any consensus on quality criteria for judging the validity or trustworthiness of qualitative research has proven challenging (Denzin and Lincoln, 2005). This poses some issues of concern for action evaluation (and this study) and for the choice of a mixed methods approach. My

overall approach to this mixed methods study design has been to take an integrated ‘project-like’ approach. Having to deal with ‘separate’ issues of research quality may potentially compromise my role as implementer or the impact of the initiative, or dilute some elements of the findings. Every effort has been taken to integrate both qualitative and quantitative methods into the research approach and these efforts will be maintained when presenting the findings.

An alternative position for assessing quality in qualitative research was proposed by Lincoln and Guba (1985) and Guba and Lincoln (1989), and essentially provides an alternative to reliability and validity. The terms ‘trustworthiness’ and ‘authenticity’ substitute the terms ‘reliability’ and ‘validity’ in qualitative research. This concept has been taken, adapted and adopted by Spencer et al. (2003), and is now widely accepted in the UK as standard naturalistic terminology used for assessing quality in qualitative evaluation. Table 8.8 outlines the naturalistic terms that are most accepted as parallels for the scientific terms.

Table 8.8: The Adapted ‘Naturalistic’ Criteria

Aspect	Scientific Term	Naturalistic Term
Truth Value	Internal Validity	Credibility
Applicability	External Validity/Generalisability	Transferability
Consistency	Reliability	Dependability
Neutrality	Objectivity	Confirmability

Source: Spencer et al. (2003) representing a modified version of Lincoln and Guba (1985) and Guba and Lincoln (1989).

Spencer et al. (2003) also suggest addressing ‘five key areas’ to assure quality issues and concerns; they are: the defensibility of approach, the rigour of conduct, the relationship of the researcher to the researched, the credibility of claims and the broader impact and contribution of the study.

I found when applying these five key areas to my own study that many elements were just as applicable to the quantitative phase of my mixed methods approach. This is in part due to how I developed the overall research strategy and framework and the evolving, integrated nature of action evaluation. I will address each of these key quality issues and concerns for the qualitative phase of the study.

The defensibility of approach: This relates directly to the choice of an action evaluation mixed methods approach. Firstly, consideration must be given to the choices I was faced with as implementer and evaluator. An action evaluation approach was the most logical fit. Secondly, the qualitative arm of this mixed methods approach came about as a result of the clear emergence of the research questions that had developed from a literature review. The in-depth interview design was developed, tested and refined from the research questions to capture the 'real-life' aspect. A sampling strategy that was fit for purpose was employed. By including a cross-section of grades from PW sites, a representative view was attempted in the sampling.

The rigour of conduct: My data generation was systematic and is well described, with specific care and attention shown in relation to the recording of the data. Using qualitative-data-analysis software (NVivo), I adopted a six-step systematic approach to data analysis (Creswell, 2005). This is a well-defined concept with in-depth interrogation of data as part of the process, providing an audit trail in the form of a coding book (Appendix O). Multiple layers of coding and regular supervision are a feature of my detailed analysis.

The relationship of the researcher to the researched: I have demonstrated a robust approach to ethics and ethical approval in my documentation. I have tested the interview and the interview guide, involving participants in the design. All stakeholders were invited to contribute to the study. Concerns in relation to my dual role as implementer and researcher were addressed in four ways:

1. The action evaluation approach and study design.
2. The open and honest communication I had with participants

3. The utilisation of academic supervision and peer counsel to help develop the approach, study design, interview guide, testing and fieldwork.
4. Reflexivity – my role as national implementer, my role as a senior manager and my role within the study were regularly internalised and details are presented in Chapter 11.

The credibility of claims: Triangulation was incorporated in my overall design.

Respondent validation was incorporated and offered to all participants. All participant views, contributions and data are included in my study to achieve as balanced an interpretation as can be expected in an action evaluation approach. There are clear lines evident between data, concepts and categories. These are incorporated into discussions and conclusions, and in the reflexivity chapter, Chapter 11. They are discussed in acknowledging the limitations to generalisability associated with an action evaluation approach.

The broader impact and contribution of the study: The findings of this study have already informed and affected implementation and form part of a national evaluation. They are inextricably linked to national QI healthcare policy. The qualitative data (as part of the overall mixed methods results) will be made available and disseminated as a national evaluation report and through a number of publications.

The issue of quality in qualitative research is a real challenge in healthcare QI, especially when an action evaluation design is used. Using the accepted platform outlined by Spencer (2003) as quality criteria with which to assess and reflect the validity or trustworthiness of qualitative research has provided a detailed, practical and concise solution which I found most helpful.

Despite the best efforts to assure quality in qualitative research, some purists continue to assert validity as the only real means for obtaining rigour (Morse, 1999).

Acknowledging this call and need for a realistic position, I feel even more reassured as regards the mixed methods approach adopted for this study. Although the mixed methods approach is sometimes seen as the middle ground (Creswell and Clark, 2011), and is not without its challenges in terms of maintaining an overall integrated research

design, I feel this design can only add balance and credibility to the overall quality of this study.

8.8.8 Qualitative data analysis of the in-depth interviews

This mixed methods study adopts a blended balance to the quantitative and qualitative approaches and findings, treating them as one integral study and not two separate pieces (Bryman, 2012, Creswell and Clark, 2011). Truly accepting the naturalistic paradigm requires an understanding that the qualitative element of the mixed methods approach does not always necessarily commence with a prior proposition to be tested and proved. The focus of inquiry in the qualitative phase is intended to be wholly exploratory, taking an inductive approach to data analysis. The intention is that the research outcomes are not broad generalisations but 'contextual' findings that can be blended with the quantitative findings.

The data analysis methodology adopted in this qualitative phase is loosely based on the principles of a descriptive phenomenological case-study approach, which can be adapted for most qualitative data analysis that involves 'words'. As Maykut and Morehouse (1994) point out:

'words are the way that most people come to understand their situations; we create our world with words; we explain ourselves with words; we defend and hide ourselves with words.'

Thus, in qualitative data analysis and presentation:

'the task of the researcher is to find patterns within those words and to present those patterns for others to inspect while at the same time staying as close to the construction of the world as the participants originally experienced it '

Maykut and Morehouse, 1994 p. 8

8.8.8.1 Data analysis, procedure and process

While qualitative research is not given to mathematical abstractions, it can nonetheless be systematic in its approach to data collection and analysis. Framed by a focus of inquiry, whether data is collected through interviews or focus groups, open-ended questioning allows study participants to articulate their perceptions and experiences freely and spontaneously. In analysing data generated in this format, responses are not grouped according to predefined categories, rather, salient categories of meaning and relationships between categories are derived from the data itself through a process of inductive reasoning.

The thematic analysis approach adopted by this study allowed me as the researcher–implementer to access and analyse these articulated perspectives so that they could be integrated into a model that seeks to explain the social processes under study.

This method was chosen for the qualitative element of the mixed methods approach because it is inclusive and involves me, the researcher, in breaking down the data into discrete ‘incidents’ (Glaser and Strauss, 1967) or ‘units’ (Lincoln and Guba, 1985) and coding them to categories. Categories arising from this method are generally reported to take two forms: those that are derived from the participants’ customs and language, and those that I, the researcher, identify as significant to the project’s focus of inquiry. The goal of the former ‘is to reconstruct the categories used by subjects to conceptualise their own experiences and world view’; the goal of the latter is to assist the researcher–evaluator in developing both theoretical and implemental insights through the development of themes that illuminate the social processes operative in the sites under study. Thus it has been said:

‘The process of comparative analysis stimulates thought that leads to both descriptive and explanatory categories’

(Lincoln and Guba, 1985, pp. 334–341).

Incorporating this method into the study ensures that categories undergo content and definition changes as units and incidents are compared and categorised, and as understandings of the properties of categories and the relationships between

categories are developed and refined over the course of the analytical process. As Taylor and Bogdan (1984) summarise:

Using this method, the researcher simultaneously codes and analyses data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model

Taylor and Bogdan, 1984, p. 26

8.8.8.2 Using NVivo for data analysis

It must be stressed that in using qualitative-data-analysis software for my qualitative analysis, I have not found myself capitulating the hermeneutic task to the logic of the computer; rather I am using the computer as a tool for efficiency and not as a tool which in and of itself conducts analysis and draws conclusions. As Fielding and Lee (1998) explain, qualitative researchers ‘want tools which support analysis, but leave the analyst firmly in charge’ (p. 67). Importantly, such software also serves as a tool for transparency. Arguably, the production of an audit trail is the key criterion on which the trustworthiness and plausibility of a study can be established. Qualitative-analysis software’s logging of data movements and coding patterns, and mapping of conceptual categories and thought progression, render all stages of the analytical process traceable and transparent, facilitating the researcher in producing a more detailed and comprehensive audit trail than manual mapping of this complicated process can allow.

The following memo sets out the cycles of analysis planned for this study. There are seven discrete cycles of analysis, which fit within Creswell’s (2005) six stages of coding. These cycles involve three separate cycles of coding, two cycles of managing codes – one for initial categorisation of open codes and one for data reduction through consolidating codes into a more abstract conceptual framework – and two cycles which use writing itself as a tool to prompt deeper thinking about the data (Bazeley and Jackson, 2013) leading to findings from which conclusions may be drawn. Some of the managing code cycles will also involve additional coding.

Phase 1 – Open coding involves broad participant-driven coding of the transcripts so as to deconstruct the data from its original chronology into an initial set of themes supported by clear labels and definitions to serve as rules for inclusion (Maykut and Morehouse, 1994) or units of meaning (text segments) which are coded from the content (Maykut and Morehouse, 1994, pp. 126–149).

Phase 2 – Categorisation of codes involves re-ordering themes identified and coded in Phase 1 into categories of themes by grouping related themes under these categories and organising them into a framework that makes sense for further analysis of the data. This phase also includes distilling, re-labelling and merging common codes generated in Phase 1 to ensure that labels and rules for inclusion accurately reflect coded content.

Phase 3 – Coding on involves breaking down the now restructured themes into subthemes to offer more in-depth understanding of the highly qualitative aspects under scrutiny – such as divergent views, negative cases, attitudes, beliefs and behaviours – coded to these categories, and to offer clearer descriptive insights into the meanings embedded therein.

Phase 4 – In-case and cross-case analysis considers looking at each participant's story through the coding applied to it and summarising the coded content into a narrative that truly reflects their experiences in the system. The codes are then inserted into a matrix which facilitates cross-case analysis in order to consider similarities and differences in the participants' experiences.

Phase 5 – Writing analytical memos against the higher-level themes to accurately summarise the content of each category and its codes and to propose empirical findings against such categories. A memo will consider five key areas:

1. The content of the cluster of codes on which it is reporting.
2. The patterns, where relevant (levels of coding, for example, although this could be used to identify exceptional cases as well as shared experiences).

3. Background information recorded against participants and any patterns that may exist in relation to participants' profiles (who said what).
4. Situating the code(s) in the storyboard – meaning considering the relatedness of codes to each other and their importance to addressing the research question, and sequencing disparate codes and clusters of codes into a story or narrative which is structured and can be expressed in the form of a coherent and cohesive chapter.
5. Primary sources in the context of relationships with the literature, as well as gaps in the literature.

Phase 6 – Validation involves testing, validating and revising analytical memos so as to self-audit proposed findings by seeking evidence in the data beyond textual quotes to support the stated findings and seeking to expand on deeper meanings embedded in the data. This process involves interrogation of data and forces consideration of elements beyond the category itself, drawing on relationships across and between categories; it also involves cross-tabulation with demographics, observations and literature. This phase will result in evidence-based findings as each finding must be validated by being rooted in the data itself and will rely on the creation of reports from the data to substantiate it.

Phase 7 – Synthesising analytical memos into a coherent, cohesive and well-supported outcome statement or findings report. Finalising Phase 8 will result in the production of two draft chapters, namely the findings and discussion chapters.

This six-step approach (with the integrated seven phases) to conducting a descriptive case study as articulated by Creswell (2005) is set out in Table 8.9 alongside its practical application in NVivo.

Table 8.9: Stages and Process Involved in Qualitative Analysis – Adapted from Creswell’s (2005) Six Stages of Analysis

Analytical Process Creswell (2005)	Creswell Practical Application in NVivo	Strategic Objective	Iterative process throughout analysis
1. Prepare and organise the data	Import data into the NVivo data management tool	Descriptive Accounts (Re-ordering, ‘coding on’ and annotating through NVIVO)	Assigning data to refined concepts to portray meaning
2. Examine the data	Phase 1 – Open Coding		↕
3. Describe and create themes from the data	Phase 3 – Coding on – creating a hierarchy		Refining and distilling more abstract concepts
4. Present and report findings	Phase 4 – Data Reduction – Re-ordering and distilling data	Data Management (Open and hierarchal coding through NVIVO)	Assigning data to themes/concepts to portray meaning
5. Interpret the findings	Phase 5 – Generating proposition statements	↓	↕
6. Validate the accuracy of the findings	Phase 6 – Testing and validating proposition statements & Phase 7 Synthesising proposition Statements		Explanatory Accounts (Extrapolating deeper meaning, drafting summary statements and analytical memos through NVIVO )	Assigning meaning
			↕
			Generating themes and concepts

8.9 Method 3: Measuring and Tracking Productive Ward Improvement Data

Each PW site performs a baseline 12-hour observational assessment of direct patient care (DPC) time when commencing the PW foundation module. This 12-hour assessment records ward activities, contact time and the length of interactions between patients and ward-based team members. Observations are recorded on a minute-by-minute basis using a standardised observation schedule called an activity follow, which is a tool/resource available from the NHSI to support the foundation modules of the PW programme. The tool is used to document the activity of a single member of the ward team every 60 seconds and is designed to record staff activity, interactions and interruptions (see Appendix P). It specifically reports on the amount of time ward-team members spend on the following activities:

- Motion
- Administration
- Handovers
- Medicines Management
- Discussion
- Personal Hygiene
- Patient Flow

The tool automatically calculates the amount of time spent directly with the patient or in direct patient care (DPC) and data is collected periodically at either 6- or 12-month intervals. The main purpose of this measurement is to:

- a) Create a baseline or starting reference point against which to compare the impact of improvement interventions.
- b) Establish a target for ward teams to work towards.
- c) Highlight the amount of time ward teams are not with patients in order to incentivise involvement.

8.9.1 Procedures and sample

Observation and measurements were carried out in the nine PW sites on two separate occasions, in April 2013 and April 2014. These measurements coincide with the T1 and T2 measures undertaken with the UWES in Phases 1 and 3 of this study. On both occasions completed activity-follow sheets were calculated and returned by the project lead in each site. At T1, nine activity follow and DPCs were returned. At T2, seven were returned fully completed.

8.9.2 Statistical analysis

Data was analysed using the commercial software SPSS (version 21). Frequency and descriptive statistics were generated for the DPC measure. Statistical analyses were performed as follows:

- a. Relationship of DPC times and UWES scores (WE total mean and individual constructs) in the PW sites, using correlation methods. This analysis was done both at T1 and at T2.
- b. Change in DPC scores (T2-T1) was investigated using paired t-tests, and the relationship of change in DPC to change in UWES score was investigated using correlation methods.

8.10 Chapter Summary

This chapter has outlined the four phases of the research process, the three methods used and the sources of data collected, and how these link to the overall objective of the study and the research questions. In Phase 1, 253 participants from nine PW sites and 249 participants from a matched control group were surveyed using a well-tested, validated instrument to measure WE at a T1 baseline. In Phase 2, semi-structured in-depth interviews were developed from the thematic findings of the literature review and tested, refined and piloted. Twenty-four participants representing the nine PW sites were interviewed in order to understand their views and experiences of PW implementation. In Phase 3, 233 participants from the nine PW sites and 236 participants from the matched control group surveyed at T1 were re-surveyed to measure the effect of the initiative. In Phase 3, secondary data in the form of QI data

was collected at the same T1 and T2 time intervals from the nine PW sites and collated for analysis.

This chapter details each of the three data collection techniques, the tools employed and the analysis undertaken; further details can be found in the appendices. Central to this study was the objective of maintaining the highest standards of scientific rigour in order to answer the research questions, thus ensuring an ethically sound and robust evaluation endeavour.

Chapter 9: Quantitative Results (Phases 1, 3 and 4)

9.1 Introduction

Building on the two previous research design chapters, Chapter 9 presents the results for the quantitative phases of this mixed methods sequential explanatory study. The quantitative phases of the study directly address Research Questions 1 and 4. Phase 1 and Phase 3 of this study (the UWES) address RQ1: *To what extent does the PW initiative 'engage' the ward teams who implement it?*

In combination with the performance metrics from each site (Phase 4), Phases 1 and 3 address RQ4: *Is there a relationship between engagement and improvement performance?*

The qualitative phase of the study (Phase 2) seeks to explore PW participants' experiences in depth in order to examine RQs 2 and 3:

- *What are the participants' experiences (perceptions and reflections) of the PW initiative, its implementation and impact?*
- *What elements of the participants' experiences impact on engagement?*

The qualitative Phase 2 results and their relationship to the quantitative results from Phases 1, 3 and 4 are presented in Chapter 10.

This chapter is dedicated to reporting the quantitative findings. Section 9.1 provides an overview of the response rates for the survey in Phase 1 (T1), and provides detail in relation to the general composition of the sample. Participants' profiles from Phase 1 (T1) are described in section 9.2 by grade, clinical specialty, age and gender. Section 9.3 reports on the distribution of the Phase 1 (T1) engagement scores. Section 9.4 is concerned with reliability analysis of the UWES scores.

The substantive quantitative results from this study are presented in sections 9.5 and 9.6. Section 9.5.1 presents the Phase 1 (T1) findings concerning the relationship

between work engagement scores and other study variables, with emphasis on the relationship between engagement score and participation in the PW initiative. Section 9.5.2 presents the same information for Phase 3 (T2), and investigates the change in UWES scores from Phase 1 (T1) to Phase 3 (T2). Section 9.5.3 discusses these quantitative findings in relation to addressing Research Question 1.

Finally, section 9.6 reports the intervention group's performance metrics and their relationship with the Phase 1 (T1) and Phase 3 (T2) UWES scores and performance metrics in a selected subset of PW respondents.

All statistical analyses reported were performed using the commercial software SPSS (version 21). The 5% level of statistical significance was used in all analyses, without adjustment for multiple tests.

9.2 Response Rates at Phase 1 (T1)

In total 338 completed questionnaires were returned, which represented a total response rate of 67.3%. Response rates did not differ significantly ($p=0.07$) between the Productive Ward group ($n=180$, 53.6%) and the control group ($n=158$, 46.4%). In addition, there were four questionnaires which had only been partially completed (spoiled), and were therefore omitted from the sample. All 338 completed questionnaires were included in the analysis. The Staff Nurse grade represented the largest group of respondents (66%) followed by Healthcare Support workers. The Kaiser-Meyer-Olkin (KMO) measure was 0.93, which verified sampling adequacy.

Response rates are included in Table 9.1 below, along with participant profiles.

9.3 Profile of Participants at Phase 1 (T1)

A full breakdown by grade and gender is offered in Table 9.1. This table clearly shows that the sample is overwhelmingly female, and dominated by Staff Nurse and Healthcare Support grades.

Table 9.1: Response Rates and Respondent Profiles

Sample	PW Group	Control Group	Total	%
No. Surveyed	253	249	502	100%
No. Respondents	180	158	338	67.3%
Female	175	144	319	94.4%
Male	5	14	19	5.6%
Nurse Managers	11	18	29	8.6%
Staff Nurses	112	111	223	66%
Clerical/Admin	9	3	12	3.5%
Healthcare Support	45	24	69	20.4%
Household	3	2	5	1.5%

Table 9.2 below shows the age distribution of respondents, and the strong relationship between age and employment grade, e.g. it is seen that the Staff Nurse grade comprises 100% of the 18–24 age group, 72.2% of the 25–44 age group, but only 53.1% of the 45–65 age group. The vast majority of respondents were in either the 25–44 age group (57.7%) or the 45–65 age group (38.7%).

Table 9.2: Age Distribution of Respondents

		Grade					Total	
		Nurse Manager	Staff Nurse	Clerical/ Admin	Care Assistant/ MT Attendant	Household		
Age	18–24 years	Count	0	13	0	0	0	13
		% within age	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
	25–44 years	Count	14	140	4	35	1	194
		% within age	7.2%	72.2%	2.1%	18.0%	0.5%	100.0%
	45–65 years	Count	15	70	8	34	4	131
		% within age	11.5%	53.1%	6.2%	26.2%	3.1%	100.0%
Total	Count	29	223	12	69	5	338	
	% within age	8.6%	65.8%	3.6%	20.5%	1.5%	100.0%	

Table 9.3 shows the sample breakdown by specialty. Medical and Surgical specialties are in the majority, but all four specialties are well represented in the sample.

Table 9.3: Sample by Clinical Specialty

		Frequency (N)	Percent (%)
Clinical Specialty	Medical	133	39.3
	Surgical	83	24.6
	Rehab	63	18.6
	Elderly	59	17.5
	Total	338	100.0

9.4 Distribution of UWES Scores

Histograms of the overall UWES scores, and the three individual components of this score, are presented in Figures 9.3.1 to 9.3.4, along with some summary statistics.

There is some suggestion of skewness in these graphs, but most scores appear reasonably close to being normally distributed, and remedial statistical measures (such as transformations of the scores) do not appear warranted. However, strictly speaking, these data fail standard tests for Normality (e.g. the Kolmogorov-Smirnov test).

Therefore, as a safeguard and where appropriate, non-parametric analysis of these UWES scores (i.e. tests which do not assume normally distributed data) were carried out in addition to the standard parametric analysis (such as independent samples t-tests), and results for these non-parametric tests are also reported in Section 9.6 below alongside the parametric results.

Figure 9.1: Frequency Distribution of UWES Mean Scores

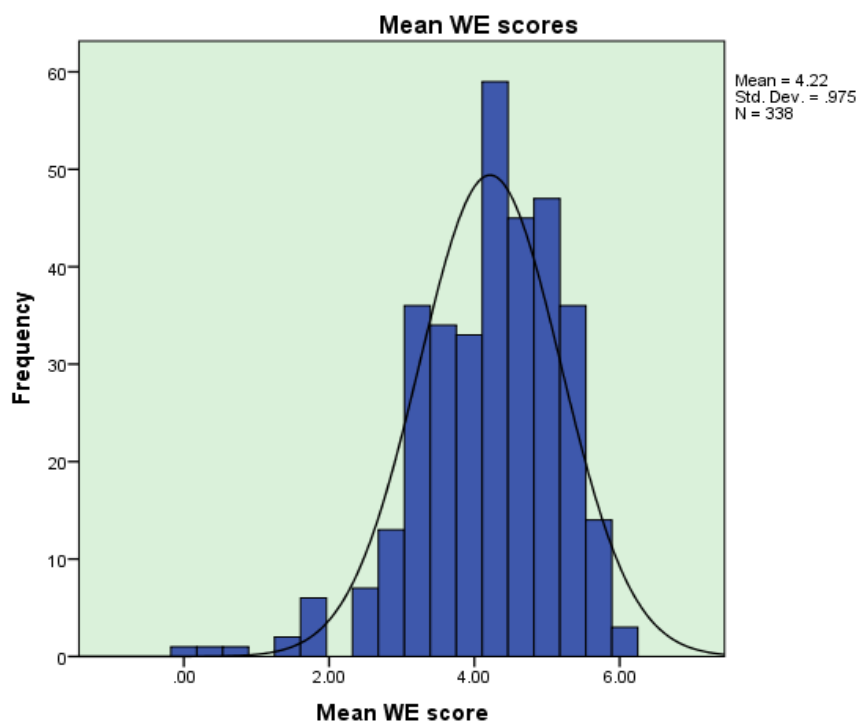


Figure 9.2: Frequency Distribution of UWES Component Score 'Vigour'

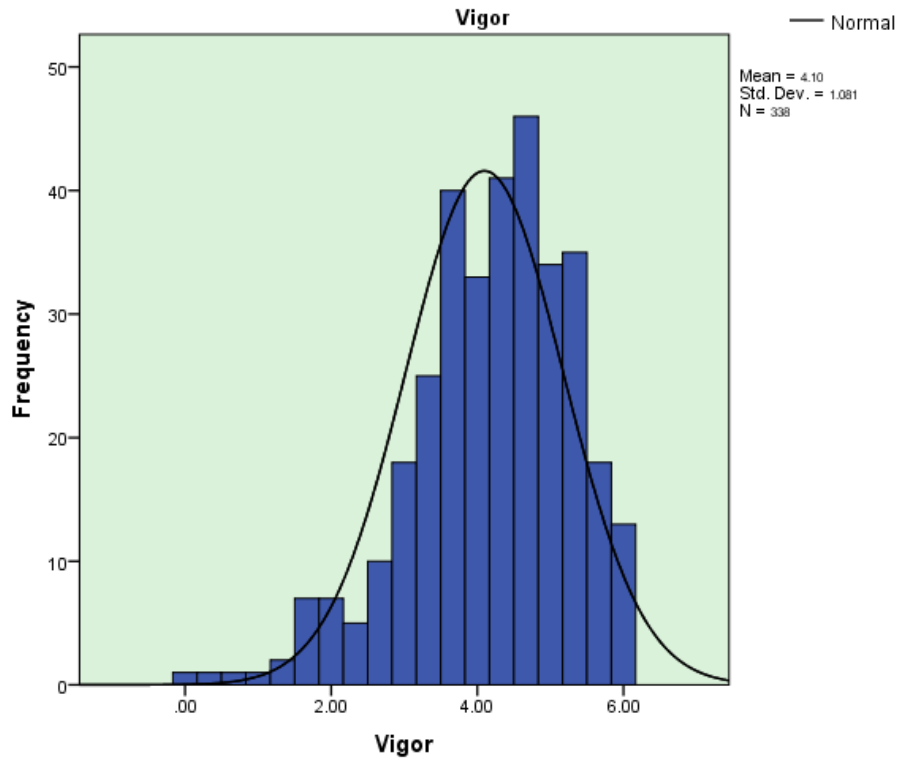


Figure 9.3: Frequency Distribution of UWES Component Score 'Absorption'

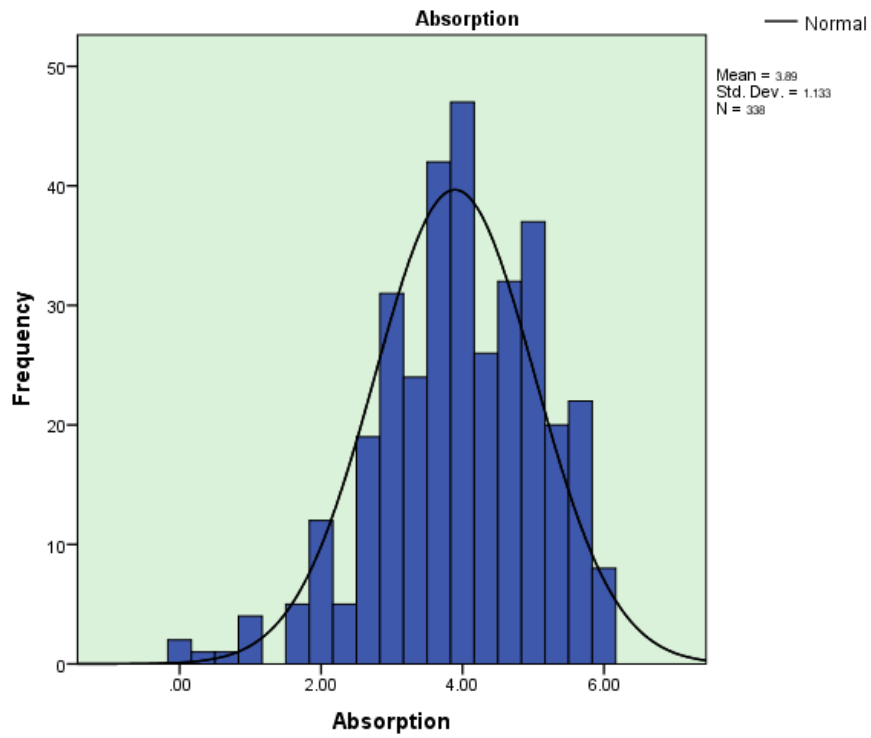
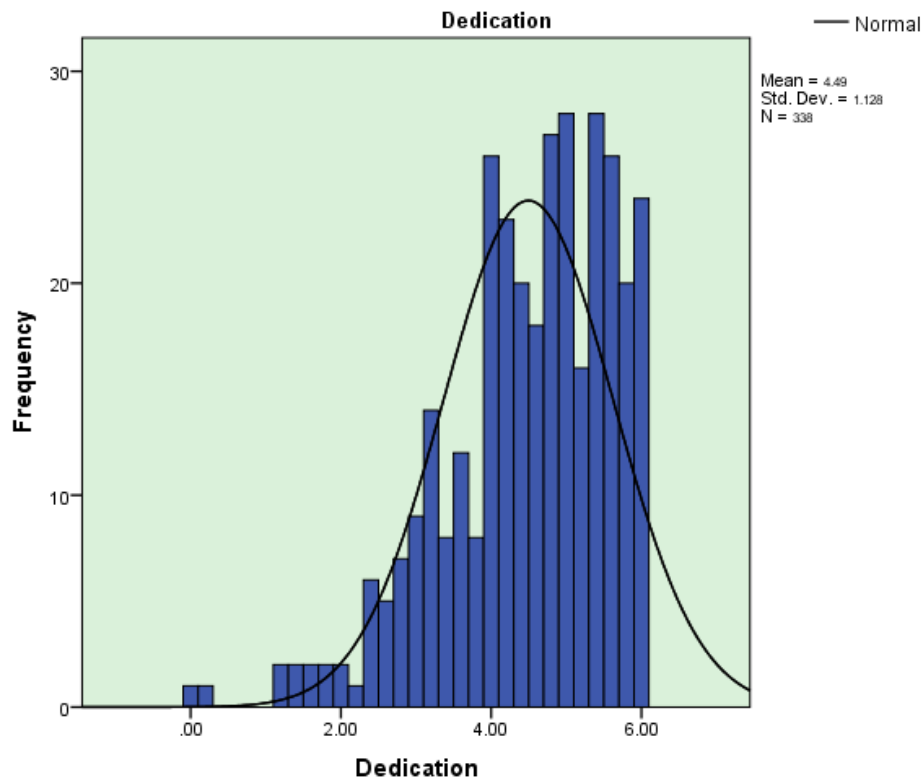


Figure 9.4: Frequency Distribution of UWES Component Score 'Dedication'



9.5 Reliability of UWES Scores

A principal axis factor analysis was conducted on the 17 UWES items with oblique rotation (direct oblimin). The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis (KMO =0.93). Measures of eigenvalues confirmed acceptable values for three factors and concur with other studies using the UWES (Seppala et al., 2009, Schaufeli et al., 2006, Storm and Rothmann, 2003). The overall three-item measure of engagement in this sample had satisfactory internal reliability (Cronbach's alpha $\alpha= 0.91$). The individual constructs, Vigour (Cronbach's alpha $\alpha= 0.77$), Dedication (Cronbach's alpha $\alpha= 0.83$) and Absorption (Cronbach's alpha $\alpha= 0.78$) also returned acceptable coefficients when compared to the accepted standard of $\alpha > 0.70$ (Bryman and Bell, 2011).

These results provide strong evidence that the UWES instrument transferred successfully to an Irish healthcare setting.

9.6 Substantive Quantitative Results

In this section the substantive findings are reported for the survey data collected at two time periods:

T1: Approximately 12–13 weeks after commencing the intervention (Phase 1 method),

T2: Approximately 12 months later, using the same subjects analysed at T1 and using the same (UWES) instrument (Phase 3 method).

9.6.1 Analysis at T1

The following statistical analyses of UWES scores were performed:

- a. Comparison of UWES scores ('Total' work engagement score (WE) and individual constructs) in the Productive Ward and control groups, using independent samples t-tests (and the non-parametric counterpart of the t-test, the Mann-Whitney U-test),
- b. Investigation of relationships between WE scores and other variables, using t-tests or contingency table analysis, as appropriate, and
- c. Analysis (using general linear models) of WE scores in Productive Ward and control groups, controlling for confounding variables identified in b.

9.6.2 Results T1

a. Comparison of WE scores in the Productive Ward and control groups

Preliminary analysis of overall WE scores from the Productive Ward and control groups were based on the independent samples t-test. The mean overall WE score for the Productive Ward group was higher (4.34) than for the control group (4.07), a statistically significant difference ($p=0.013$). Each of the three dimensions was also examined and, in all cases, the mean overall WE scores remained significantly higher for the Productive Ward group when compared to the control group (see Table 9.4).

Of note, when the non-parametric Mann-Whitney U-test is used instead, the differences in WE scores between the PW and control groups remain statistically significant ($p=0.032$, $p=0.039$, $p=0.021$ and $p=0.009$ respectively for Total, Vigour, Absorption and Dedication scores).

Table 9.4: Means, Standard Deviations and P Values

<i>Total Sample N=338</i>			
	Productive Ward Group Mean	Control Group Mean	P Value
N=	180	158	-
Total Mean	4.34	4.076	0.013
SD ±	0.87	1.06	
Vigour	4.03	3.73	0.012
SD ±	0.99	1.2	
Absorption	4.22	3.90	0.015
SD ±	1.06	1.18	
Dedication	4.68	4.29	0.002
SD ±	0.96	1.25	

b. Relationship of WE scores to other variables

Because of the possibility of statistical confounding (other study variables statistically related both to WE scores and to PW/control group), it was deemed appropriate to extend the analysis reported in a. above. Of four potential confounder study variables (gender, age, employment grade and clinical specialty), however, just two were selected for analysis in relation to WE scores. The sample was overwhelmingly female, so the gender variable was omitted from this part of the analysis. Age was omitted also because (i) the Productive Ward group and the control group were similar with respect to age ($p=0.88$, chi-square test for contingency tables) and (ii) age was related to employment grade (see section 9.3).

There were some significant differences in WE scores found amongst different employment grades and different specialties. Table 9.5 below summarises these findings for the overall mean WE score. It shows clear differences in mean WE scores amongst both employment grades and specialties, and this is the case for both PW respondents and for controls. In particular, the Elderly specialty group scores higher on average than other specialty groups, and Nurse Managers and Clerical grades score higher than Staff Nurses or Care Assistants.

Table 9.5: Comparisons of Overall WE Mean Scores by other Variables

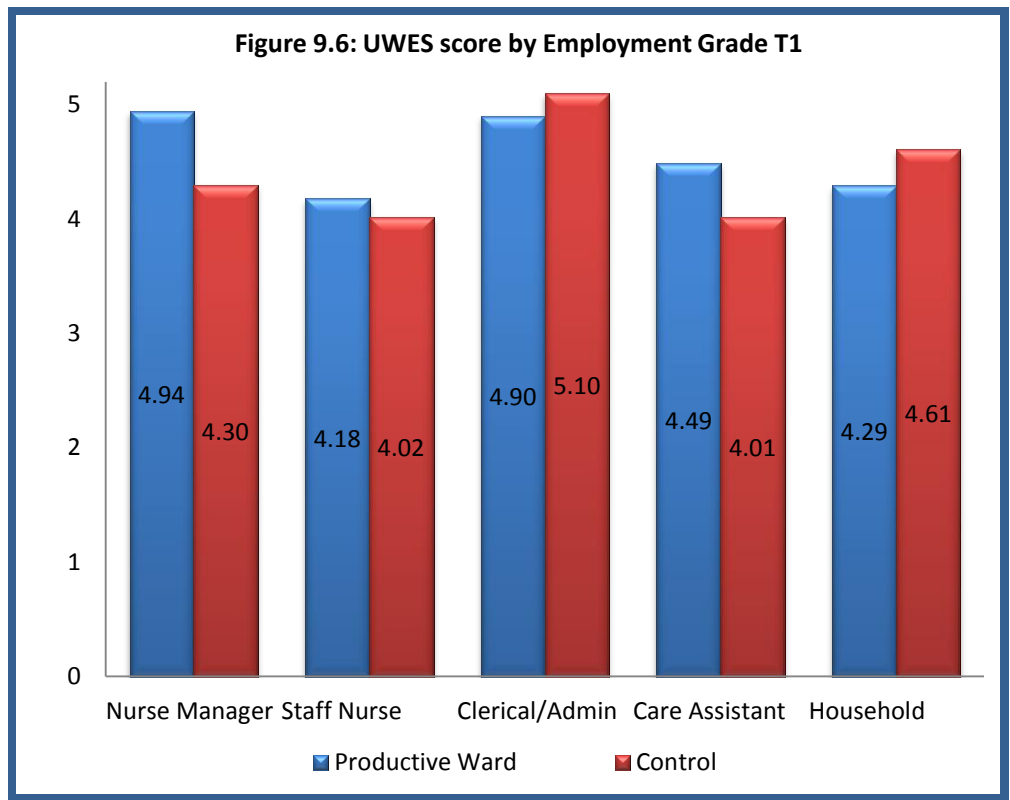
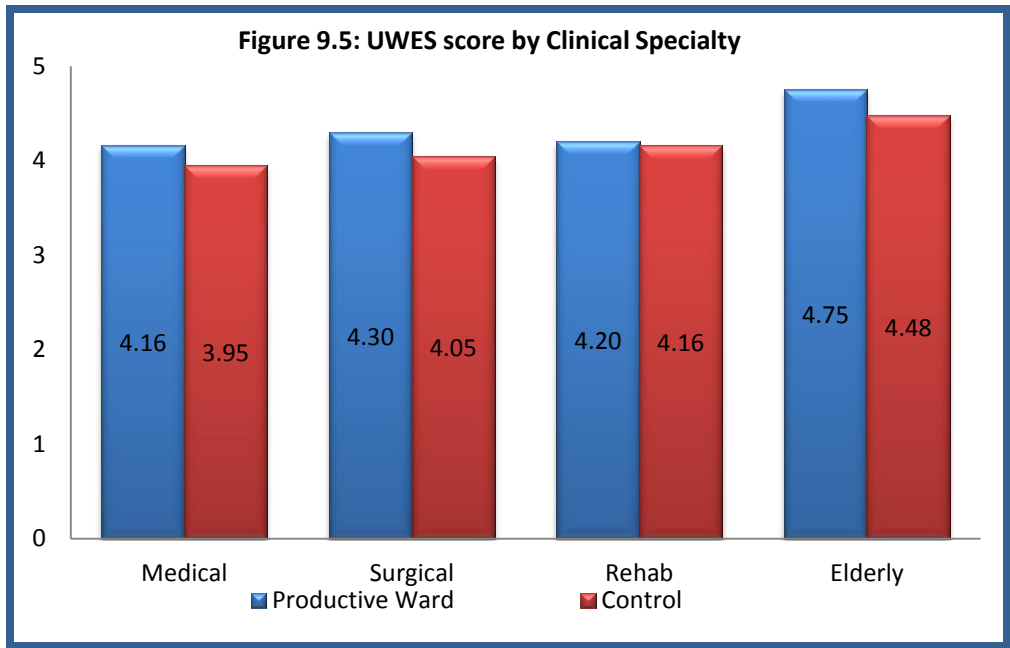
<i>Total Sample N=338</i>			
		Productive Ward Group	Control Group
Clinical Speciality of Ward/Unit	N=	180	158
	Medical	4.16	3.95
	SD ±	0.99	1.29
	N	n=60	n=73
	Surgical	4.30	4.05
	SD ±	0.92	0.73
	N	n=46	n=37
	Rehab	4.20	4.16
	SD ±	0.80	0.81
	N	n=33	n=30
	Elderly	4.75	4.486
	SD ±	0.53	0.88
N	n=41	n=18	
Employment Grade	Nurse Manager	4.94	4.30
	SD ±	0.68	0.74
	N	n=11	n=18
	Staff Nurse	4.18	4.02
	SD ±	0.87	1.08
	N	n=112	n=111
	Clerical/Admin	4.90	5.10
	SD ±	0.95	0.33
	N	n=9	n=3
	Care Assistant	4.49	4.00
	SD ±	0.81	1.19
	N	n=45	n=24
Household	4.29	4.60	
SD ±	0.42	0.25	
N	n=3	n=2	

c. *Comparison of WE scores in Productive Ward and control groups, controlling for effects of other variables*

The analyses reported in a. and b. above suggests that the most appropriate method of analysis for these data is a general linear model with all three explanatory variables included (i.e. group (PW/control), employment grade and specialty). However, because of the very small numbers in the Clerical/Admin and Household employment grades (see Table 9.5), it was pertinent to omit respondents in these grades from all general linear model analyses.

Appendix Q contains the general linear model output for the relationship of T1 WE scores (Total and the three dimensions) to group, grade and specialty jointly. This output confirms the findings of significantly higher WE scores in the PW group, compared to the control group. Controlling for employment grade and specialty, total mean WE score is now estimated as 0.225 higher on average in the PW group ($p=0.038$); Vigour is estimated as 0.238 higher ($p=0.048$); Absorption as 0.265 higher ($p=0.035$); and Dedication as 0.332 higher ($p=0.008$). The output in Appendix Q also highlights some significantly higher WE scores for employment grade 1 (Nurse Managers) and uniformly higher scores for Site 1, the clinical specialty 'Elderly'.

Table 9.5 (which includes the Clerical and Household grades) illustrates the findings outlined above. It is notable in Table 9.4 above that the overall mean WE scores were higher for the PW subjects than for the controls within all four specialties, and within all but the two employment grades with the smallest frequencies. Figures 9.5 and 9.6 also depict these findings graphically.



9.6.3 Analysis T2

At T2, the outcome variable of interest is the *change* (T2-T1) in total work engagement score (WE), including its three dimensions, with investigations centred on the effect, if any, of group (PW/ control), site (clinical specialty) and grade on changes in these T2-T1 WE scores.

9.6.4 Results T2

Due to changes in ward personnel within the study period, there was a noticeable reduction in sample size compared to T1. In total, 192 participants completed and returned surveys in both T1 and T2 phases, representing a total response rate of 56.8% of the original 338 participants who returned surveys in T1, but only 38.2% of the 502 originally surveyed 12 months previously. Table 9.6 has the profile details for these 192 participants. At T2, 101 responded from the PW group (52.6%) and 91 responded from the control group (47.4%). The total 192 completed questionnaires were included in the T1/T2 analysis reported below. Staff Nurse grades again represented the largest group of respondents (68.2%) in the sample, followed by Healthcare Support workers (16.1%).

One consequence of the reduced sample size was that some of the employment grades had even fewer subjects for analysis than at T1. These grades were omitted from the general linear model analyses presented below.

Table 9.6: Descriptive Breakdown of Participants who Completed T1 & T2

	Productive		Control		Total	%
	Ward Group	%	Group	%		
No. Surveyed T2	233	100%	236	100%	469	100%
No. Respondents T2	169	72.5%	161	68.2%	330	70.4%
No. Respondents T1 & T2	101	52.6%	91	47.4%	192	100%
Female	97	96%	81	89%	178	92.7%
Male	4	4%	10	11%	14	7.3%
Age: 18–24	4	4%	2	2.2%	6	4.6%
25–44	56	55.4%	52	57.1%	108	60.7%
45–65	41	40.6%	37	40.7%	78	34.7%
Nurse Managers	9	8.9 %	16	17.6%	25	13%
Staff Nurses	70	69.3%	61	67%	131	68.2%
Clerical/Admin	1	1%	2	2.2%	3	1.6%
Healthcare Support	20	19.8%	11	12.1%	31	16.1%
Household	1	1%	1	1.1%	2	1%

a. Change in WE scores from T1 to T2

In general, on a simple preliminary analysis (paired t-tests), statistically significant changes in WE scores did not occur over the 12-month period. Table 9.7 presents the average WE scores (Total and individual dimensions) at T1 and T2, and (final column) the paired t-test p values for changes in these scores over the 12-month study period. The only statistically significant change was in the Absorption score, which significantly improved between T1 and T2, but this change occurred mainly in the control group (from 3.70 at T1 to 4.06 at T2).

Of note, non-parametric analysis (Wilcoxon Signed Ranks test) leads to similar conclusions: the Absorption score changed significantly in the 12-month period ($p=0.023$) and the other scores did not ($p=0.178$, $p=0.129$ and $p=0.279$ respectively for change in Total, Vigour and Dedication scores).

Table 9.7: T1 & T2 Means, Standard Deviations and P Values for Change between T1 and T2

<i>Total Sample N=192</i>			
	Productive Ward Group		Paired Sample
	Mean	Control Group Mean	P Value
T1 & T2 N=	101	91	-
Total Mean T1	4.39	4.07	0.463
SD ±	0.82	0.99	
Total Mean T2	4.23	4.10	0.477
SD ±	0.85	0.88	
Vigour T1	4.24	3.88	0.477
SD ±	0.92	1.11	
Vigour T2	4.11	3.88	0.007
SD ±	0.92	0.99	
Absorption T1	4.08	3.70	0.007
SD ±	1.03	1.13	
Absorption T2	4.09	4.06	0.373
SD ±	1.04	0.88	
Dedication T1	4.74	4.35	0.373
SD ±	0.85	1.22	
Dedication T2	4.53	4.42	
SD ±	0.95	1.06	

b. Comparison of T2-T1 (change in WE mean scores) in the Productive Ward and control groups, controlling for other variables

As with the T1 scores, it was appropriate to control for possible confounding, using the same multivariate general linear model approach as before, but now examining *change* in WE score (T2-T1) and its three dimensions as dependent variables, and grade, specialty and group as between-subjects factors. The results from the general linear model are presented in Appendix Q. In summary, there was a statistically significant group effect for just one of the outcome variables (change in Absorption score). The greater improvement in Absorption score in the control group compared to the PW group, which is evident in Table 9.7 above, is statistically significant ($p=0.024$)

in the general linear model analysis. Apart from this, changes in the PW group WE scores were not significantly different from changes in the control group WE scores.

Employment grade did not have a significant effect either. There were, however, significant improvements in most WE scores ($p=0.036$, $p=0.012$, $p=0.413$ and $p=0.050$ for Total, Vigour, Absorption and Dedication respectively) in the Rehab sites (Site 3 in the SPSS output in Appendix Q) compared to other specialist areas. Figure 9.7 and Table 9.8 display the findings for the change in overall WE scores.

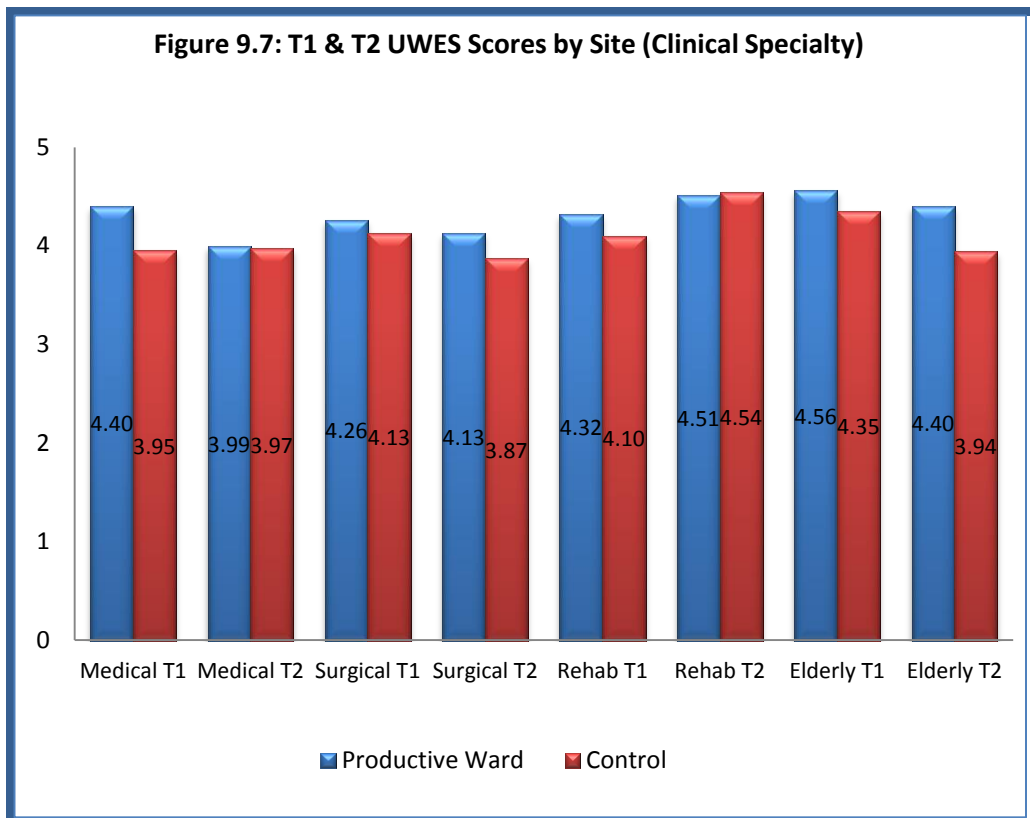


Table 9.8: Comparisons of T2-T1 Change (in WE Mean Scores) by other Variables

<i>Total Sample N=187 (Household & Clerical grades removed)</i>			
		Productive Ward Group	Control Group
Clinical Speciality of Ward/Unit	N=	99	88
	Medical	-0.41	0.22
	SD ±	0.94	0.85
	N	n=31	n=42
	Surgical	-0.12	-0.29
	SD ±	0.98	0.64
	N	n=26	n=10
	Rehab	0.20	0.48
	SD ±	0.96	0.92
	N	n=19	n=23
	Elderly	-0.48	-0.41
	SD ±	0.77	0.94
N	n=23	n=13	
Employment Grade	Nurse Manager	-0.16	-.02
	SD ±	0.80	0.84
	N	n=9	n=16
	Staff Nurse	0.11	0.08
	SD ±	0.93	0.83
	N	n=70	n=61
	Care Assistant	-0.18	-0.09
	SD ±	1.02	1.37
	N	n=20	n=11

c. WE scores in PW and control groups at T2

In addition to analysing change in WE scores from T1 to T2, it seemed appropriate to investigate T2 results on their own. In general, T1 results were replicated at T2 – see the SPSS general linear model output in Appendix Q. Because the sample size was reduced at T2, and because of the changes between T1 and T2 described above, some differences that were statistically significant at T1 were not expected to remain significant at T2, but in fact the overall conclusions remain the same: WE scores are

higher (after controlling for clinical specialty and employment grade) in the PW group when compared with the control group. However, the significant difference in Absorption score between PW and control participants evident at T1 ($p=0.035$ in Appendix Q) has disappeared at T2 ($p=0.569$ in Appendix Q).

9.7 Relationship between Engagement Scores and Performance Metrics

The performance measure for this part of the study was the average time spent by the bedside – direct patient care (DPC) – expressed as a percentage of the total time spent on the ward by a ward-team member (see section 5.9.1 for details of data collection). Seven PW sites (out of eight invited to do so in this part of the study) recorded and reported this metric at T1 and T2.

Table 9.9 below displays the DPC performance measure for each site at T1, alongside the average engagement scores for each site.

Table 9.9: T1 DPC Times & WE Scores

Site	Specialty	DPC T1%	WE T1	VIG T1	ABS T1	DED T1
1	Rehab	59	4.12	4.07	3.77	4.76
2	Elderly	52	4.57	4.50	4.20	4.98
3	Surg	56	4.20	4.05	3.84	4.42
4	Med	48	4.48	4.37	3.87	4.72
4	Surg	45	4.33	4.10	4.08	4.66
6	Rehab	37	4.53	4.12	4.44	5.04
7	Med	35	4.10	4.06	3.58	4.32

The correlations between DPC time and the engagement scores in Table 9.10 are all small, and not significantly different from zero. The correlations range from -0.17 for DPC time and Absorption ($p=0.72$) to 0.15 for DPC time and Vigour ($p=0.74$). In Table

9.10, the Rehab site with a DPC time of 59% has uniformly lower engagement scores than the Rehab site with a DPC time of only 37%. In contrast, the Medical site with the higher DPC time has uniformly better engagement scores than the Medical site with lower DPC times. The Surgical site with a DPC time of 56% has some higher and some lower engagement scores than the Surgical site with a DPC time of 45%. Overall, therefore, no consistent relationship between DPC time and engagement scores is evident at T1 in this study.

Table 9.10 below presents the T2 DPC times and WE scores for the PW sites. Here, too, the correlations between DPC times and the engagement scores are all close to zero.

Table 9.10: T2 DPC Times & WE Scores

Site	Specialty	DPC T2%	WE T2	VIG T2	ABS T2	DED T2
1	Rehab	49	4.48	4.48	4.17	4.84
2	Elderly	56	4.40	4.22	4.31	4.74
3	Surg	53	4.04	3.86	3.92	4.38
4	Med	30	3.80	3.57	3.83	4.04
4	Surg	30	4.25	4.22	4.15	4.42
6	Rehab	51	4.55	4.33	4.35	5.04
7	Med	55	3.55	3.63	3.18	3.91

Table 9.11 below presents the *change* (T2–T1) in DPC and engagement scores over the 12 months of the study.

Table 9.11: Differences in DPC Time & WE Scores (T2–T1)

Site	Specialty	DPCdiff	UWESdiff	VIGdiff	ABSdiff	DEDdiff
1	Rehab	-10.00	0.36	0.41	0.40	0.08
2	Elderly	4.00	-0.17	-0.28	0.11	-0.24
3	Surg	-3.00	-0.16	-0.19	0.08	-0.04
4	Med	-18.00	-0.68	-0.80	-0.04	-0.68
4	Surg	-15.00	-0.08	0.12	0.07	-0.24
6	Rehab	14.00	0.02	0.22	-0.09	0.00
7	Med	20.00	-0.55	-0.44	-0.40	-0.42

In Table 9.11 the change in DPC time is not significantly different from zero (mean change = +1.1%, $p=0.84$, paired t-test). The DPC time percentage decreased in three sites and increased in four. None of the engagement scores for these seven sites changed significantly over time either.

There was a strong negative correlation ($r=-0.63$) between change in DPC time and change in Absorption, but with a sample size of just seven, even a correlation of this magnitude is not statistically significant ($p=0.13$). All other correlations (between change in DPC time and change in engagement scores) were close to 0.

In summary, no statistically significant relationships between DPC times and WE scores can be reported in this empirical phase, either at T1 or T2, or for the T2–T1 differences between the study variables.

9.8 Discussion of the Results

The primary aim of this study was to measure the level of WE in the ward teams implementing the PW QI initiative and to establish whether they are more 'engaged' than ward teams not involved in PW or any other QI intervention. The study also considered the impact of engagement on improvement performance and examined whether a relationship existed. In this section the findings in relation to the guiding research questions are discussed.

9.8.1 RQ1: To what extent does the PW initiative 'engage' the ward teams who implement it?

The findings of this study demonstrate that the PW QI initiative has positively impacted on the WE scores of the ward teams that participated in it. Positive (above mean) WE scores were found across an array of acute and non-acute clinical settings involved in implementing the initiative over a 12-month period. This supports the propositions related to RQ1 (see Table 9.12).

Results also show that higher mean WE scores were found across the various clinical settings involved in implementing the initiative over a 12-month period compared to the control group.

The moderately higher mean WE scores for the non-nursing Clerical/Administration and Household (indirect care) team members in both the Productive Ward and control groups was a surprising element of the findings. Some of the differences may be due in part to the higher levels of stress and emotional demands experienced by front-line healthcare occupations like nursing (Aiken et al., 2002, Schaufeli and Janczur, 1994, Adriaenssens et al., 2011), which have been shown to make this group susceptible to burnout. Burnout has been well recognised and is described as the antithesis or opposite pole of engagement (Schaufeli et al., 2002, Schaufeli and Bakker, 2004, González-Romá et al., 2006). Further discussion and possible explanation is offered in Chapter 10.

The ranking pattern of employment grade by WE score is a finding which has implications for secondary data analysis in the qualitative phase of this study, and is discussed in Chapter 10.

Although the WE mean scores from the Elderly sites were found to be significantly higher, elevated mean scores were also observed in the other non-acute setting, Rehab, in both the PW and control group. This highlights an interesting but not surprising finding. Organisation and team commitment to QI systems and processes in various hospital settings/sectors have been reported previously (Alexander et al., 2007), highlighting reduced patient turnover, profitability, organisational slack, care focus, activity pressures and person-centeredness as key enablers that support and nurture QI and QI activity in the non-acute sector. Further discussion and possible explanation is offered in Chapter 10.

The ranking pattern of specialty sites by WE score is a finding which also has implications for secondary data analysis in the qualitative phase of this study, and is explored in Chapter 10.

Table 9.12: Summary of Support for Propositions Relating to RQ1

Proposition	Support
P1: A positive relationship will be found between the study group (ward teams involved in PW) and WE.	Supported
P2: The positive relationship to WE found in the study group will be greater than that of a control group.	Supported

9.8.2 RQ4: Is there a relationship between engagement and improvement performance?

The findings demonstrate no statistically significant relationships between DPC times and WE scores. Therefore the evidence from this study, albeit from a small number of sites, is that the answer to Research Question 4 is negative: there is no relationship

between engagement and the DPC time performance measure. Therefore Proposition 4 is unsupported (Table 9.13).

Table 9.13: Summary of Support for Proposition Relating to RQ4

Proposition	Support
P4: That there is a positive linear relationship between WE and QI performance.	Unsupported

9.9 Limitations and Implications for Further Study

I conclude this chapter by considering a number of limitations to this study which have implications for future research, one of which has shaped the design of the qualitative study reported in the following chapter.

One limitation of this study is the use of non-probability quota sampling for recruiting the control group. Whilst the characteristics of size and clinical context of the control group generally reflect that of the Productive Ward group, the sample is in essence a purposive sample; the matching exercise, no matter how rigorous, can never be truly representative. Access to a randomised control group would of course be ‘gold standard’ for a QI study of this nature, but realistically would be extremely challenging from a number of perspectives. I did, however, control (using general linear models) for variables such as specialty and employment grade which differed between the intervention and control groups, and which were also related to the WE outcome measures.

Because of the action evaluation approach and the study design, a second limitation relates to generalisation. All findings in this study can only be viewed through the lens in which they were studied, i.e. teams involved in implementing the QI initiative Productive Ward in Ireland. However, the generalisability and transferability of learning from all QI initiatives requires careful assessment when trying to broaden,

spread or replicate QI efforts as a result of the many organisational, contextual and social challenges involved (Ovretveit and Gustafson, 2002, Langley and Denis, 2011).

Finally, although this study examines the WE scores across two time points, it could be considerably strengthened with additional data from further time points. Longitudinal studies of three or more phases would allow more complex analysis of relationships between employment grade, specialty site and the control group. It would also address the growing concern about sustainability in healthcare QI that has been questioned in both the Lean and QI literature (Radnor, 2011, Ovretveit, 2011, Glasgow et al., 2012). The issue of sustainability, therefore, influenced the design of my qualitative study and was included as a key element of my semi-structured interview guide.

9.10 Chapter Summary

This study supports the theory that QI activities, like those associated with PW, have a positive impact on the engagement (the Vigour, Absorption and Dedication) of those ward-team members who participate in or implement them. However, the findings do not fully support the theory that QI and its tools and methods are a simple 'job resource' which can positively impact on engagement and therefore improve performance.

In fact, the study raises further questions about QI's theoretical position in the JD-R framework. If ward-based teams are proven to be positively engaged, exactly what organisational benefits or outcomes are affected or realised?

This study therefore supports some aspects of earlier conceptualisations of QI and WE, but highlights some concerns about their role, output and performance.

This study also highlights the complexity of QI implementation by reporting the variances in WE scores across different clinical settings and across various employment grades. It raises the question that there may be certain components of the PW initiative which are more effective or have different impact depending on the context, environment and one's perspective. These issues are further explored in the following chapter.

Chapter 10: Qualitative Results

10.1 Introduction

Chapter 10 presents the results for the qualitative phase of this mixed methods sequential explanatory study outlined in the research design in Chapter 8. The qualitative aspect of this study (research Phase 2) seeks to explore PW participants' experiences in depth, in order to examine Research Questions 2 and 3:

- *RQ2: What are participants' experiences (perceptions and reflections) of the PW initiative, its implementation and impact?*
- *RQ3: What elements of participants' experiences impact on engagement?*

This current chapter is dedicated to simply reporting the qualitative findings. Section 10.2 provides an overview of the characteristics of participants and the general composition of the purposive sample. Profiles are described by employment grade, clinical specialty, age and gender. Section 10.3 outlines the content analysis performed, describing how the themes emerged from the data. The sub-sections outline the five yielded themes through a narrative description of the themes and the subthemes. Section 10.4 briefly describes the detailed coding citation analysis used in appendix R, and identifies an area of focus for further interrogation. Section 10.5 briefly describes how the data was further explored and the additional citation analysis undertaken. The discussion section in 10.6 illustrates how relationships between the themes are conceptualised and how the main dominant theme, 'implementation and management', interacts with the four other themes. This section also highlights the limitations of the WE measure when just used in a quantitative context with the qualitative understandings. The section closes with some interpretation of the findings and conceptualises how the themes can be connected to the findings in Chapter 9 and study's proposition statements. Limitations of this empirical phase of the study are outlined in section 10.7.

Finally, section 10.8 concludes the chapter with a summary of findings, reflections and observations in relation to fulfilling RQs 2 and 3.

10.2 Profile of the Study Participants

Twenty-seven ward-team members from the PW (intervention) group were approached using the purposive sampling protocol outlined in Chapter 8. On three occasions (in two separate sites) the acuity of the ward work environment did not facilitate the release of the entire approached sample for interview participation. This therefore resulted in a total purposive sample of 24 ward-team members across all of the nine sites. The majority were Caucasian Irish nationals and female (95.8%). Participants were aged between 25 and 65 years old with the majority being in the age group 45–65. A full breakdown of characteristics – age, grade, gender and clinical specialty – is offered in Table 10.1. This table highlights that the purposive sample chosen for this qualitative research phase was not dissimilar to the population sample surveyed in the quantitative element of the study (Phases 1 and 3), being overwhelmingly female, with similar representative age groups, and well-populated with both Staff Nurse and Healthcare Support grades. Nineteen of the participants had participated in other phases of the study and had completed a survey form in either Phase 1 or Phase 3.

Table 10.1: Participant Characteristics

	Participant Characteristics	Total	%
	No. Participants	24	100%
Gender	Female	23	95.8%
	Male	1	4.2%
Age group	Age 18–24	0	0%
	Age 25–44	11	45.8%
	Age 45–65	13	54.2%
Employment grade	Nurse Managers	8	33.4%
	Staff Nurses	10	41.6%
	Healthcare Support	5	20.8%
	Household	1	4.2%
Clinical speciality	Medical	9	37.5%
	Surgical	6	25%
	Elderly	3	12.5%
	Rehab	6	25%

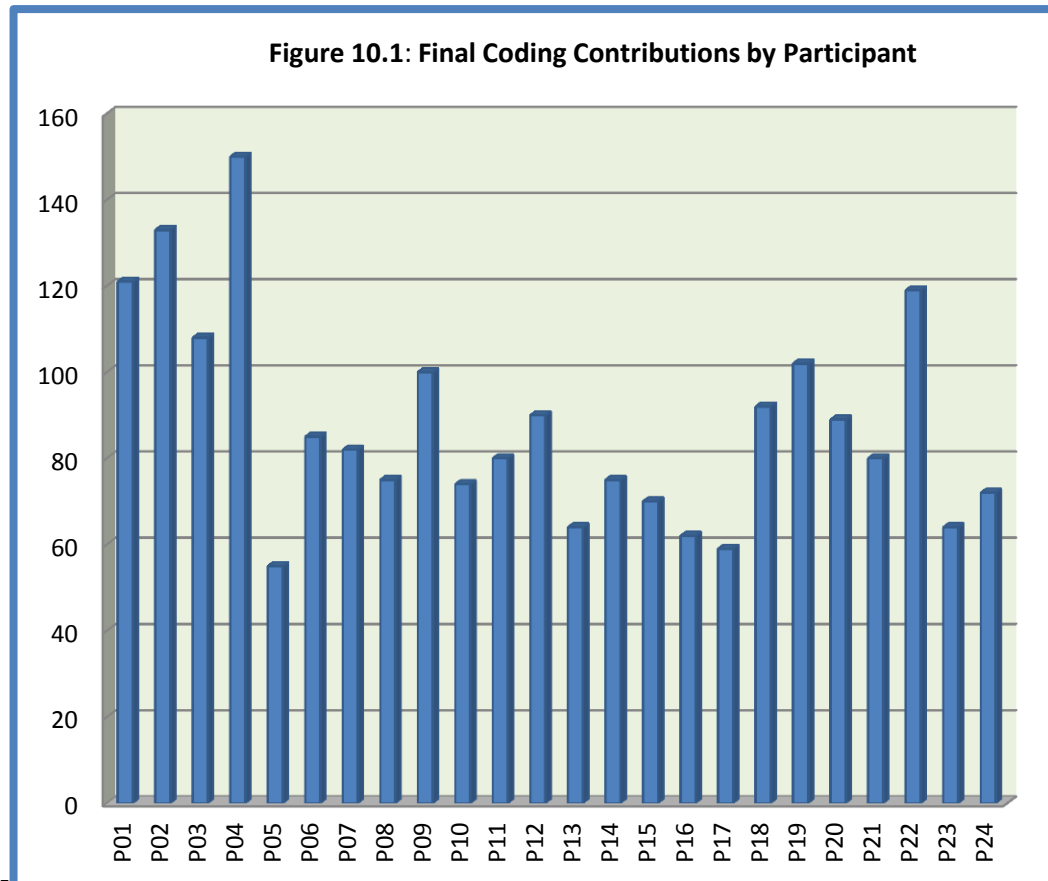
10.3 Content Analysis

The content of the 24 recorded interviews was transcribed and transferred into NVivo 10 for coding. The process of coding the data followed the seven-stage schedule outlined by Creswell (2005) and presented in Chapter 8. This included familiarising oneself with the data, generating open codes, categorising the codes, creating subthemes and ‘coding on’, case/cross-case analysis, creating analytical and conceptual memos, and validation/testing.

The main advantage of using Creswell's (2005) schedule and open coding was that it allowed the data to be wholly de-constructed from its original interview format (which was influenced by themes from the literature) into new groups or themes that emerged from the content of each interview. A flexible approach was used for open coding with definitions and labels applied to each code (Maykut and Morehouse, 1994). A total of 134 open codes were identified during this initial stage of open coding (See Appendix O). An overview of coding per participant is provided in Figure 10.1.

Re-ordering these themes into broad interrelated categories and themes allowed for a general picture to start emerging. Many of the original codes were merged, re-ordered and re-labelled to accurately reflect their content. At the end of this second stage of coding, seven main categories/themes were identified and these hosted the emerging interrelated subthemes.

'Coding on' the data allowed further breakdown and merging of the themes and subthemes into structured hierarchical categories containing many qualitative aspects and elements of meaning. During this phase some attention was paid to labelling and descriptions to ensure that the content of each theme and its subthemes were accurately reflected, as many themes were related to one another. Figure 10.1 provides an overview of the coding contributions per participant featured in the final themes.



Several procedures were carried out at these initial cycles of analysis to verify the results of the coding, re-coding and thematic formation in order to ensure reliable and high-quality data (Spencer et al., 2003):

- a) Coding notes and annotations in the NVivo software were used.
- b) The coding, coding process and thematic formation were discussed in detail during supervision, and consensus was reached through dialogue and debate.
- c) A codebook was maintained within NVivo (see Appendix O).

10.3.1 What are participants' experiences of PW?

Five main themes (containing 21 subthemes) were identified from the interview transcripts during this first level of analysis. These themes represent the experiences and reflections of ward-based teams participating in the second phase of national PW implementation, and they directly respond to RQ2:

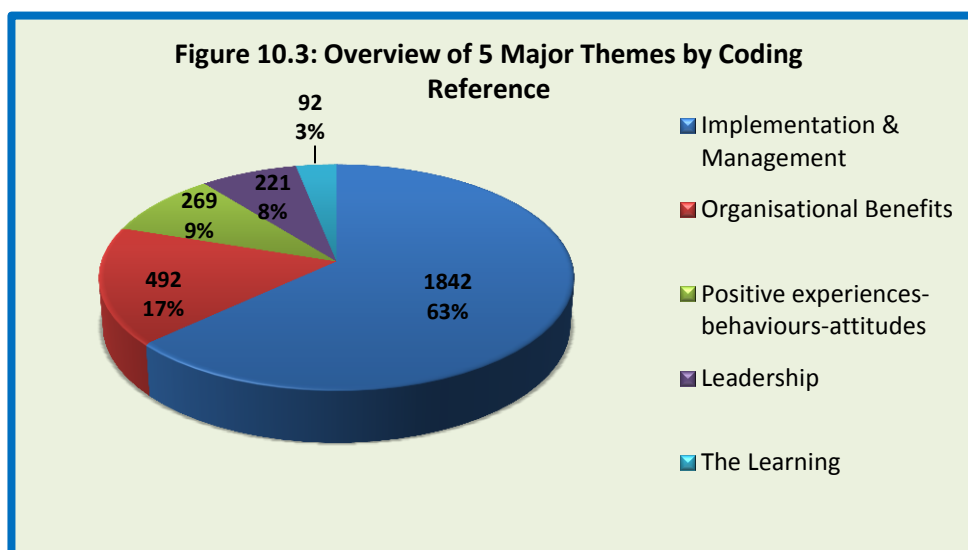
What are the participants' experience (perceptions and reflections) of the PW initiative, its implementation and impact?

The main themes are featured in Figure 10.2, and include: implementation and management, leadership, positive impacts (experiences, behaviours and attitudes), organisational benefits and learning.

Figure 10.2: Identified themes



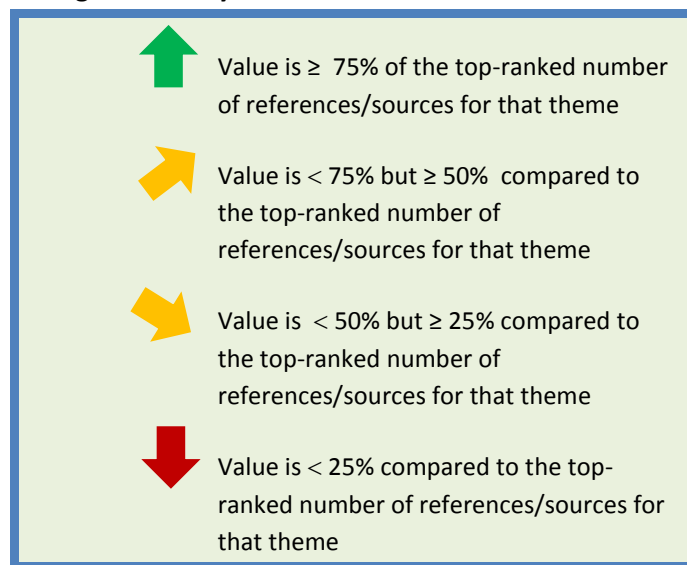
An overview of the themes, subthemes, number of references and sources is presented in Table 10.2 (see below), whilst the weighting of themes relative to each other is set out in Figure 10.3.



A note on the symbols used in tables in this chapter:

Some of the tables displaying themes and subthemes in this chapter include icons that demonstrate the reference frequency and ranking of coded content. These icons are intended as a general guide to the hierarchy and frequency of citations/references or sources allocated to subthemes within that same theme. A green arrow pointing directly upwards conveys that the subtheme is either the top-ranked subtheme (in terms of citations/references or sources) or contains 75% or more citations/references or sources as compared to the top-ranked subtheme in that table or subset. Amber arrows pointing right at 45 degrees up or down indicate 50% to 75% and 50% to 25% respectively and a red arrow pointing downwards indicates a reference frequency lower than 25% of the top-ranked subtheme in that table for that theme (see Figure 10.4).

Figure 10.4: Symbols Used in Table in this Section



The tables, charts and symbols used at certain points in this section are intended to help illustrate and contextualise relativity in a visual way. It is important to emphasise that the coding that created the number of references/citations was an entirely inductive process. The reporting of themes and subthemes once created wholly relies on the principles and systematic steps of thematic analysis described by Creswell (2005) and outlined in Chapter 8, and therefore occasionally draws inferences from the coding and language patterns as they emerged during data analysis.

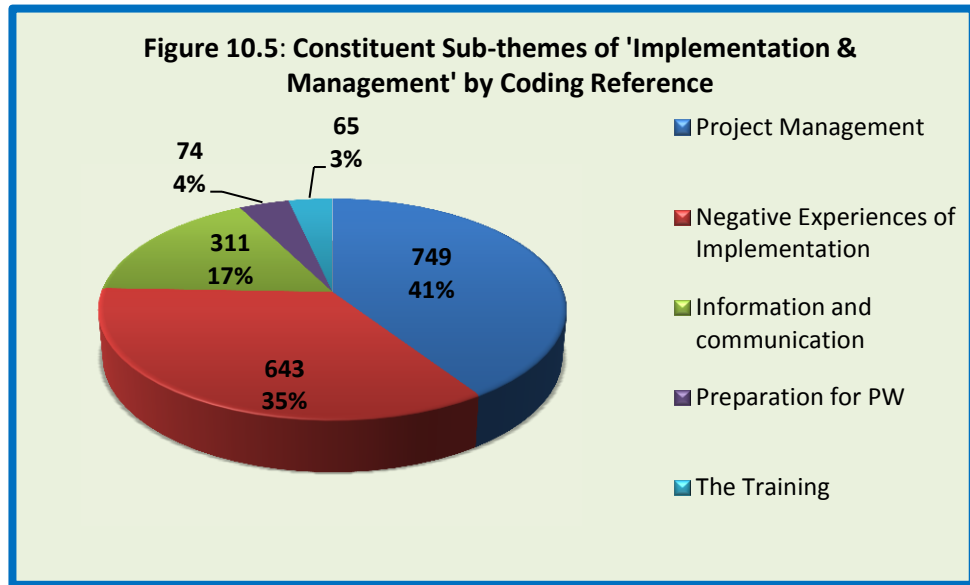
Table 10.2: Overview of Themes/Sub-themes, References & Sources

Themes/sub-themes	No. of References	No. of Sources: 24
Implementation & Management	1842	24
<i>Project Management</i>	749	24
<i>Negative Experiences of Implementation</i>	643	24
<i>Information & communication</i>	311	24
<i>Preparation for PW</i>	74	22
<i>The Training</i>	65	22
Organisational Benefits	558	24
<i>Achievements-success</i>	355	24
<i>Provided Structure</i>	112	21
<i>Impacted on the patient experience</i>	55	17
<i>Enabled Change</i>	36	13
Positive experiences-behaviours-attitudes	552	24
<i>Enhanced Team approach</i>	202	21
<i>Positive experiences</i>	126	22
<i>Involvement-Inclusion</i>	72	20
<i>Empowering Aspects</i>	53	13
<i>Enthusiasim</i>	50	19
<i>Creating Champions</i>	24	14
<i>Encouraging</i>	15	11
<i>Enhanced job or role</i>	10	5
Leadership	221	24
<i>Highlighted Positive Leadership</i>	120	24
<i>A Reliance on the ward-project Lead</i>	101	24
The Learning	92	21
<i>Lessons learned</i>	73	21
<i>Networking-Learning from others</i>	19	7
Total Citations:	3265	

The main theme identified (in terms of the number of references or citations) relates to how the initiative was implemented and managed (1842 references from 24 participants). The remaining themes, which I have referred to as ‘outcome or output’ themes (as they are a consequence of implementation), are: organisational benefits (558 references from 24 participants), impact on positive experiences/behaviours/attitudes (552 references from 24 participants), leadership (221 references from 24 participants) and learning (92 references from 21 participants).

10.3.2 Implementation and management

All of the 24 subjects interviewed contributed considerably to this theme, making it the top-ranked theme in terms of citations. All participants contributed to the various elements and aspects of how the initiative was implemented and managed in their own ward environment. Participants' experiences of implementation and management were coded into five subthemes and are represented in Figure 10.5.



Project Management

The way in which the initiative was project-managed in each of the organisations was reported as an important aspect of implementation. The theme contained a further ten constituent coded subthemes (see Table 10.3). This theme was mostly reported in terms of the understanding by ward-team members of the momentum that was required to maintain progress with the initiative (155 references from 24 participants). Ward-team members described momentum in terms of their progress with the initiative. They usually identified some initial teething problems and sometimes outlined the contextual and operational reasons for slow progress.

Table 10.3: Constituent sub-themes of 'Project Management'

Project Management	No. of References	No. of Sources: 24
Maintaining momentum	155	24
Sustaining the changes	114	23
PW modules Knowledge	112	23
Corporate support	106	24
Drivers for PW	80	20
Extra resources provided	79	23
Choosing Certain staff	48	16
Involving-Informing the patients	35	18
Managing work priorities	16	11
Competition between PWs	4	3
Grand Total	749	

A common cause of slow progress reported was the high activity level and the busyness of the ward environment. Participants reported how difficult it was to keep the PW initiative and its activities to the forefront in the busy ward environment.

'I suppose in the last while we have increased our patient numbers and our daily levels have gone up quite a bit and we have increased our consultants as well so it's been slow but it's getting there, it is moving but it's been a bit slow with the higher activity levels...'

Participant 13

Sustaining the changes and improvements was viewed as another important aspect of project management by the majority of ward-team members interviewed (23 participants). Ownership of the initiative was described as a key element of sustainability. Over half of the ward-team members (14 participants) indicated that the initiative was 'there to stay', but also reported that 'ownership was not always shared' and that 'getting more people involved' was key to sustaining the initiative. Some team members reported an occasional episode of a 'not my job' attitude by certain members of the team. Addressing this attitude was reported as an important aspect of project management. Participants outlined how this attitude could affect those team members who were interested and involved and could possibly affect the ownership and sustainability of the initiative.

'there are a couple of lads there that couldn't give a fiddlers whether we did productive wards or stood on our heads'.

Participant 22

Knowledge of the PW material, modules and toolkit featured as an important antecedent affecting how the initiative was project-managed. Whilst there appeared to be a broad understanding of the concepts and materials (referenced by 11 of the participants), there were also firm examples of unfamiliarity with some of the material in many (21) participants' interviews. This manifested itself as long silences or embarrassed stuttering during the interviews when participants were asked about specific module content. One ward lead acknowledged how this unfamiliarity with the module material had led to some confusion during implementation:

'there were things we were doing in the meals module...if we had read the book we'd have done differently... we took off without the instructions'.

Participant 3

Corporate engagement and support was a modestly reported component of project management and referenced by all 24 participants. Ward-team members interviewed in the study reported the positive impact of having the Director of Nursing visit the ward and comment on the improvement work and progress. A number of participants reported that the initiative and many of the improvement activities had positively improved relationships with their management team.

'it has given us great opportunity to get in touch with management'.

Participant 2

Some ward-team members also reported, however, that management did not always get involved in the initiative and a number (20 participants) cited instances when managers had visited and there were no acknowledgements given to the team in relation to their improvements or achievements.

'we never get congratulated on anything or anything positive that happens ... you rarely get positive feedback which is very disheartening when you are trying your best.'

Participant 7

Drivers for the initiative, and what participants understood as the main reasons for being involved in PW, were reported as important aspects of managing the initiative. Workflow and process improvement were cited as the most common understandings of what was 'driving' PW (52 references from 21 participants), followed by time-saving

(11 references from 6 participants) and patient-care drivers. Only one participant viewed the initiative as being driven corporately or by management.

Having extra resources (budgetary or human) provided to the ward to carry out some of the improvement work and the ward changes required by the initiative was reported as being a relatively important aspect of management support by all of the ward-team members. Whilst many ward-team members (16) identified that there were resources provided to support the PW, a modest number of participants (17) reported a lack of investment in the initiative and a need for more resources.

In some instances, the way in which certain staff were chosen for initial engagement with the initiative, or the way staff were selected to participate in aspects of the improvement work, was reported as an influential element of the project management theme by 16 of the participants. Some of the ward managers interviewed acknowledged that they purposely nominated certain individuals to lead out on improvements, because they would deliver. This strategy was 'picked up' by the ward-team members, however. Although there was acknowledgement that not all staff could be included and attend early training and information sessions, there was some resentment reported in the interviews in relation to the fact that only some staff were chosen to attend training and lead out on some of the initiatives. Participant 1 conveyed a view that it was only the people that were 'more amenable to change' who were chosen for some of the improvement projects and who were 'included' as part of the PW project.

Information and Communication

All participants highlighted information and communication as being an important aspect of how the initiative was project-managed and implemented. Ward-team members reported both enabling and disabling information and communication experiences which had an impact on them (see Tables 10.4 and 10.5).

Table 10.4: Constituent sub-themes of 'Enabling Communication & Information'

Enabling Communication & Information	No. of References	No. of Sources: 23
Good communication	98	23
Being well Informed	19	12
Good project plan	9	8
Effective meetings	9	7
Grand Total	135	

Table 10.5: Constituent sub-themes of 'Dis-enabling Communication & Information'

Dis-enabling Communication & Information	No. of References	No. of Sources: 22
Poor communication	50	13
No shared project plan	32	16
No consultation	24	9
Unfamiliar with Progress	21	7
Lack of meetings	19	10
Lack of information	17	9
Dishonest communication	9	6
No Access to Information	4	2
Grand Total	176	

Amongst the most-cited enabling factors were having good communication (98 references from 23 participants) via a variety of modes, effective meetings and good project plans. The opposite were reflected as dis-enabling aspects, including: poor communication, no project plans, no consultation and a lack of meetings. One team member described the lack of continuity of communication and its impact on progress:

'There hasn't been enough communication on a daily basis with it so there hasn't been enough done with it, kind of you know, on a daily weekly basis. So I think more communication on that would help'.

Participant 20

A small number of team members (6) reported that the PW initiative had promised lots of change and improvement but that this was not realised, and they viewed and reported this as 'dishonest communication' and 'broken promises'. Three participants from one ward described how they had lost a staff toilet during some of the ward improvements and how the promise of another had been put on the long finger. The 'broken promise' had left them with a feeling of apathy.

‘Well, Ken the hospital administrator has promised that he will give us another staff toilet but I don’t know when it’s going to happen’.

Participant 11

Preparation for PW

Preparation for the initiative was viewed as a notable element of project management (74 references from 22 of the participants). How the ward was chosen for the initiative was amongst the most-reported aspects of preparation (see Table 10.6).

Table 10.6: Constituent sub-themes for 'Preparation of PW'

Preparation for PW	No. of References	No. of Sources: 22
Independent Research and preparation	22	10
No consultation/knowledge of how ward was chosen	19	13
Prepared-informed in advance	18	11
How ward was chosen	15	11
Grand Total	74	

Eleven of the ward-team members acknowledged knowing how the ward was nominated or had applied to become part of PW. Thirteen, however, reported little or no consultation in relation to applying or becoming part of the initiative. One participant described how the ward’s involvement was announced without any notice:

‘We just heard it was going on, it was just kinda said the productive ward is happening on the male medical’.

Participant 12

A number of team members (11) reported being actively involved in the preparations, discussions and planning in advance of the initiative commencing. A small number of participants (10) described how they researched the initiative independently prior to implementation. They mostly gathered information from the internet and reported that they wanted to be well informed and prepared in advance of the initiative. One participant outlined the sequence of how preparations took place and how she brought this back to her ward:

‘I went to the meetings and I saw the videos and everything this time last year when it was being introduced; there were other hospitals’ and facilities’ representatives at that meeting as well around Munster, and we brought back the literature, we brought back the whole idea of it to the ward’.

Participant 16

The Training

Training was reported by 22 participants as a fundamental and integral aspect of the project, its management and implementation. Sixteen of the participants reported that they had received formal module implementation training (see Table 10.7).

Table 10.7: Constituent sub-themes of 'The Training'

The Training	No. of References	No. of Sources:	22
Received Training	31	16	
Insufficient training	26	13	
Additional-further training	8	4	
Grand Total	65		

All 16 ward-team members described positive experiences of the training and highlighted how it had enabled them to see ways of doing things better. One participant provided a good account of how the training day had energised the team:

'It was insightful and we all came back very enthused at what we were going to do cause it all sounded so brilliant'.

Participant 11

A couple of ward-team members (8 participants) reported the formal training negatively, mostly saying that it was too long or that they had heard it all before.

'I just said oh god, imagine the intelligence in the room, and people that had done great study and that and we actually have to watch somebody to show you what it means to be and have a productive ward'.

Participant 6

The vast majority (13 participants) felt that there was insufficient training provided for the initiative as a whole and reported that a lot more training was required. The general view was that there was a requirement for ongoing updates or 'refresher training'.

'yeah, yeah like it's ages ago since I even had my course, my god and what happened again you know you have so much going on in your head, I think a refresher would be a good idea for everybody not even for the people that attended it, for everyone'.

Participant 7

Negative Experiences

As well as identifying many positive aspects of how the initiative was managed and implemented, all participants reported some negative elements of implementation or project-management. In total, 643 negative experiences of implementation and management were coded into three subthemes: negative feedback, disabling aspects and challenges. The coding pattern is outlined in Table 10.8.

Table 10.8: Aspects of Negative Experiences of Implementation

Negative Experiences of Implementation	No. of References	No. of Sources: 24
Challenges	276	24
Disenablers	276	23
Negative feedback	91	21
Grand Total	643	

Twenty-one of the participants reported some negative experiences of implementation which were coded in the subtheme ‘negative feedback’. Many of the negative feedback comments were in relation to getting other team members on board, the busyness of the ward and the general low morale of staff on the wards. One ward-team member summed up the general negativity of other team members and associated some of this negativity with the many changes that had taken place:

‘Some of them are a little bit negative, it’s an awful thing to say but there is a lot of it I suppose ... we have gone through an awful lot of change here anyway’.

Participant 4

Within this negative feedback subtheme, 16 participants reported being disillusioned and disappointed with certain elements of their work or with the organisation, and were critical of the changes/improvements. One ward-team member reported a level of scepticism in others which was not just with PW but with all attempts to improve or change:

‘those who are really not (getting involved) are sceptics by nature not because they have anything against the productive ward but because they believe that nothing good comes from this place, you understand ...’

Participant 17

Almost all (23 participants) reported experiences where they felt ‘disenabled’ by the implementation of the PW. Some team members highlighted certain elements of the organisational structure that were disenabling. An example was the difficulty of getting non-stock, off-the-shelf solutions from stores:

‘in our clinic room we have labels for the drug infusions. And you know I have asked maintenance to just make up something that will roll off when you are talking to someone, something like a toilet roll holder, like it’s simple, but they don’t have that in the stores here’.

Participant 2

Other ward-team members found not having all of the team members actively ‘on board’ disenabling, and they reported the tension of having some team members resisting the changes/improvements:

‘cause some of them are very old fashioned and set in their ways and they will still do what they want to do’.

Participant 4

All of the participants identified challenges with the implementation and management of PW. The majority of the challenges involved staffing pressures, environmental and budgetary constraints and limitations placed on the non-nursing roles in the team. However, the most prominent challenge reported related to the other competing priorities on the ward (145 references from 22 of the participants). Competing priorities included being too busy with other essential duties, reported by 18 ward-team members, and too much going on (16 participants), with the PW improvement work being described as ‘additional pressure’. One participant described the competing-priority tension as a paradox:

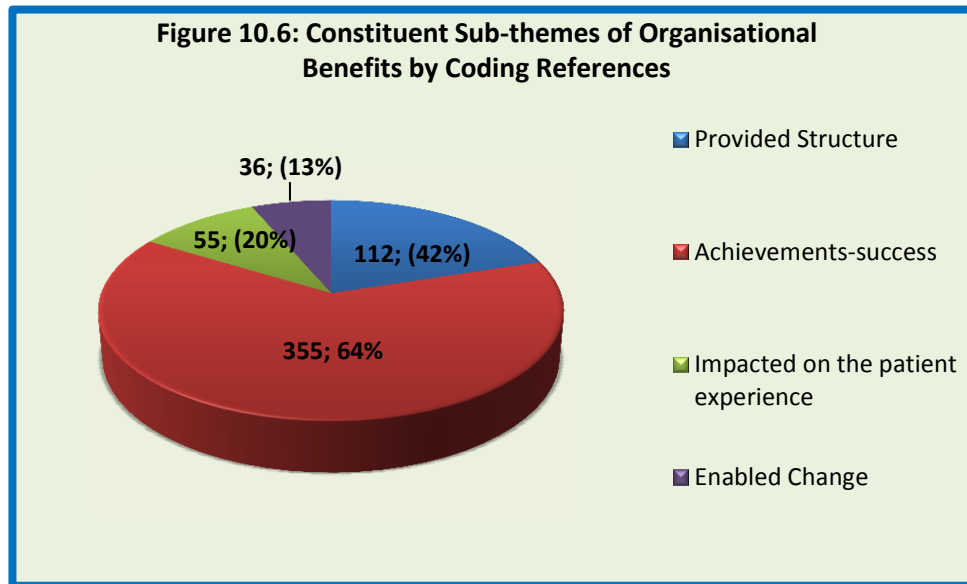
‘You are almost being drawn away from the primary focus, which is the direct patient care that you want to give, and to try and improve things for the ward’.

Participant 2

10.3.3 The organisational benefits

All 24 ward-team members interviewed contributed to this theme (558 references from 24 participants) and highlighted outcomes and outputs that were beneficial to their immediate environment (the ward) and to the organisation as a whole. The most commonly cited outcomes and outputs of the initiative were categorised into the

following subthemes: provided structure (21 participants), achievements and successes (20 participants), impacted on patient experience (17 participants) and enabled change (13 participants). Please see Figure 10.6 for an overview of coding reference breakdowns.



Provided Structure

In total, 21 Participants reported that the PW initiative had provided structure to their work, their way of working or their improvement activities. Ward-team members described how the initiative structured provision in terms of: idea generation and innovation (75 references from 19 participants), tools to improve (25 references from 11 participants), structures (9 references from 8 participants), and creating a vision (see Table 10.9).

Table 10.9: Constituent elements coded to 'Provided Structure'

Provided Structure	No. of References.	No. of Sources: 21
Idea Generator & Innovator	75	19
Tool to improve	25	11
Structure	9	8
Helped create a vision	3	3
Grand Total	112	

The most cited examples of how PW provided structure relate to how the initiative structured and encouraged new ideas and innovations from the staff themselves. Several of the participants mentioned that the initiative and its improvement activities had provided opportunity, space and structure for idea generation which may not have been afforded before.

'2 or 3 girls would be brilliant they would come to you and say what do you think about this, that or the other, there would be a few of them yeah, and some of them would be very positive.'

Participant 4

Ward-based team members reported that they were encouraged to take ideas, develop them and test them. Participants described how this structured approach to idea generation had brought a freedom and a culture of innovation:

'Often if somebody has an idea like they are let sort of go and develop it themselves, emmmm ... I'm trying to think was there anything recently now... we'd love to get more storage in our showers, that's an ongoing thing now.'

Participant 7

Some participants regarded the regular communication associated with the initiative as the catalyst or enabler for idea generation and exchange. Having the opportunity to sit and discuss possible improvements on the ward had provided a structured platform to agree common improvement ideas.

'I suppose there are things that bug us for a while before anyone goes to do anything about it, but then you will probably find it's bugging 10 more people as well'

Participant 10

Having the ward lead actively involved in the module/improvement work, ensuring the improvement tools were used, generating front-line ideas and solutions in a structured way was reported by participants to be very effective. Participants highlighted the effectiveness of some of the PW module work and the tools, with reports of idea boards, books and sticky notes all being utilised, thus introducing a fair, equitable and structured approach to idea and suggestion generation.

'... since then our CNM2 has got really involved and really pushed it really ... and it's now really productive ... and she has done the suggestion boards and getting us to put like sticky notes, we have ideas about things and maybe if there's something that we think will work better a different way she has been very open to suggestions, getting us all to give our two penny's worth you know'.

Participant 16

A number of ward-team members (11 participants) reported that many of the Lean-based PW tools had provided them with a real structure for improving quality. It provided concentrated effort and focus for improvement which had been absent previously.

'We hadn't really a structure; you would have maybe randomised focus for a couple of days or weeks in trying to do something'.

Participant 2

Participants reported that the tools and activities had really helped them to identify and clarify where they could improve, providing a structured approach to solutions. In some cases PW introduced new systems of working and new ways of working, and the PW modules provided definitive structure to that. For some ward-team members it provided the tools that were previously absent to just look at things a little differently.

'when you go through this process mapping, it just shows you like just glaring up at you how you could do things easier'.

Participant 10

For some ward-team members, using the measurement tools, recording the small tests of change and measuring progress provided them with the structure they needed to demonstrate improvement and improvement activity. It provided the team with a platform to see their efforts and to remind them of their focus.

'we mark down for the couple of months we have pie charts and graphs showing this month it was bad and this month it was better and it's just to have it there really in black and white, it just makes it more real whereas before these were things that were happening in the background and you wouldn't think about them too much'.

Participant 16

Achievements and Successes

All of the ward-team members interviewed provided examples of what the initiative had achieved, and highlighted success in terms of: the improvements, the interest it created from outside the team, the waste it highlighted, the time it saved, the improvement awareness it created and the financial savings achieved (see Table 10.10).

Table 10.10: Constituent elements coded to 'Achievements and Success'

Achievements and Success	No. of References.	No. of Sources : 24
Improvements	133	22
Achievements	65	20
Created Interest from outside the team	42	15
Highlighted the waste	35	15
time saved	29	11
Other Achievements-Successes not attributed to PW	27	16
Created improvement awareness	18	9
Financial saving	6	5
Grand Total	355	

The vast majority of ward-team members (22 participants) outlined examples of the improvements that had taken place within their own ward environments. Practical examples were by far the most reported. Many of the big impact improvements cited were to the actual physical structure and layout of the equipment on the ward.

'but since the productive ward now we all know, this storeroom is for this standing hoist, this one is for the full hoist, this is where all the parts are kept, this is where the trolleys are. So you don't have to run around wasting your time looking for one piece of equipment, you know where to go if you really need the equipment. Before you'd come around it was all over the place, you'd spend half an hour looking you wouldn't find it'.

Participant 17

Other achievement examples highlighted how the improvements were delivered through collaboration and involvement with other departments, and many of the participants were taken aback by the level of interest from other departments who wanted to help or be involved in the initiative.

'Stores Department, they were able to implement a top-up system on the ward where they basically take away the necessity for us to stock control'.

Participant 2

Most ward-team members were excited to report the impacts and successes that they had achieved in relation to interruptions on the ward. For many, this resulted in new processes being implemented around historic practices, including lunch and tea breaks.

'the other thing was that we now allocate breaks, which we haven't done before because one of the other main interruptions that we found with the medication management was who's going on first break'.

Participant 20

Some ward-team members highlighted the 'team' aspect of their achievements. A number of the wards being studied had focused their attention on improving levels of uncertified sick leave on the ward, and some of the participants described with pride the success that was achieved with this. The impact of this focused improvement was revered by one ward-lead participant:

'This is unprecedented, it never happened before, so the productive ward is not just about saving time for us to spend time with the clients, it is also about you too, because when you don't burn yourself out running around, you are not going to be sick and that's it... you come in to work healthy'.

Participant 17

A number of staff (15 participants) described how their improvement achievements and successes had created or stimulated an interest in improvement in others outside of the team. The majority of the interest described was from other wards/departments and their managers who were either starting or wanted to get started with PW.

'Well I know some of the ward managers have yeah, they've seen how well it works and some of them I think are looking forward to doing I ... to try and get it going in their own ward'.

Participant 9

The impact of having others outside of the team show an interest in the improvement/achievements was reported very favourably. It was reported by participants in terms of pride and self-admiration for their ward and their work.

'I had an SHO on call the other night who came into the ward and was looking at the board and was just so interested and it's lovely for people to say, oh my god'!

Participant 22

Over half of the ward team members (15 participants) reported achievements in terms of the waste PW had highlighted. The most common waste reported was time, followed by the amount of walking and supplies or stock. One participant outlined that the initiative had clearly demonstrated time wasted away from the patients:

'it highlighted the main waste that we had. It highlighted that we spent a lot of the time away from the patient trying to get stuff to bring to the patient, em ... so whether that was equipment or medicines or just for personal hygiene'.

Participant 2

The issue of what to do with the time saved was referenced by a small number of ward-team members (6 participants). There was an absence of structured detail in relation to how the time could be used. Most participants felt that the time saved could be simply reinvested into normal ward activity, giving the staff time to think, clean or reorganise. One particular ward manager articulated the risks of not focusing on what to do with the time saved:

'you could say that the time saved could be used in an equally mismanaged way, if you don't keep the focus of returning this time to direct patient care'.

Participant 2

Nine of the ward-team members interviewed reported that the PW initiative was successful at creating 'improvement awareness' within the team. The measurement and metrics aspect of the initiative was reported as a key component in achieving 'improvement awareness' as it focused the team's attention on the problem and involved them in the solution:

'But because you see the safety crosses are allocated to a different staff member every day, they are all noticing ... because everyone is marking in if anyone falls and they are marking in about MRSA ... and this is information that never would have been at ward level'.

Participant 19

Surprisingly, only a small number ward-team members (5 participants) reported financial savings as an achievement or success. Only two participants cited any figures or actual cost savings achieved. All other reports and references from ward-team members were in relation to affirmations that the initiative had saved money.

'I suppose with the stores and everything there are cost savings that I'm sure have been achieved in some way'.

Participant 8

'Well from my own perspective I would say cost has definitely has come down a lot because we are not storing things on the ward that we don't need, that's a very good idea, the store rooms are kept up to date'.

Participant 23

A moderate number of staff (16 participants) pointed to a variety of other reasons for the successes and achievements made during the PW initiative that were not necessarily attributable to PW. These participants were very keen to point out the various other organisational or contextual factors that could be credited with these successes and achievements.

'but a lot of it is when you stop and think about it is what we have been doing already, like we would have worked on the handovers to review them but not in the format of productive ward but in the format of the Mercy, we had streamlined it, we have printed hand-outs to guide you on the care plan with years in the Mercy, the meals we would always have looked at, the medications and the aprons are in for years before ever productive ward came'.

Participant 15

Impacted on Patient Experience

A number of ward-team members (17 participants, 55 references) reported that the PW initiative had impacted on the patient experience. The impact was mostly reported in terms of how the initiative provided and maintained a patient focus and had improved the patient experience (see Figure 10.11).

Table 10.11: Constituent elements coded to 'Impacted on the Patient Experience'

Impacted on the Patient Experience	No. of References	No. of Sources : 17
Maintained Patient focus	42	14
No impact on the patient experience	7	6
Improved Patient experience	6	5
Grand Total	55	

Many of the participants (14 ward team members) reported that the patient experience was mostly impacted because the PW activities had maintained a focus on patient care. The majority of the process modules impact directly on patient care improvements, and although many of the ward-team members had just started these modules, they reported the effects.

'you can see now that the patient gets the drugs quickly, this medication that they are prescribed or that they need'.

Participant 2

'we now have quite a good lunchtime focus with the radio off and the TVs and that sort of thing and the focus is on sitting down and making eye contact with somebody at meal time'.

Participant 3

The time that was released from other activities was described as a benefit for the patient and thus impacting on the patient experience. Although there was no evidence of any structured plan for reusing or reinvesting the time that was saved from any of the teams interviewed, having a little more time to do the extra things for patients, improving their experiences, was reported as a key benefit.

'I suppose at the end of the day I mean it's great to think maybe that you could make some patient happy, like playing one game of cards, it would surprise you like, we had a ninety-year-old lady here who like never... the girls took out a deck of cards here one time and they never knew she was able to play cards and like she was in her element do you know... and three or four of them around the table playing cards and it's beautiful like to have that time'.

Participant 14

Five ward-team members alluded to not involving or engaging patients in the PW initiative at all. This was reported in terms of participants feeling that patients either did not need to know, or just would not notice. It must be noted that this was not the majority or consensual view and was reported by less than 25% of participants.

'have we ever said to the patients we are on this productive ward? Personally...I haven't said it, and I don't know if that's the way to go or do they need to know'?

Participant 4

Enabled Change

Just over half of the ward-team members (13 participants) reported that the PW had enabled change. A number of participants commented on how the improvement aspect of the initiative had created an understanding of change and the need to change. One ward manager highlighted that the improvements were seen as a benefit which paved the way for change by most team members:

'I think people are willing to embrace change for the better now definitely, because they know number one, they are going to be rewarded and they know what it's all about. The vast majority now I'd say, you won't have everybody all the time anyway so you have to allow for that'.

Participant 23

A number of participants identified that it is the benefit or improvement aspect of PW which appears to appeal to the team and override their traditional reservations about change. Involvement in the improvement and solution activities was credited with making team members more open to change. Some ward-team members reported that the measurement aspect, the data collection and improvement metrics, had enabled the ward teams to implement change by allowing them to see that there are actual problems and a need for change.

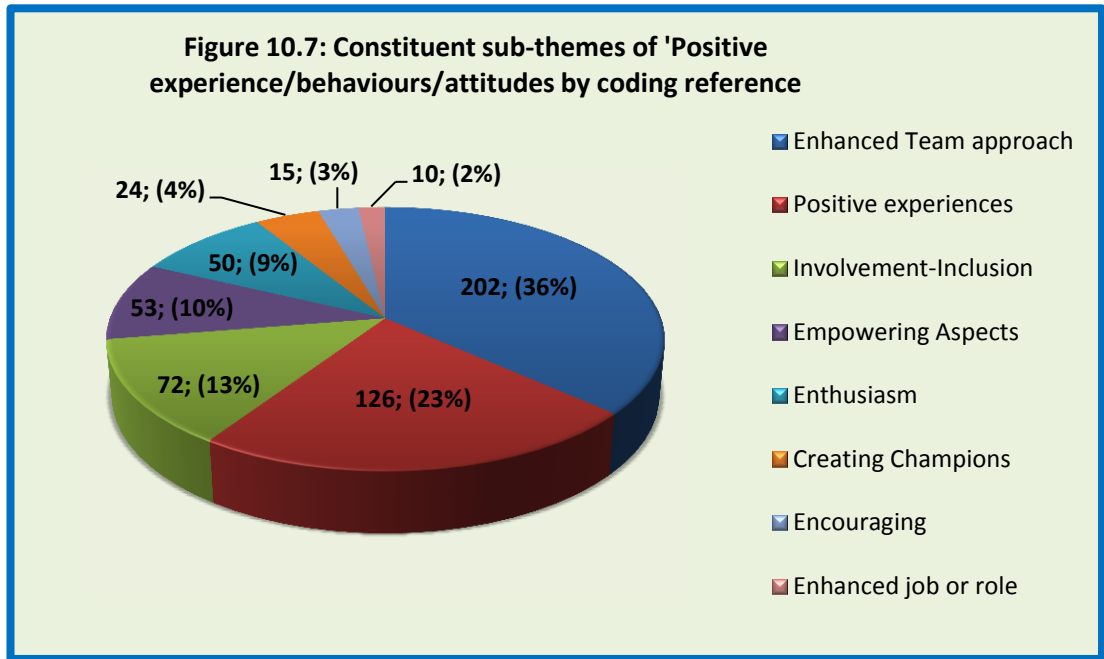
'No they were open to it really I think if it was going to make an improvement and make their working life a little bit easier everybody was for it really to be honest.'

Participant 3

There were some reports that PW and its tools and methods had enabled ward teams and ward managers to make all manner of changes under the guise of PW. Ward teams identified PW and many of its activities as the catalysts for change.

10.3.4 Positive experiences, behaviours and attitudes

All of the ward-team members identified positive experiences, positive behaviours or positive attitudes from their PW experience. The constituent subthemes are presented in Figure 10.7 and only the main components are addressed in any detail.



An enhanced team approach

The majority of participants (202 references from 21 of the participants) reported that the PW had impacted and enhanced the teamwork on the ward. Ward-team members expressed their experiences of enhanced teamwork in three specific ways: the approach to teamworking, the interest from the team and the way the initiative involved the team (see Table 10.12).

Table 10.12: Constituent elements coded to 'An Enhanced team approach'

An Enhanced Team Approach	No. of References	No. of Sources: 21
Involving the team	95	21
Interest from the team	56	19
Enhanced Team approach	51	14
Grand Total	202	

Fourteen of the participants reported that PW had an impact on the ward's approach to teamworking. In particular they reported how it reinforced a sense of being part of

a team, inducing individuals to work together on small improvement projects, encouraging an additional level of communication and liaison.

'Yeah we have teams, there's been teams, there would be two others on my team and we try and liaise with each other, if we are on the same shift well and good but if we're not we would leave communication for each other'.

Participant 9

There was evidence that the PW approach had given less vocal members of the team (junior members and junior grades) a voice and an opportunity to contribute to the team that was previously absent. A large number of the interviewees (21 participants) reported that it was the 'involving' element of PW which had attracted participation and enhanced the team approach. It afforded all team members opportunities that were not previously available.

'it also gives an opportunity to staff on the ward that are interested to bring about change which you mightn't have had before, you know the staff that would have had the ideas last year, wouldn't have got the chance possibly to bring them to the fore'.

Participant 2

'I remember the ward clerk Noreen when we had some of the initial meetings that you know she knew a lot of kind of stuff to go in the correct place, or make a new drawer, or make a new shelf or even the doors'.

Participant 8

A small number of participants reported that the PW activities had reached out and involved other external ward-team members like physiotherapists, social workers and porters, and included them in the ward's improvement activities. They highlighted how getting 'external' team members on board proved difficult in the past, but the initiative's inclusiveness and openness to solutions to problems had appealed to others.

'So we used the portering service and we took them on board and they have completely taken ownership of that service which means it's safe and effective and it's going more streamlined'.

Participant 21

innovative nature of the initiative. The initiative also appeared to attract personal support from ward-team members who had prior bad experiences of similar change or quality initiatives.

'In the beginning I was a sceptic, because we did some other project in the beginning, I can't remember what it was called but it died a death. Years ago, so this feels different'.

Participant 19

Positive experiences were also reflected in 'programme value' statements from ward-team members. Twelve participants contributed to this subtheme. Example programme-value statements include:

'I think the concept is great...and it's certainly needed'.

Participant 1

'I mean I certainly see the benefits of it, because I was never involved in anything like that with a team approach'.

Participant 9

Involvement and inclusion

The majority of ward-team members (20 participants) reported that they had found that the initiative had stimulated the ward team to get actively involved. The improvement activities, small change projects, planning, reporting and meetings essentially encouraged people to contribute to the initiative. Openly displaying the improvement metrics was one aspect that was reported to have actively encouraged debate, awareness and involvement.

'I suppose they're all engaged in it and everybody is aware of the falls at the moment'.

Participant 3

There was some evidence that the initiative appeared to have created a culture of participation and involvement that was not present prior to PW. The 'releasing time' or 'saving time' element was reported to have motivated ward-team members to get involved in improvement.

'like that was why everybody embraced it when it came out earlier it was going to save us time you know and now the time I can say was really saved'.

Participant 17

Other ward-team members explained that they were motivated to get more involved because of the extra responsibility awarded or associated with many of the improvement activities and small projects. Leading on a small aspect of the initiative or an improvement project was reported to have made ward-team members feel involved and included.

'I think it's a bit of responsibility and it makes you feel even more so you're more part of the ward than maybe what you would have been, you have a part to play no matter how small it is and even if it's only keeping an audit'.

Participant 9

Empowering aspects

Just over half of the participants (13 ward-team members) reported being empowered or having experiences of empowerment from their PW experience. These were represented in the main by four subthemes: PW provided opportunity or permission to improve, the approach empowered people to improve, people felt empowered to make changes and they felt empowered because they had the knowledge or tools to improve (see Table 10.14).

Table 10.14: Constituent elements coded to 'Empowering Aspects'

Empowering Aspects	No. of References.	No. of Sources: 13
Provided Opportunities-permission	26	10
Empowered by the approach	14	8
Empowered to make change	8	6
Empowered with Knowledge	5	3
Grand Total	53	

Ten of the participants described how the initiative had provided opportunity and permission to change or improve things. They reported that the PW activities had provided them with opportunities to think differently, had promoted delegation and had let ward-team members be creative and innovative with their solutions. It provided ward-team members with a platform to instigate change:

'Often if somebody has an idea like they are let sort of go and develop it themselves...'

Participant 7

'I think without the productive ward it probably wouldn't... maybe we wouldn't have had the initiative to do it you know.'

Participant 1

Having the freedom to use the modules and tools to find ward-based solutions was described as empowering by some participants. Allowing staff to get involved in the improvement activities from the start promoted empowerment, ownership and commitment. This was reported to have instilled a sense of pride amongst the team but especially the junior team members.

'If somebody had helped me get started it would have been helpful, but on the other hand you know it would have been... nothing would have changed. I wouldn't have taken you know... you wouldn't use your own initiative when you are not empowered'

Participant 19

'The two of them did very well and it gave them a bit of power and it's nice for them to have that as well'.

Participant 20

A small number of ward-team members (8 participants) outlined that it was the approach of PW, and the accessibility of corporate support, that was empowering. The initiative had empowered the ward team by giving them a voice with the management team. It had provided them with the tools and the knowledge not just to make changes and to improve, but also to substantiate the case for change and improvement.

'It gives us a voice with all management levels ... since we have become a pilot ward it has given us, given us a, the ability basically to put a case forward'.

Participant 2

Being empowered by the initiative and the new improvement methods was also highlighted as being potentially frustrating. This was reported in terms of the newly acquired knowledge and skills leading to higher expectations and the frustrations experienced when progress towards improvement was slow or staggered, or if there was little corporate engagement or support.

'I feel very empowered by it, but very frustrated by it as well I suppose, but it has given me good, em, it has empowered me definitely to use my own initiative more than I have done before'.

Participant 19

Enthusiasm

A substantial number of the ward-team members (19 participants, 50 references) described an impact on levels of interest and enthusiasm with the PW initiative and its activities. Many described the heightened levels of enthusiasm when the initiative first started. Some participants highlighted that the enthusiasm was driven by the novelty and challenge of the initiative. Others reported that it was the benefits and the improvements which had driven enthusiasm and energy for the initiative.

'so when we signed up for the initiative initially and we were all gung ho for it'.

Participant 3

'this is all new to us, something nice, something challenging and something that we hoped we could do and which we have embraced'.

Participant 4

'the staff know because they are seeing it every day and they are seeing the benefits, red tape on the floors, all that kind of stuff. It's all new, it's change. They like it and they see the benefit of it that kind of thing it's good for staff morale'.

Participant 18

One ward-manager participant described how the interest experienced at the onset of the initiative has remained throughout.

'There was a buzz about it in the beginning they were saying I must go down and clean up my office, they had read the books. I think there is still a buzz about it'.

Participant 19

However, not all participants witnessed immediate enthusiasm and energy. There were some examples of very little enthusiasm at the start of the initiative. Some participants reported that the enthusiasm and interest did not manifest until some progress, success and achievements were experienced.

'I mean it's like anything, you start something new and nobody wants to get involved in it you know, but you have to sort of get the interest going and show them the reason why you're doing it and why it's going to help, that to me is important'.

Participant 9

There were very few concerns reported in relation to the sustainability of this heightened enthusiasm. When probed during the interviews, there was no evidence that participants felt concerned in any way that the levels of energy and enthusiasm would diminish.

'I don't think I'll have to worry about it, it's engrained in me, that enthusiasm hasn't left me...I think I'm living and eating it really I suppose, as I think when I go home I'm thinking productive ward all the time'.

Participant 19

Creating champions

Fourteen of the ward-team members interviewed reported that the initiative had created champions for improvement or change. Champions were reported in terms of internal team members (who embraced, managed and delivered change and improvement) and external co-participants from other organisations involved in the initiative. These external champions (mostly other sites that had made a lot of progress with PW) were held in some regard and regularly referenced and benchmarked against.

'it was great to hear their story and hear what was going on in their ward and some people were really up there and Roscommon were really up there and they have been running a while'.

Participant 4

Internal champions were reported as naturally emerging; they were team members who had led or championed some aspect of PW – a small project or change. These champions were then utilised by the ward leads for further improvement projects or PW work.

'I sometimes feel there are now certain people, I know who I can champion, and I know the ones I can ask'.

Participant 4

Attending the PW training was identified as the key contributing factor to becoming a champion. A number of participants reported that it was generally the staff who had attended training that became champions. They were reported as the ones who were full of ideas.

'the girls now who went to the study day last week two or three of them came back full of ideas for the last two or three days in fairness to them, and they are very valid ideas, so I sent a few to the stores this morning to follow through with their ideas, so they would have a great chance to shine'.

Participant 11

'we can see the benefits of it since we did the two days, we can really see it and you really come out buzzing from the whole two days and you feel you can fix it all'.

Participant 24

There was some evidence that there were certain contributing contextual factors which enabled and prevented the emergence of champions. Age was cited as a possible enabling factor as was the stability of the ward team. The turnover of ward staff or the movement of staff between wards was highlighted as a disabling determinant in the creation of PW champions.

'the core of staff nurses who are involved, we'll say there are four of five core people who are here for seven and eight years, I don't mean to be ageist, but they are in their thirties, mid-thirties, they are at the top of their career, they're experienced and they got involved in the productive ward and they did all the training, right, so they know where they are at, they are the leaders really you know they understand'.

Participant 18

'Yeah the most likely champion I'd have is one staff nurse, the difficulty is my other two staff nurses and people would be moved in January as far as I know which is difficult cause there are less people'.

Participant 20

Encouraging

Just under half of the ward-team members (11 participants, 15 references) reported that they found the initiative and the improvement activities had an encouraging effect. This was reported by one participant in terms of the activities and new opportunities afforded to all team members, including those who were not previously afforded chances to engage or lead:

'it also gives an opportunity to staff on the ward that are interested to bring about change which you mightn't have had before, you know the staff that would have had the ideas last year, wouldn't have got the chance possibly to bring them to the fore'.

Participant 2

Participants reported that the most encouraging aspect of the PW was the feedback that was received from management in relation to the progress and the improvements that ward teams had made. Ward-team members reported that when positive feedback was received, it renewed and encouraged their efforts, making it all feel worthwhile.

'I think if you hear somebody saying 'it's lovely' god sure you keep doing it'.

Participant 7

Enhanced job or role

A small number of ward-team members (5 participants) reported that their job or role was enhanced in some way by the PW initiative or by undertaking its activities. They described having more structure to their work or their shift, and a heightened sense of responsibility and involvement.

'you know you have more of a defined role at the start of your shift I'm going to do this and they are going to do this and we'll meet in the middle, rather than everybody trying to do everyone's job and nobody getting anywhere, you know it's way more structured now definitely'.

Participant 7

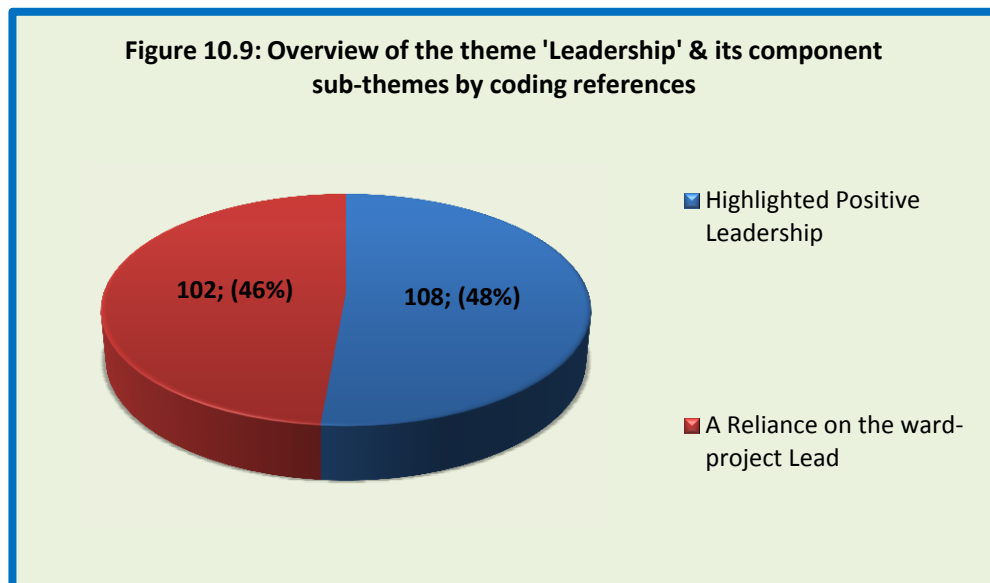
There were reports that involving some of the non-nursing grades in the improvement activities enhanced and enriched their roles and jobs. It was reported to have given the support grades a new understanding and purpose within the team. One ward manager explained how having the patient details on a board directly enhanced the role and the understanding of one particular member of the support staff:

'we have a regular girl Monica that comes into us and I was just blown away a couple of weeks ago, when I came into the office and she was looking at the board. I said to her are you ok Monica and she said I just wanted to see why he had C Diff today. I didn't think he had it yesterday. What if somebody was to come in and we didn't know that there was a history of C Diff until the following day, or until the family told us that there was a history ... this was from a cleaner, wasn't that impressive'.

Participant 22

10.3.5 Leadership

All of the participants (223 references from 24 ward-team members) reported that leadership (or an aspect of leadership) had been influenced or impacted by participation in the PW initiative. It was reported in the main via two subthemes. Firstly, all of the respondents reported a reliance on the ward or project leader and their ability to communicate effectively. Secondly, all of the ward-based team members identified that the PW initiative had positively highlighted the ward manager's leadership performance (see Figure 10.9).



Highlighted Positive Leadership

All of the ward-team members (24 participants) reported that the PW initiative had highlighted elements of positive leadership in the ward team and the ward leader. This subtheme contained coded references from three main supporting sub-nodes. The initiative impacted on the ward manager's/leader's influencing skills, helped them in the way that they managed and promoted positive leadership within the team (see Table 10.15).

Table 10.15: Constituent elements coded to ' Highlighted Positive Leadership'

Highlighted Positive Leadership	No. of References.	No. of Sources : 24
Ward manager/leaders influence	46	19
Helped ward lead/manager to manage	37	19
Positive Leadership	25	12
Highlighted Poor Ward-Manager Leadership	13	4
Grand Total	121	

Nineteen of the ward-team members reported that the PW initiative had impacted on the ward leader’s influencing skills. This was mostly reported in terms of how the initiative had helped with the delegation of work to and within the team. A number of the ward lead participants highlighted that being involved in the initiative had made it easier to ask ward team members to do additional pieces of improvement work, as there was now an ‘improvement’ cause.

‘I suppose it’s easier now to say to someone would you mind doing that for me you know and dish out a few jobs.’

Participant 9

The prescribed PW module work was identified as one of the determinants which encouraged some ward leads to adapt their own leadership and influencing skills. The module workbooks actively encourage a strong, inclusive team input into all improvement activities, which compelled many ward leads to adapt their modus operandi. One ward-lead participant acknowledged:

‘I’m beginning to change the way I, the way I delegate, the way I communicate, slowly only beginning to change. That doesn’t happen overnight’.

Participant 19

The change in modus operandi by the ward leads did not go unnoticed by the ward team. A large proportion of participants (19) identified that the PW initiative had actively helped the ward lead improve the way the ward was managed. Ward team members identified this as occurring in a variety of ways including the availability of metrics and evidence, improved structure, a renewed interest in the way the ward worked, and some new innovative tools and methods to work with.

‘It has given her that little bit more back up and trying to see the stuff that works and this is the reason why it works’.

Participant 9

'Yes she has been given the ideas and the methods to work with it you know and she has now, to give her her due'.

Participant 16

'Well I definitely think it has helped the ward manager herself definitely it has helped her in a lot of ways, because I can see myself now she has brought in a lot of new ideas that she maybe would never have thought of you know and even in the way she communicates to people I think she has improved an awful lot but now that might come with time too'.

Participant 23

Just over half of the ward-team members (13 participants) reported that the PW initiative had promoted a positive leadership response from within the ward team. This was mostly reported by the ward leads describing how leaders had emerged from within the teams during the initiative or after undertaking the PW training.

'I didn't allocate leaders in the beginning but some people took natural leadership within those groups. So I didn't specifically pick anyone'.

Participant 19

'they got involved in the productive ward and they did all the training right, so they know where they are at they are the leaders really you know they understand'.

Participant 18

As well as the positive leadership impacts that were reported, a small number of poor or negative ward leader performances were identified by a minority of ward-team members (4 participants). It should be noted that three out of the four participants were from the one location and all three were critical of the ward lead (manager) throughout their interviews. They reported poor communication, lack of meetings, no information sharing and little access to the PW materials. They did, however, acknowledge that the poor attitude they had towards the ward lead was a result of poor preparation for the initiative and the approach taken when introducing it.

'Yeah it was said and then it was just done, but there is awful backbiting'.

Participant 6

Reliance on the Ward/Project Leader

Twenty-four participants reported a reliance on the ward or project lead in relation to PW implementation and the many improvement activities associated with PW. In some cases, over-reliance on the ward or project lead was reported as a reason for lack of progress or poor momentum, and if the ward was busy or the ward or project lead had other priorities, the initiative was affected.

*'So *** was out sick for a while so that kinda made things step back for a while'.*

Participant 5

In some of the sites there was a strong sense that the initiative would probably be discontinued without a strong ward leader driving it. It was reported in some cases that the initiative itself was wholly dependent on the ward lead in terms of ownership and progress. This resulted in some of the participants associating the improvement work as driven by the ward lead and not the PW initiative.

*'It could do (fizzle out), as in it wouldn't be as much of a priority as in yeah I suppose unless there was another person assigned in the place of ***'.*

Participant 8

*'if you went over this minute now and asked the girls, they would say that is all ***'s project do you know'.*

Participant 4

The vast majority of ward-team members (23 participants) reported that the impact and effectiveness of the PW initiative was related to the ward leader's communication style, ability and outputs. Ward-team members identified effective meetings as the cornerstone of good communication and highlighted the important role that the ward leader played in organising/managing those meetings and sharing the information. It was reported that the format of the ward-lead meetings did not have to be large, formal arrangements. Short, regular, consistent informal information dissemination was reported to be effective.

*‘*** has really put her heart and soul into trying to have us all filled in and you know it’s certainly been implemented’.*

Participant 9

‘Well you just make time you know our line manager is the type of person that well we’ll just have ten minutes now and we’ll talk about the productive ward you know once a week and it’s regular, set in stone’.

Participant 23

A number of participants highlighted the impact that the ward lead’s communication style had in relation to engaging and motivating active participation in the PW activities. The ward lead being open and receptive to new ideas and innovations was reported positively.

‘Well she’s very approachable now to be honest, if you had something to say that would make the ward more effective and that you thought would make it less work for someone which would be easy to do, something else more productive, she was very approachable’

Participant 16

Ward leads not having regular meetings and not openly sharing information were reported as negative communication aspects. A few participants reported examples of poor communication, irregular meetings and autocratic approaches to allocating improvement activities and decision making. These approaches were reported to have negatively impacted on the teamwork and the level of involvement with the initiative.

‘it’s very eh whatever... if you could just do that and you can do that and you know it’s not kind of what qualities or what people’s skills are and I don’t know maybe she made that decision for us, just to get us involved’.

Participant 6

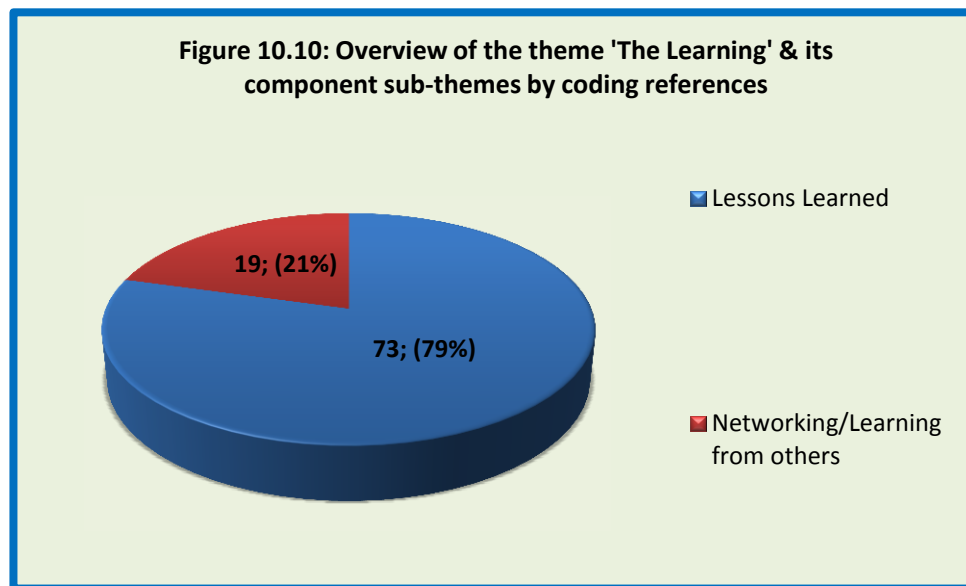
‘I do think they feel there is not enough of a team involvement...that one person takes the lead and we’re basically told what to do after the decision has been made’.

Participant 11

10.3.6 The learning

A number of participants (92 references from 21 participants) highlighted what they had learned from being involved with the PW initiative. The learning was represented via two main subthemes – lessons learned through implementation of PW, and the

learning that happened via networking with other teams involved in PW (see coding reference breakdown in Figure 10.10).



Lessons Learned

Twenty-one participants highlighted a number of areas where lessons were learned, and what they would possibly implement differently if undertaking the initiative again. The main areas identified were communication; effective meetings; the need for more training, more allocated time and more designated staff; the need to involve the team more and to start small.

A number of participants reported that communication was the one aspect of implementation that they would improve. A bigger marketing campaign in each location was suggested, as was clear, consistent marketing, with expectations articulated by the hospital management team.

'I'd bring management down to speak to staff and tell them what it's about, what is expected of them, what the plan was, what the outcomes were going to be, how long it was going to take, when you were going to start seeing improvements you know'.

Participant 6

A small number of ward-team members outlined that they would encourage more regular, effective meetings and they highlighted the importance of having one platform for idea exchange and forward planning.

'I am not really sure what stops the ideas, I suppose maybe a lack of ward meetings and things like that or maybe lack of opportunities to sit down and think about it or maybe just look at the modules and see what's coming up next or that kind of thing, maybe lack of meetings is the thing'.

Participant 13

A number of participants reported that the ward team required a lot more training. Receiving the training was identified with more involvement, more enthusiasm and a tenacious commitment.

'I would give everybody the option to go on the study days at some stage or another because I think when you are not at the study days and you are not involved in it, you don't really care'.

Participant 12

Participants also reported that they just did not have enough time allocated to the initiative and its activities. Some ward-team members highlighted how more dedicated time for the initiative would encourage more ideas, innovation and committed implementation. Others participants identified additional staffing resources as the key lesson going forward, comparing what had been achieved with very little with what could be achieved with more.

'finding the time to do it is a challenge, but then you know I get four hours a week, some weeks. Is that enough, I'd say it isn't. If you gave me four days a week would I have enough, you know there is always so much that can be done'.

Participant 2

'I would say if only there could be one or two extra staff in the unit that would be great, that is when you really see the benefit of the productive ward. Because if we could save us a little or as much as we have saved, imagine how much we would save when we are adequately staffed then we could save more and that is when the clients would see the impact of time saved'.

Participant 17

A number of participants highlighted how involving the team more in the activities was a key lesson. It was expressed that involving all grades more in the initial stages was a vital component to ensuring buy-in and team commitment.

'I think overall it's a good idea and I did say to them once, everybody is on board from attendants, care assistants, nurses, everybody has to be on board'.

Participant 12

One participant highlighted that the main lesson learned on her ward was in relation to starting small:

'I guess, you know what have we learned from having it here... If another ward was starting tomorrow, there are other wards also getting the pilot, one in maternity and also there is another ward St. Pious's, I think em, I guess it would be the challenge of trying to achieve the small parts and get the results from that and then use that to get buy-in from everyone'.

Participant 2

Learning from Networking with Others

Seven ward-team members highlighted the learning that was achieved through networking with others. Some of the participants reported that it was the networking and swapping of stories that benefitted the learning. Ward-team members identified that there was a lot to be learned through exchanging information on what worked well for others during implementation. A number of participants described the ideas and learning that were taken from a shared PW event.

'when we were down in Cork that day there were people there from South Tipp and from different parts of the country and it was great to hear their story and hear what was going on in their ward'.

Participant 4

'I saw a poster at the conference where somebody did out, according to the six phase process of patient falls what they did for falls, so I thought to myself I should have been doing that all along and I haven't been doing it'.

Participant 19

10.4 Further Exploration of the Data

The results of the quantitative phase of this study (Chapter 9) identified significantly higher engagement scores amongst the specialist Elderly sites at T1 and the specialist Rehab and Elderly sites at T2. They also highlighted the variation in engagement scores across the various employment grades, with Nurse Manager and Care Assistants having the highest engagement scores. It therefore seemed appropriate to explore whether participants from different sites and employment grades reported different

experiences of implementation in the qualitative results. An in-depth analysis of coding citation counts and patterns by site and grade was performed and is reported in appendix R.

The analysis indicates that the sites with the highest engagement scores (Elderly and Rehab) and the grades with the highest engagement scores (Nurse Managers and Care Assistants) are also significantly represented in the number of coding references under one particular outcome or output theme; 'positive experiences/behaviours/attitudes'. This would suggest some correlation between WE and participants reported outputs of positive experiences/behaviours/attitudes (or vice-versa), and merits further interrogation and discussion.

10.5 Are Positive Experiences, Behaviours and Attitudes linked to WE?

There were nine constituent subthemes identified under the theme positive experiences/behaviours/attitudes (see 10.3.4); an enhanced team approach, positive experiences, involvement-inclusion, empowering aspects, enthusiasm, creating champions, encouraging and enhanced job or role all contributed to the theme. The main point of interrogation will focus on identifying elements of the WE construct within participants reported. The definition and construct of WE outlined in Chapter 6 (vigour, absorptions and dedication) provides the lens with which to examine the positive experiences/behaviours/attitudes and constituent sub-themes.

Enhanced team approach and WE

The vast majority of expressions related to the enhanced team approach that was experienced during PW implementation. Participants mostly described the enhanced team approach in terms of how the PW tools and team exercises induced individuals to get involved in small projects or improvement exercises and the impact that had on ward-team members who wouldn't usually get involved. This expression of involvement and contribution can be aligned alongside the 'dedication' element of the WE construct, described as being strongly related to 'work involvement and identification (the ability to separate oneself from work)'. It is therefore possible to

argue that implementing PW, using the associated tools and exercises, influences participant's sense of work involvement and 'dedication'.

Positive Experiences and WE

Almost all participants provided positive statements of support for the PW programme and the initiative in general. Many of the references were in relation to the time that had been retrieved, how much easier it was to get work done and how people were getting much more involved in their work and improving their work. These expressions can be aligned with the 'absorption' element of the WE construct, where absorption is characterised by 'the ability to concentrate and become engrossed in one's work, where time appears to pass quickly and it becomes difficult to detach from work'. It is therefore plausible to suggest that the activities associated with implementing PW releases some work-time, allowing people to get more 'absorbed' in their work.

Enthusiasm and WE

A large proportion of the participants described increased levels of interest and enthusiasm within the ward team during the implementation of the PW programme. Some ward-team members expressed that the energy and enthusiasm was driven by the many improvements realised. Others described how the enthusiasm and interest took a little while to develop after commencing the programme. There were also some concerns expressed about how long the 'hype' and enthusiasm could be sustained. These expressions of energy and enthusiasm are comparable to the description of the vigour aspect of the WE construct, where vigour is defined as 'having high levels of energy and mental resilience while working'. Enthusiasm also features within the description of 'dedication' where it is characterised by a 'sense of significance, enthusiasm, inspiration, and pride'. It is therefore reasonable to assume that the implementation of PW (the tools and activities) produces improvements which create heightened levels of energy or enthusiasm (vigour).

Empowering Aspects and WE

Whilst there are no aspects of participant expressions within this sub-group that can be aligned to the descriptions of vigour, dedication or absorption, some of the descriptions provided by participants paint a picture of 'engaged' ward-teams. Many of the participants described being given 'permission' and the 'opportunity' to be innovative and creative with change. Having this freedom to 'improve' and find 'solutions' is reported as manifesting a sense of pride amongst the team. This sense of pride could be interpreted as being somewhat similar to that sense described earlier within the WE characteristic vigour.

Creating Champions and WE

Just over half of the participants reported that implementing the PW had created champions for improvement and change. Whilst no aspects of participant feedback in this sub-category can be specifically aligned to either vigour, absorption or dedication, there are references from participants in relation to how implementing PW allowed champions to naturally emerge. Champions were regularly identified by participants as those who had received training. There are a number of citations indicating that the staff who had attended formal training were much more enthused and full of ideas. It is not therefore unreasonable to assume a linkage between being a champion, the associated enthusiasm and aforementioned comparison to the WE construct vigour.

10.6 Discussion of the Results

The primary aim of the qualitative phase of this study was to explore the experiences of PW participants in order to examine their perceptions and reflections of the initiative, its implementation and impact. It also proposed to consider aspects of participants' experiences that might impact upon their levels of engagement. The views of 24 ward-team members were therefore explored using semi-structured interviews which captured their experiences and perceptions of, and reflections on, the initiative and its implementation.

In order to further probe participants' experiences, for elements that may impact their levels of engagement, this phase of the study utilised the findings from the

quantitative phase to examine the relationship between WE rankings and patterns and citation rankings and patterns (Appendix R). This provided some specific direction for addressing the question; what elements of participants' experiences impact on engagement?

An additional aspect that requires discussion relates to the data collected and whether it was sufficient enough to answer the relevant research questions. Did we learn more about the 'engagement' of participants in this phase than the quantitative phase in chapter 9?

Whilst this discussion section is largely narrative, the findings of this phase, along with the other two research phases, are discussed more critically in Chapters 11 and 12, together with their implications for research and practice.

10.6.1 RQ2 Consideration of participants' experiences (perceptions and reflections) of the PW initiative, its implementation and impact?

The semi-structured interviews with ward-team members resulted in detailed and extensive accounts of their experiences of the PW initiative and its implementation. Preliminary analysis of these experiences provided descriptive codes and themes which produced transparent evidence of participants' real-life experiences of PW. Although this level of subtle analysis is often dismissed as simply descriptive, organising and reorganising the data and themes provided both structure and understanding in relation to the framing of participants' experiences (Wolcott, 2001).

The subtle analysis, reflection and conceptualisation outline key relationships and interdependencies between many of the themes. In particular, the theme 'how the initiative was implemented and managed' and its considerable coding reference contribution influence's all four other themes, impacting directly on them. The way that the initiative was introduced into each location appears wholly to influence the outcomes and outputs that the initiative can achieve. The other four themes: organisational benefits, positive experiences/behaviours/attitudes, leadership and the learning have been conceptualised as the outcomes or outputs of the initiative, having

some interrelation or association (see Appendix S). In particular, there is little doubt of the influence of the outcome/output 'leadership' for all other themes.

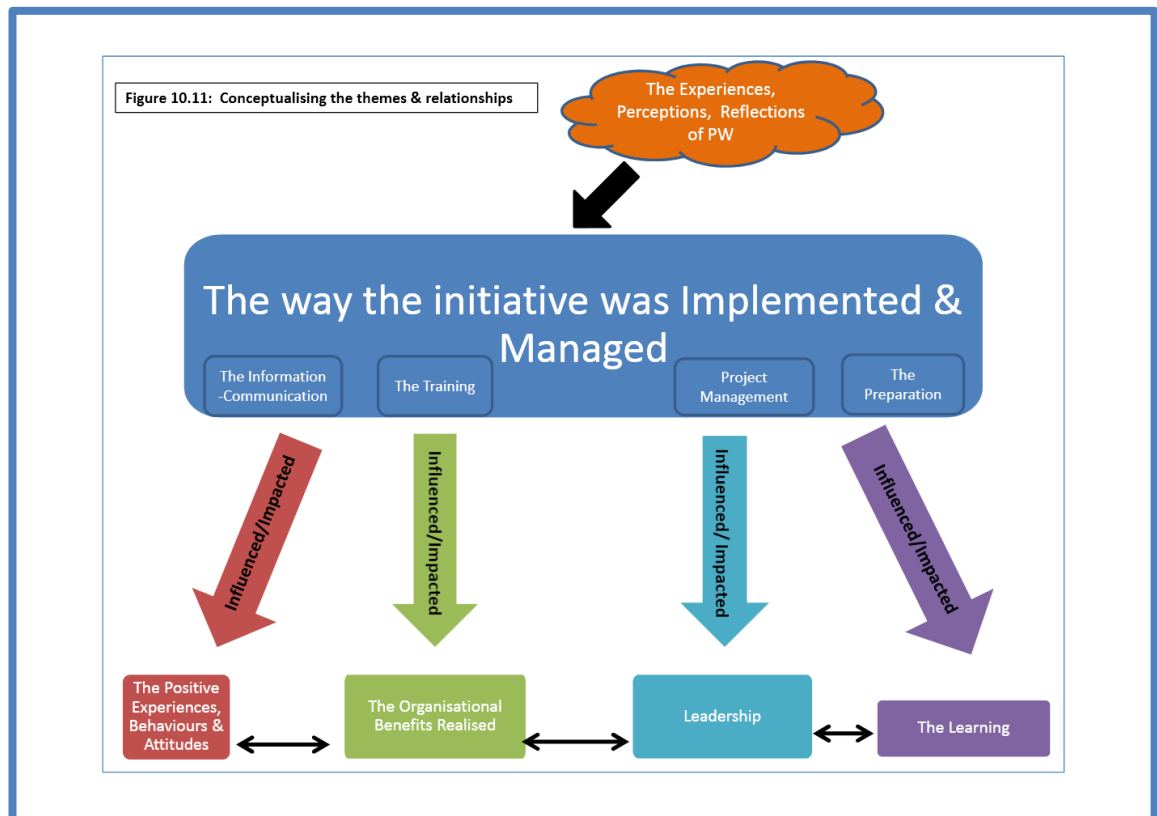
In turn, it is suggested that the positive experiences/behaviours/attitudes realised by participants are related to their levels of engagement and in some way influence the way organisational benefits were realised. Figure 10.11 conceptualises the relationships and influences between the five themes identified. This illustrates how the theme 'how the initiative was implemented and managed' dominates the feedback of experiences and reflections from participants and has impacted on all four other 'outcome' or 'output' themes. Although not strictly QI outputs or performance, they are still measures of performance (especially the organisational benefits realised) and they go some way to addressing P5, outlined in Table 10.17.

Table 10.17: Summary of Support for Proposition Relating to RQ2

Proposition	Support
P5: There will be common key elements/factors of implementation that have both a positive and negative impact on WE and thus QI performance.	Semi-supported

Figure 10.11 also illustrates some association and interrelation between the other outcome/output themes. These relationships reflect the multidimensional complexity of implementing and managing a QI initiative and the extensive and varied outputs and outcomes that can be expected.

Figure 10.11: Conceptualising the themes and relationships



Further explorative analysis established that the experiences of participants varied considerably across the four specialty sites (see appendix R). These explorative findings direct attention to three key points.

Firstly, the finding that Rehab sites were considerably more descriptive, with more coding references than any other site, is worthy of discussion. There are a number of possible explanations for this unexpected positive relationship. The first explanation to be considered is that as a group, Rehab specialty sites host a relatively engaged group of participants. Although they are ranked second in terms of overall mean WE scores, they are the only group to increase their WE score from T1 to T2 (see Chapter 9).

Secondly, one cannot overlook the considerable differential observed in the coding reference pattern of the Rehab site for the theme 'leadership'. The nearest coding reference specialty site is Medical, with a differential of almost 50%. The Rehab sites in this study have an obvious positive relationship with leadership. It is therefore

entirely plausible that leadership was a key element in the Rehab sites that positively impacted on the majority coding patterns observed in three out of five main themes.

The third key point of interest relates to the finding that the Elderly and Rehab sites reported more positive experiences/behaviours/attitudes than the other sites, in the order: 1. Elderly 2. Rehab 3. Surgical 4. Medical

This explorative finding in some way supports the results outlined in the previous chapter, which identified higher WE scores in the same pattern of sites over a 12-month period. In addition, the reported positive experiences or behaviours (enhanced teamwork, involvement and inclusion, empowerment, enthusiasm) correlate with their combined measured levels of Vigour, Absorption and Dedication (WE). More importantly, this explorative finding provides a platform and focus for further analysis by confirming a relationship could be established between coding reference patterns and WE-score rankings(see appendix R).

These explorative findings and conceptualisations also go some way to supporting P3 (Table 10.18) by identifying relationships between the ranked coding patterns of reported positive experiences/behaviours/attitudes, the Rehab and Elderly site specialties, and WE.

Table 10.18: Summary of Support for Proposition Relating to RQ4

Proposition	Support
P3: That a positive relationship will be found between PW participants' experiences (perceptions and reflections) and WE.	Semi-supported

10.6.2 RQ3: Consideration of the elements of participants' experiences impact on engagement?

The correlation between positive experiences/behaviours/attitudes and WE (identified in appendix R) is most noteworthy. Further analysis using confirmatory coding ranking patterns could only find one aspect of the theme 'implementation and management'

that matched the confirmatory ranking pattern. When this subtheme, 'preparation for PW', was examined in detail, there was very little supporting evidence. Although no substantial patterns emerged to support the argument that elements of 'implementation and management' could be correlated with WE and uniformly identified (through the JD-R theoretical framework) as either 'job resources' or 'job demands', some common contextual and implementation elements which participants reported both positively and negatively deserve consideration.

In order to further examine RQ3: *What elements of participants' experience impact on engagement?*, certain meta-inferences needed to be made to provide a better understanding of the phenomena than that provided by the quantitative results (Creswell and Clark, 2011). Further analysis, modelling and conceptualisation were undertaken with the identified themes and are represented in their various draft stages in Appendix S.

Section 10.5 interrogates constituents of the theme 'positive experiences/behaviours/attitudes' and attempts to superimpose elements of participants reported experience with aspects of the WE construct (vigour, absorption and dedication). There are most certainly relationships between the participant expressions that constitute positive experiences/behaviours/attitudes and elements of the WE construct. What is less obvious from this interrogation and conceptualisation is an understanding of whether higher levels of WE is an outcome of the positive experiences/behaviours/attitudes of participants, or if the positive experiences/behaviours/attitudes expressed by participants are an output of higher levels of WE.

However figure 10.12 (below) illustrates and connects what we do know from the qualitative phase with what we know from the quantitative phase of the study: that the ward teams involved in PW are more engaged in their work than their colleagues working in similar wards/environments. The thematic analysis of interviews from these ward teams has identified five major themes from the reported experiences, perceptions and reflections in relation to impact and implementation. The main

(largest) theme relates directly to ‘how the initiative was implemented and managed’, with the subthemes representing the key elements of implementation identified. The remaining four themes (positive experiences, organisational benefits realised, influence on leadership and lessons learned) can be classified as outcomes/outputs or impacts, and are wholly dependent on how the initiative was implemented and managed.

Figure 10.12: Connecting the results

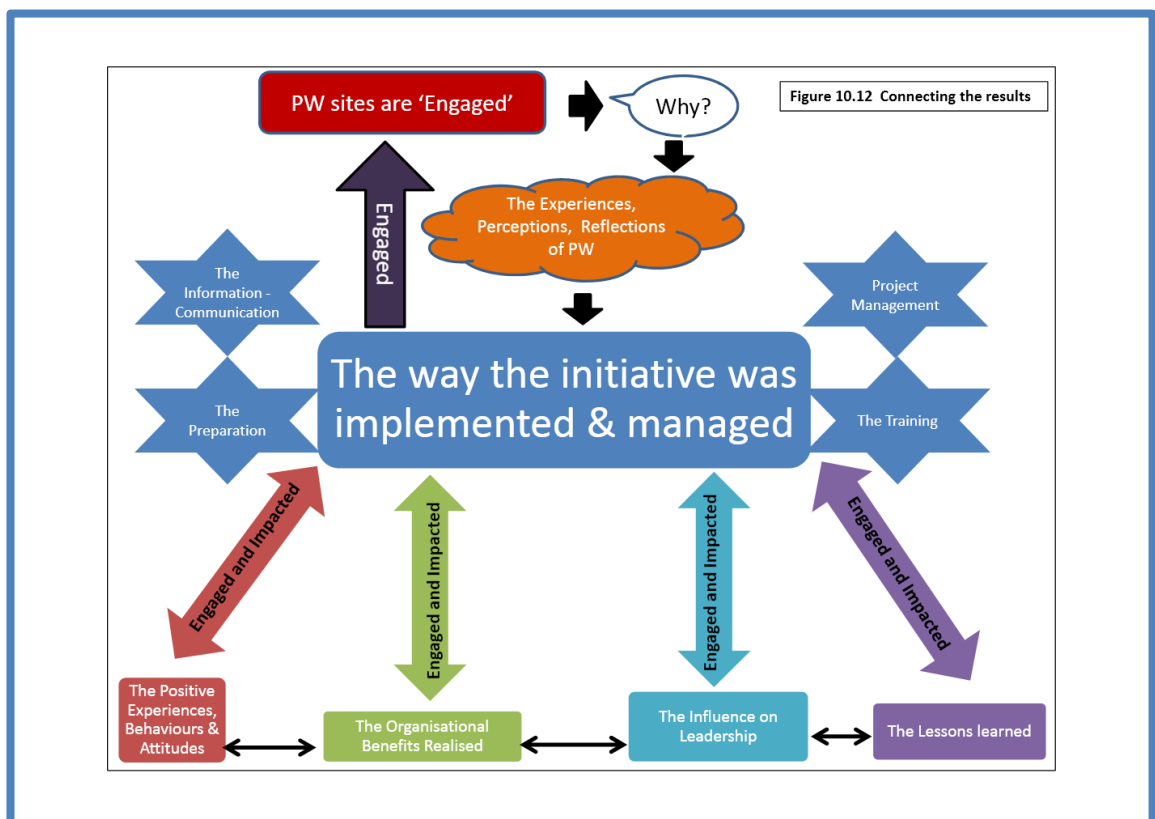
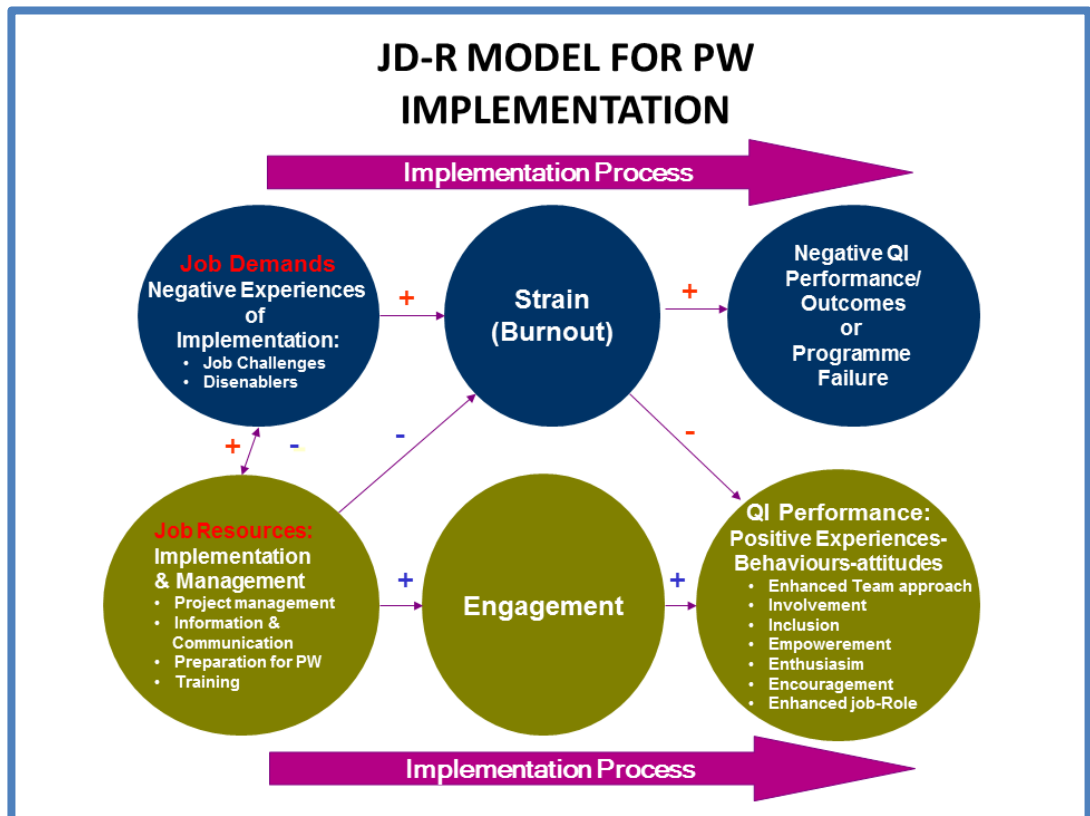


Figure 10.12 illustrates that the way that the initiative was implemented and managed had the largest impact and has a moderating influence on the engagement of participants. The four subthemes –preparation, information and communication, project management and training – are the key elements that engaged participants and impacted on the positive experiences/behaviours/attitudes, organisational benefits realised, influence on leadership and lessons learned. The most important point to note from the conceptualisation and inference drawing illustrated in Figure 10.12 is that although ‘the way the initiative was implemented and managed’ is

inferred as having the largest impact on engagement, this detracts from and masks some of the distinct relationships, interdependencies and interplay between the other four themes. The best example is the obvious role that leadership has played in the Rehab sites in terms of coding references and elevated WE. However, these relationships warrant further examination and exploration and merit the focus of research in the future.

Conceptualising the themes using the JD-R theoretical framework provides a useful model for future implementation. Acknowledging that there was no evidence to support that WE impacted on the QI performance measure used in this study (DPC times), other outputs and outcomes were reported with the intervention. If one accepts the findings of the literature review in Chapters 3-5, that QI, Lean and PW do impact on many aspects of the organisation’s performance and can take many guises, using the JD-R lens to view the results of this provides an interesting perspective (see Figure 10.13).

Figure 10.13: The JD-R model for PW implementation



10.6.3 What do the qualitative results tell us about the engagement of participants?

At interview and during site visit observations, ward team members in some sites identified a number of factors that both helped and hindered the implementation and management of the PW initiative. Although the results in Chapter 9 indicate that participants were positively engaged, all of the participants reported negative experiences of implementation and communication/information (section 10.3.2). They listed a range of contextual and organisational factors which impeded the progress of the initiative.

Interestingly most of the negative feedback provided in the interviews was in relation to getting other team members on board (or engaging them), the busyness of the ward and the general low morale of staff on the ward. For the most part, participants found these negative aspects disabling and they placed an unreasonable demand on the ward team and on progress with the PW. All of the participants described their inadequate staffing and resources in terms of either a challenge or a constraint.

These expressions somewhat challenge the WE results provided by the UWES in Chapter 9. They strongly suggest that the WE construct and measure does not provide a fully rounded, holistic picture of engagement. The expressions outlined in section 10.3.2 draw attention to the presence of job demands as they were experienced in the working environment. They also serve as a catalogue to the variety and types of job demands and most probably impacted on the WE of participants (as conceptualised in figure 10.13).

A large number of participants also highlighted the competing priorities and demands that were placed upon them as they struggled to implement PW and provide essential care. Although one would assume that this and the other negative experiences of implementation (articulated as job demands) would negatively influence WE measures, this was not reflected in the WE findings outlined in Chapter 9. The JD-R theoretical framework for PW proposed in figure 10.13 contributes some understanding to how other positive experiences and outcomes from the PW initiative

become job resources, have mitigated the negative effects of job demands, possibly influencing WE measures.

The qualitative findings outlined in section 10.3.2 also serve to emphasise the benefits of using a mixed method design, where the WE effect can be measured and then explored. The qualitative element of this study has allowed for the identification of job demands and job resources, which have significantly contributed as antecedents of WE in this study. This could not have been achieved without the qualitative exploration provided by the mixed method design and will serve as a guide for further QI research measuring WE.

10.7 Limitations

There are several limitations of this phase of study which are important to recognise. Firstly, in terms of generalisability and bias, my role as implementer and data-gatherer cannot be overlooked and is recognised, reflected upon and discussed in Chapter 11.

Secondly, as with all naturalistic enquiry, I brought a little of myself and my own world view to many aspects of this qualitative phase. My interpretation of the literature moulded the research design and the semi-structured interview guide. Even though a level of rigour was applied to every aspect of the research, my implementer lens and view of the world may have influenced my interpretation in both the coding and the analysis to some degree.

Thirdly, the qualitative data was collected at just one point in time, midway between two quantitative measures, approximately six months into the QI intervention. This data, the experiences and reflections of a cohort of PW sites, primarily provides a snapshot in time, a cross-sectional picture of participants' experience with implementation.

The final limitation arises from challenges in the field that were difficult to overcome. Accessing ward-based staff to interview in the clinical environment was not straightforward. The results show that three ward-based team members could not be released from their clinical duties to participate. Allowing the ward leads to nominate

and pick participants on the day whilst in the field highlights a risk of method bias. The very best (or the very worst) champions of the PW initiative could have been put forward for interview.

10.8 Chapter Summary

This chapter has described and analysed the experiences and reflections of ward-team members participating in the PW initiative in Ireland, addressing RQ2 to some degree. Data analysis was guided by a connected mixed methods data-analysis strategy (Creswell and Clark, 2011) which provided some understanding and content structure to the elements of implementation reported.

Additional analysis of the themes were performed using elements of the WE construct; vigour, absorption and dedication for comparison. Relationships and linkages are identified in this analysis thus providing some support to the proposition that elements of implementation can be categorised as either a job resource or demand. This analysis and conceptualisation goes some way to addressing RQ3. It also provides a discussion point for considering the benefit of the WE measure without the contextual data that helps understand the various job demands and resources that influence and impact WE.

This chapter also examines understandings of how the dominant theme 'implementation and management possibly impacts, affects and relates to the other themes. There is some evidence that the relationships between the themes are reciprocal and that some influence is exercised between them. However, the full extent of these relationships, and how the other four 'output' themes interact with, impact or influence the implementation and management of the initiative remains unexplored and is highlighted as an area for further research.

Chapter 11: Implementer, Influencer and Evaluator: reflections and discussion of the findings

11.1 Introduction

Action approaches to healthcare evaluation typically involve the researcher–evaluator actively involved in the intervention, working in a collaborative and participatory role, helping to improve the intervention by using findings from the research throughout the implementation (Ovretveit, 2002, Ovretveit, 1998). This ordinarily occurs in change and improvement projects on a departmental or organisational scale. This study has, however, adopted the action evaluation approach for a national project, and therefore learning may be gained from both an implementation perspective (in terms of informing national QI policy and future PW implementation) and an evaluation perspective (in terms of the suitability of the approach and the methods).

Action evaluations are not distinguished by any research or data-collection method. This flexible approach to action research design can, however, create threats to validity, and the more flexibility with design (as is the case with this evaluation), the greater the need for careful consideration. It is therefore not unusual for action evaluations to provide a reflective chapter on the methodological challenges associated with the action approach, outlining how they were addressed. However, with the national implementer immersed in the evaluation, this study provides a unique opportunity to gain reflections from an implementation perspective and to examine how the national implementation plans and policy were translated at the front-line.

In the interests of reflexivity, this chapter therefore draws upon my own reflections of both the implementation of PW (what went well and what went wrong) and the research journey that I have undertaken to produce this PhD study. Section 11.2 reviews the implementation journey in terms of what went right, what went wrong

and what comes next. This section discusses elements of implementation that have had or will have an impact on the future of PW and healthcare QI in Ireland.

Section 11.3 reflects on influences that my role has had, and reviews how my role may have influenced the implementation and the future of PW (and other healthcare QI programmes) in Ireland in the future. Section 11.4 reflects upon the evaluation design, highlights some of the challenges faced by the action research approach, and discusses how those challenges were addressed in this study.

The appropriateness of having a health service manager implement a large-scale QI initiative whilst undertaking the activity of research and evaluation is discussed in 11.5. The adequacies and shortfalls of traditional healthcare QI evaluations are also examined in this section. This section also examines whether a PhD can be objective and evaluate effectively.

Section 11.6 presents a general discussion of the findings and re-introduces the research questions as a point of focus for examination. This section compares some of the results with the earlier literature findings and uses the WE construct to further explore elements of the qualitative findings which possibly align with each other. Alternative qualitative measures of improvement performance are presented for consideration.

The reflective discussions in this chapter represent my personal views of my dual role, its impact and influences on implementation and its effect on the action evaluation approach. This chapter provides an honest context to the research activities, results and analysis that were presented in the previous chapters.

11.2 Reflexivity from an Implementer Perspective

Although the project management aspect of my implementer role required me to provide regular short, written updates to the national advisory group, this section provides an opportunity for me to step outside of my implementer and evaluator role to reflect and finally write down some of my thoughts and ideas about the experience of designing and managing a large-scale national healthcare QI implementation. As

outlined in Chapter 2, section 2.3, QI policy in the HSE to date has largely been reactive, predominantly driven by the patient safety agenda and constant media pressure in relation to various healthcare scandals. The genesis and roll-out of the PW initiative in Ireland in some way mirrors the unplanned development of national QI policy and strategy outlined in Chapter 2. With HSE's energy and resources focused on reactive patient safety and audit issues, the PW initiative has developed relatively freely without too much national QI policy direction or interference. The following sections reflect and discuss what went well during PW implementation in Ireland and what went wrong.

11.2.1 What went well when implementing PW?

Nationalisation

The detail of how the PW initiative commenced is outlined in Chapter 2, section 2.7.1. The development of the PW programme in Ireland (from small-scale regional project to national initiative) is an important point to consider in terms of impetus. The transformation from a regional project into a national pilot initiative served to substantiate the programme as one of national priority and importance, especially within the nursing policy context. The nationalisation of PW created an almost instant state of desirability for the PW initiative within the very competitive Irish hospital system and resulted in 54 organisations expressing an immediate interest in 2011.

Clinical Programme Alignment

Nationalisation of the initiative also resulted in having the PW aligned with and named as a national clinical programme. To date, the PW programme is the first and only nurse-led clinical care programme. Alignment into the national clinical programmes essentially endorsed the initiative as an equal clinical programme and priority amongst the other medical consultant-led clinical programmes. On reflection, being established within the national clinical care programme framework most probably provided the support and momentum the initiative required for endorsement and promotion as a national healthcare QI initiative and not just another nursing project or programme.

Implementation Structure

The initial regional strategy of staggering PW implementation in phases whilst building QI capacity with ward-based teams provided the strategy for the national implementation framework also. Chapter 2, section 2.7.3 outlines the national implementation structure, which I believe is one of the key success factors of implementation in Ireland. Having regional area co-ordinators supporting the participating sites through their implementation journey provided just the right amount of tension for both the ward-based teams and the local implementation groups. Area co-ordinators, through their constant presence and support, motivated momentum and progress in all aspects of the PW roll-out. This regional support structure has influenced the policy for future expansion of the PW, with each new hospital group agreeing to appoint a hospital group lead to support both new and existing PW sites. This implementation structure won the 2012 Lean healthcare academy award for best international PW project.

Progress Reporting and Measurement

The emphasis that was placed on measuring and reporting progress is outlined in Chapter 2, section 2.7.7 and details the multiple reporting-template drafts that were piloted during the initiative. Operating this system of monthly reporting and improvement monitoring provided a level of detail that had not been previously experienced by ward teams and was absent in the other national nursing projects they were involved in (e.g. the national intravenous cannulation training programme which was rolled out nationally in 2005 but was never fully adopted in any hospital site). This level of data gathering and reporting presented multiple challenges to both the local implementation groups and the ward-based teams. The majority of teams struggled in identifying key aspects of ward processes to measure, collect and report. It took many months to introduce and operate effectively. Introducing this culture of measurement and reporting has, however, paid dividends for many PW sites, who have reported the positive responses received during inspections by HIQA and the HSE's special delivery unit (established to improve flow and access into acute hospitals). Positive reports in relation to the measurement element of PW, from

external agencies like HIQA provide a reference point with which to reinforce to the measurement and reporting message with sites who have poor or ad hoc reports and measures. PW sites have also been held up as show case examples of measurement to other hospital organisations by external agencies like HIQA which has served to positively validate the initiative, its activities and my efforts as implementer.

A National Conference

The staging of a national event, the all-Ireland PW conference, was a highlight of implementation and provided an opportunity for ward-based teams to showcase their examples of improvement to their peers and senior healthcare leaders on a national stage (see Appendix G). The conference provided a number of distinct advantages for implementing sites. It encouraged idea exchange and innovation amongst the participating sites and in some cases provided creative solutions to sites that had become static as regards certain elements of change. It also provided a networking opportunity for like-minded healthcare professionals interested in improvement. Non-participating sites who attended had an opportunity to see and hear what PW was all about and a large number of enquiries were received from new interested sites after the event. The conference also served as a marketing strategy for me and the initiative, attracting widespread coverage from internal HSE communication and national media.

Transitioning

The transition of the initiative into the hospital groups is described in Chapter 2, section 2.7.9. Part of this transition included the development of an on-line facility called the improving quality exchange (IQX) to support hospital groups in implementing and sustaining the PW. This on-line learning and sharing facility is proving to be an extremely positive aspect of the PW initiative and will help to sustain it. The learning captured from a number of sites in the form video stories provides a powerful message for non-participating sites, who can view many examples of what can be achieved. These stories also serve to motivate sites involved with PW to continue existing efforts or commence new ones. Similar to the outcome of the PW

conference, the web-based platform also provides an opportunity for ward-based teams to showcase their examples of change and improvement. In terms of implementation strategy going forward, it is anticipated that the IQX will be a one-stop-shop of resources for healthcare teams who want to engage in PW and QI activities. The developing and maintaining of this site currently under review with corporate HSE, but in the short-term it will be managed by a small number of NIG members.

11.2.2 What went wrong when implementing PW?

When providing a reflexive account of implementation, it is wholly appropriate to debate and discuss the elements of national implementation that did not go so well in order to learn from the successes and the failures (Pressman and Wildavsky, 1973). During the early national implementation planning stages, all of the stakeholders involved anticipated that the pilot phase would be complete within a two-year timeframe. This opinion was based on some of the information provided by the NHSI and some of the reports emanating from the UK sites who had implemented the initiative. However, after approximately ten months it became apparent that the pace of implementation, regardless of what supports were in place, was dependent on two key factors:

- The busyness and dependency levels of the ward environment
- The leadership ability of the ward manager in assigning and managing QI activity.

Busyness and Dependency Levels

Many acute general hospital wards experience variances in their inpatient activity, bed-occupancy rates and dependency levels. However, most modern hospital and ward facilities in Ireland operate with very little operational slack, resulting in the majority of ward-based teams having insufficient time or ability to provide anything other than clinical care. This feedback featured prominently in the qualitative interviews (Chapter 10, section 10.3.2) and was expressed by staff as being one of the major challenges in managing and implementing the initiative. It was also identified in the literature review in chapter 5 as a key aspect of PW implementation. Some of the

reports emanating from UK sites acknowledged the need for more resources to be made available to allow the ward team find the time from the busy ward routine and undertake the PW activities. To date, no PW site in Ireland has completed all of the PW modules, and many have started revisiting certain elements of the modules they have previously completed.

Whilst non-completion could be viewed as a reflection of my own performance shortcomings as national lead, similar phenomena in relation to the non-completion of modules have also been observed and reported in other countries that have implemented the initiative.

Leadership Capacity of the Ward Manager/Ward Lead

The extent to which each ward manager (ward lead) can invest in the initiative has impacted the scale and pace of roll-out in every site. Different leadership styles, the ability to empower members of the ward team and the resources available have all affected the ward managers' ability to progress PW, and have resulted in each PW site being at different stages of implementation. This has led to frustration and discontent within and outside of the ward teams, and was evident in the qualitative interviews. From a future implementation perspective, ensuring that each ward lead has the organisational supports to effectively introduce and manage the initiative is a key determinant of success. Assessing the leadership ability, capacity and type of support that is required by each ward lead (or manager) is however a complex organisational issue and whilst I raise it as a pertinent issue for PW, it is outside the scope of my role as national implementer and this evaluation.

Although the ward manager's role has been previously highlighted as a key determinant in the translation of national policy into implementation (Wells, 1995), from a national implementation perspective the variances observed between ward managers have resulted in the initiative being transitioned to the hospital groups in various stages of implementation. This has left the ongoing co-ordination and transition of the initiative at the group-hospital level extremely difficult to manage, specifically in terms of the level of support each site requires. It has also meant that

the period of transition to the hospital groups has been prolonged in some instances and that some sites now not being supported by the national implementation support that was in place previously.

Variability and the Risk of Discontinuation

The variability of resources and ward dependency has recently been observed as a major challenge in other UK-NHS QI programmes (Dixon-Woods et al., 2014). From the PW perspective, variances in resources and stages of implementation challenged ward teams to the point of discontinuing the programme. To date, only one site (out of 34 in Phases 1 to 3) has discontinued the initiative. The site, a surgical ward from the first phase of implementation, began to report difficulties approximately six months into the programme. The manager (who was a temporary manager) was reassigned at the time and the newly appointed manager had not been involved in the initial training or any of the improvement work which had commenced. This resulted in complete stagnation, loss of momentum and sporadic engagement from the ward team, who had endured intermittent participation in the QI activities.

The enrolment of this particular ward into the first phase of implementation raises the issue of 'readiness' and the assessment that was performed prior to commencement of the initiative. Although the assessment of this particular site identified a definite weakness with the temporary-ward-manager situation, assurances were given by the corporate management team that long-term acting arrangements and support for the ward manager would be provided. Unfortunately both elements were reneged on, resulting in implementation failure in this site.

From an implementation perspective the role of ward lead (or ward manager) cannot be over-estimated. The results in Chapter 10 also substantiate the importance of the ward lead role and highlight the over-reliance of the team on the ward leader. Whilst the ward-lead role is identified as crucial in the PW module pack, I feel it would be pertinent to highlight the risks to new start-up sites that are associated with a change or termination of personnel in the ward-lead role. An alternative strategy may well be an emphasis on sharing the role or operating a proxy arrangement to reduce the real

world risks associated with ward leads leaving or having extended periods of sick leave.

Readiness Assessment

On reflection there are two lessons to be learned from the implementation failure which should influence future PW- and QI-programme policy. The first relates to the readiness assessment (Appendix C and D). It was originally devised by the NHSI to identify weaknesses in prospective participating sites. Making allowances during the assessment or taking an *à la carte* approach runs the risk of putting additional pressures onto participating sites and may result in implementation failure.

Corporate Management Support

The second lesson relates to the corporate management support provided to each ward-based team. Every site involved in the initiative, without exception, promised their full commitment and support to the implementing ward-based team during initial contact and readiness assessment. My experience with implementation to date has been that the initial enthusiasm and support offered can be short-lived. Once the dust has settled following acceptance onto the national implementation pilot, hospital management teams gravitate back to everyday firefighting. Local implementation groups and managers then tend to meet less frequently and the financial and corporate support required by ward-based teams diminishes over time. This is an experience not dissimilar to that of the UK (NHS Institute and NNRU, 2010).

The challenge for sustaining PW and all healthcare QI initiatives is in ensuring that national healthcare QI-policy priorities are viewed and accepted with the same pre-eminence by front-line hospital management teams. Otherwise the success of healthcare QI initiatives will be determined by the degree of street-level bureaucracy (Wells, 2007, Travers, 2007) operating in each healthcare organisation. Whilst I observed this diminishing management support phenomenon during phase 1 implementation during 2012, I felt I was unable to influence any acceptance with the local hospital management teams once the initiative had commenced. Future

implementation could encourage initiatives like corporate engagement charters or specific corporate sponsors for each ward.

Measurement

The issues identified in Chapter 9, section 9.7 with measuring DPC are most probably a reflection of what has not worked for the measurement aspect of PW in its entirety throughout the implementation. Although the creation of a culture of measurement was identified as an example of what went right in the previous section, the variability in what was being measured and to what extent is an aspect that most definitely could be improved in the future. On reflection, the issues encountered in relation to reporting measures (Chapter 2, section 2.7.7) and the multiple reporting template drafts proffered to address the issue (Appendix F) highlight the variability in data intelligence and the inability of ward-based teams to find the time, resources and effort to collect and monitor data or even know how they are performing.

The sites that provided timely, quality data without constant prompting tended to be sites where data administrators were employed to assist the PW teams. The lesson for future QI policy is that front-line staff will always prioritise providing safe clinical care over managing and collecting QI data. Providing data-management support and resources is a prerequisite if quality data intelligence is to be gathered and made available.

11.2.3 What comes next for PW?

As discussed in the sections above, the transition of PW into the hospital groups will most certainly determine the future implementation of the initiative in Ireland. There are three reasons why I am optimistic that further implementation and roll-out will continue in the short-to-medium term.

The first relates to the transition structures that have been proffered as the national model of implementation in the hospital groups (see Chapter 2, section 2.7.9). This national implementation model stipulates that a PW co-ordinator be appointed in each hospital group to manage existing sites and the recruitment of new sites.

The second reason for optimism lies in the construction and maintenance of the web-based platform that supports the tools and stories of improvement for PW, the Improving Quality Exchange (IQX): <http://www.hseland.ie/iqx/Account/Login>

This site was designed to co-exist with the other HSE QI programmes (tPOT and clinical microsystems) and will essentially provide an information repository, exchange and networking platform for PW sites and healthcare personnel throughout Ireland who are involved in quality-improvement work, regardless of their work setting or QI method. This collaborative venture with other QI programmes is the genesis of a national corporate QI movement which will support PW going forward.

Finally, PW has been supported financially by corporate nursing within the HSE. The transition plans outlined in Chapter 2, section 2.7.9 identify regional Nursing and Midwifery Planning and Development Units (NMPDUs) as the source for future funding. This will allow front-line, ward-based teams to apply for PW project funds via their corporate nursing teams and ensures that financial support is not reliant on the hospital group's finances. Keeping the funding independent from hospital management financing provides some level of security for PW and maintains an element of empowerment for the nursing profession who are not dependant on corporate finances to be an integral element of front-line QI.

11.3 Reflexivity from an Influencer's Perspective

There is little doubt that my senior manager role in implementing and evaluating the PW initiative has presented many opportunities to influence both the future of the PW and the policy context in which it will continue.

Influencing the Transition to National Clinical Programme

Having the PW initiative aligned to the national clinical programmes has proved to be the most influential aspect of PW implementation. As discussed in the previous section, PW was the first QI programme to be aligned to the national clinical programmes, and influenced the subsequent transition of other QI programmes (tPOT and clinical microsystems). It is my belief that having PW on a national clinical-programme platform has raised the profile of healthcare QI in Ireland. A noticeable

increase in the number of QI education offerings by many of the universities has been observed in the last year or so and aspects or elements of QI measurement and PW are appearing in many of the 'models of care' being prepared by the other national clinical care programmes.

Influencing Training

Having access to the evaluation data influenced my understanding of the additional training and networking requirements of participants. Feedback from participants during the qualitative interviews identified additional requirements beyond the three days mandatory training prescribed by the NHSI for UK implementation. This has resulted in a further two 'update' and 'networking' days being provided for all participating sites, and has influenced the policy of having up to five days PW training for sites in the future.

Influencing the IQX

The positive feedback received in the evaluation data in relation to the results of networking and its desirability, has influenced the design and build of the web-based IQX-hub outlined in the previous section. The hub now reflects the desire to engage in the networking activities identified in the evaluation data, and provides an on-line forum for PW (and other QI practitioners) to exchange tips and advice in relation to the project in which they are involved. The quality of the web-based hub and the impact of the improvement stories have also influenced other HSE QI programmes to join IQX and to share their tools, methods and learning.

Influencing Future Structures

Designing the plan for PW transition to the hospital groups presented an opportunity for me to influence the future support structures that will sustain PW. With the reassurance of the successful implementation structure provided for the pilot phases (area co-ordinators managing a number of sites), this is now the agreed policy and structure for hospital groups in the future. It is anticipated that the other QI programmes will frame their transition plans around the hospital groups based on the PW transition model (outlined in 2.7.9) during 2015.

Influencing Measuring for Quality

One of the most important influences the programme has had is in the creation of a culture of measurement and improvement within ward-based teams, a culture which has been absent in the Irish health system to date. PW has highlighted the need to set goals and targets and to gather appropriate intelligence. Although PW is not the panacea for all national QI performance-data deficits, it has created healthcare QI awareness and promoted QI language and methods to front-line, ward-based teams. It has, I believe, been the catalyst for a national nursing metrics project which commenced in 2014 and aims to have every ward in every acute setting nationally provide nursing metric reports on at least 3-4 key area of nursing care.

Influencing National Policy

The success of the PW initiative in Ireland to date appears to have influenced national Department of Health policy. The report of the Chief Medical Officer into HSE Midland Regional Hospital, Portlaoise perinatal deaths from 2006 to date (Department of Health, 2014) identifies PW as an example of a QI initiative that would improve processes and patient flow as part of its 42 recommendations.

11.4 Reflexivity from an Evaluator's Perspective

There is little reason why (even with the effect that an actively involved hybrid implementer–researcher may have on objectivity and generalisability) an action evaluation cannot be an honest, critical, uncompromised example of quality research. Most phenomenological approaches to research invite a focus on reflexivity, or at least the creation of an awareness of the impact that researchers (with their various identities and backgrounds) have on the research process (Robson, 2002).

Ahern (1999) offers a number of tips for consideration regarding decisions made along the way in order to minimise potential researcher bias in the design, implementation and presentation of research. However, it is almost inevitable that a close relationship, if not already in existence at the start (i.e. the choice of one's research topic), will develop somewhere along the research journey. One particular tip offered by Ahern (1999) is the aspiration to become open and transparent by writing down the

issues in undertaking one's research. This openness allows the reader to understand something about the way the evaluation process was designed, the specific set of circumstances and the context, so that they can make judgements about the objectivity and the validity of the story being told.

11.4.1 Adequacies and inadequacies of healthcare QI evaluation

Robust and explicit evaluations of healthcare QI are an important source of learning about what works and what does not, the challenges and how they can be addressed (Dixon-Woods et al., 2012). However, evaluating whether a QI initiative does or doesn't work should not be the only focus of enquiry. Establishing how and why it works are equally important elements of QI research and evaluation, especially as healthcare policy, service planning and development tend to place such increasing emphasis on the use of an 'evidence base'. Implementing and evaluating the PW initiative provided an ideal opportunity to try to establish 'does it work?' and to explore the how and why. It also provided an opportunity to contribute evidence of impact and implementation to the literature and to influence (to some extent) national policy in relation to the future of PW and healthcare QI in Ireland.

Adopting a traditional research evaluation using experimental or observational methods would have been a 'safe' and adequate approach for me to take as the manager–implementer. However, traditional and conventional experimental approaches are not very flexible in design, tend not to lend themselves to aspects of QI (which are often difficult to define), typically take a long time to complete and are generally expensive to administer. They also tend to give just one perspective. Observational or 'formative' approaches to evaluation tend to be either 'cheap, nasty and quick' (low reliability and validity) or with better quality over a longer period but with the findings disseminated too late to contribute to important decisions about the intervention (Robson, 2002).

As the manager–implementer, I felt it necessary to use an evaluation approach that provided me with information which could help me to decide rapidly whether to stop, continue or change my implementation plans. Ideally I needed to be actively involved

in the evaluation activity in order to gain the clarity and understanding to make decisions about what to use in measuring or judging the evaluation. I also had a requirement to have complete and open access to the results in order to have real-time actionable data with which to make decisions.

Therefore, my journey with action evaluation (or at least a form of it) began. As the researcher–evaluator usually works with the evaluation users (Ovretveit, 2002) and collects data related to the intervention and its effect, the action evaluation approach appeared to be the most obvious fit for my implementation design and evaluation needs. Registering this action evaluation for a PhD raised a number of dilemmas for me in terms of approach, research design, internal and external reliability and my dual role. But rather than view all of the above and my dual role as compromising the objectivity of the research evaluation and adding to its inadequacies, I embraced the action evaluation approach. It is my contention that the approach, my dual role (with all its baggage) and my participation added value, richness and explanatory power to the research–evaluation process, making it more than adequate. I address how in the following sections.

11.4.2 Can an action evaluation evaluate and be objective?

One of the first questions I asked myself in relation to my manager–implementer role relates to my objectivity. Is it possible to be objective as a senior nurse whilst being a health service manager? Does the relationship I have developed with the initiative and the sentiment evoked by seeing nurses and nursing achieve multiple improvements, and compete in the world of QI, affect my judgement as a manager–implementer? Having designed, implemented and managed this large-scale QI initiative, will I forever be associated with PW and its destiny? Is it possible to be objective when one feels such a strong sense of responsibility?

If I am honest, I have questioned whether I am now over-associated with this initiative. Has the energy and effort I have channelled into its implementation clouded my judgement and objectivity, impacting on my performance as a researcher and on the

shape of this study? If one is from a positivist persuasion, then I am not suitably detached from the subject. And there lies an oxymoron.

The reality is that in the majority of cases, in the production of a thesis for examination by the wider academic community, the ontological, epistemological and methodological preferences of both student and supervisor often dictate the subject matter and drive or shape the research undertaken.

This PhD is wholly unique in that it has been entirely shaped by the evaluation approach itself. Evaluation approaches are a combination of the evaluator's perspective (what they see and do not see) and the purpose of the evaluation (who and what it is for, e.g. to produce scientific knowledge or to inform practical decisions) (Ovretveit, 2002). This evaluation uses systematic data-gathering methods and designs to gather robust data which can be used to judge the value of an aspect of the PW intervention. The research–evaluation design and the findings have shaped the PhD and not vice versa.

This action evaluation was designed using a mixed methods explanatory approach in order to provide balanced, robust and objective data with the aim of informing and improving implementation – an objective measure with a subjective analysis. My contention is that objectivity is not simply associated with detachment from the subject of study, it also relates to the researcher's value of neutrality, their attitude and approach to design, and the accuracy of their data collection. Performed with rigour, I believe that the research methods incorporated into this evaluation design are objective, honest and critical enough to meet the standards for both a robust evaluation and a PhD.

11.4.3 Manager–implementer/researcher–evaluator and the production of a thesis

There are fundamental differences and tensions between my role as a manager–implementer/researcher–evaluator and my role as a PhD student. These mainly relate to the different standards and expectations associated with producing documents for a

HSE evaluation and those to satisfy the requirements for a PhD award. The most notable tensions have existed in this final year, when trying to meet the increasing demands of both the implementation and the evaluation. Bringing the initiative implementation and pilot to a stage of completion and getting it ready for handover to the services to drive, manage and sustain have resulted in a gruelling schedule of meetings, and work on organisational design, performance documentation and the construction of a website to enable shared learning and support. This has resulted in very little time being allocated to writing in my working week. The expectation from my employer is that a 25-page evaluation report will be produced in early 2015. The requirements and standards of my PhD require so much more depth and analysis. As an implementer and researcher–evaluator, producing a thesis and writing for publication has not come easily or naturally to me. Combined with the stresses of managing and implementing this initiative, writing has been a source of pressure and tension for me in the latter months. On reflection I wonder whether traditional full-time research PhD students face the same types of challenges and tensions as manager–implementers leading, and immersed in, an action evaluation. Although a very basic project/research journal was maintained during this study and implementation, I believe a detailed diary study of this action evaluation would provide a very interesting thesis in itself, providing a very comprehensive and explanatory account of the implementer–evaluator tensions and stresses.

It must be acknowledged that there have been great advantages in having control over the research design and the timings. There have also been advantages in more recent months in having access to the evaluation results, which were utilised as they became available to influence and maximise the redesign of implementation and roll-out, and the project completion and handover. For example, a finding in the qualitative section of the study clearly identified the need and desire of participating sites to learn from each other. This wholly influenced my decision to design and build a website (the IQX) to support the initiative and the sites going forward.

11.4.4 Managing and interpreting the data in a manager– implementer action evaluation

Influence on design

At this late stage of my dissertation, whilst reviewing and reflecting upon the scope and the opportunities that were afforded to me in the design of this study, I am left wondering what it was that influenced me at the time of the evaluation conceptualisation that so strongly shaped the design and the defining practical and scientific questions. In reality it is important to remember that at the time of design I was already immersed in my dual roles and responsibilities, establishing new implementation sites, organising training, chasing monthly reports. I have no doubt that I was most certainly influenced by the great optimism and the huge energy I invested in getting the QI initiative off the ground. I may have been fuelled by my conviction of the initiative's reported benefits and successes. In many ways I had preconceived hunches, based not just on my review of the literature, but also on my early experiences of implementation and contact with ward-based team members. During collaborative conversations, I observed how much more engaged they were with their work, and the inspiration they took from the concept that they could improve their environment and release more time to care. This undoubtedly shaped the research design, research questions and propositions.

In my attempts to excel as manager–implementer and researcher–evaluator, I am guilty of being over-zealous in my research design, ensuring that the evaluation approach was overly robust. I have little doubt that claims of poor research design would be a direct reflection on me and my national role and I made every effort to improve the internal and external validity of the action evaluation (by including an experimental aspect to the mixed methods design) to avoid criticism.

Influence on the implementation

What is just as important to report is that the early evaluation data from this study also impacted and influenced the implementation of the initiative. Examples of this include the increased scale and pace of the roll-out of the pilot phase once positive results were reported for WE scores in Phase 1 of the study. Positive evaluation

findings provided me with the 'green light' I needed as implementer to spread the initiative.

The funding that was secured and used to provide 'updated' training and the national conference/networking event are both examples of how I learned from the themes that emerged in the qualitative phase of the study and which shaped and directed implementation. I was able to take real-time feedback from the interviews and translate it into implementation action. This is typical of what happens in action evaluation designs, where action evaluations aim to help providers change, adapt or reform programmes whilst the evaluation is being made (Ovretveit, 2002).

Data construction

There are three specific areas in relation to data construction that have been central to my reflections. The first relates to the UWES data collection used in Phases 1 and 3 of my research design. It is interesting to speculate whether the responses and the response rates would have been somewhat different if the survey was distributed and managed by an independent researcher or institute instead of by me in my hybrid role. I have certainly been surprised by the above-average return rates I have managed to achieve with the survey. My follow-up reminder letters have had an exceedingly good effect. On review, I am left speculating as to what element of the above-average response rates were related to respondent bias (Guba and Lincoln, 1989), where participating sites wanted to be portrayed as 'good' PWs, and what elements of the response rates were genuinely related to participants in the pilot initiative feeling that they should collaborate with both implementation and evaluation. Would an independent research study have obtained different findings?

The second area is directly related to participants 'feeling' they should collaborate with the evaluation. Collaboration can be particularly challenging when some participants lack familiarity with the methods being used or the data-collection instruments. I received some feedback in surveys in relation to the language used in the UWES instrument, caused by confusion as to why 'well-being' was being measured in a QI initiative evaluation. I have no doubt that the instrument, the measure and the

language generated discussion, debate, uncertainty and suspicion (to some degree) amongst some of the ward-based teams. Regardless of the methods used, the burden of data collection can be off-putting for those being evaluated and I have little doubt that the multiple methods (two questionnaires, the two DPC activity follows and the interviews) used were taxing on the participants. What I cannot gauge, however, is whether the burden of multiple data collections and time points had an effect on participants' responses or impacted any aspect of their experiences of the implementation or evaluation.

My final reflections in relation to managing data centres on the analysis of the data and the results. Actively managing the design, delivery and funding of this national initiative obviously meant that I set out with great optimism and gusto. I invested a lot of time, energy and effort into implementing the initiative. I was already becoming convinced of its benefits and successes. If the initial findings (from the first phase UWES) had been negative, or less positive, I am unsure how I would have reacted to the disappointment, frustration and subsequent challenges for both the implementation and research evaluation. I also am unsure how this would have affected my perspective going into the next phase, the semi-structured interviews.

In many ways the explanatory sequential mixed methods design of the evaluation actually supported my impartiality by ensuring that the initial contact with participants was via a survey. I would like to claim that I had given this some forethought, but unfortunately I cannot. At the design phase it felt more logical than impartial to ascertain an impact before exploring it.

11.4.5 Semi-structured interviews: opportunities and constraints

When reflecting upon the impact that my role may have had with the research sites, especially during my visits to conduct the semi-structured interviews, I noted some important factors which shaped the research environment. Firstly, I very much noticed an emphasis on my organisational identity and position during introductions when I visited to conduct the research interviews. Although I tried to play this down and minimise it (for fear of creating a 'corporate' impression and immediate bias), I was

always introduced on the ward as ‘the national lead’. The only strategy I had to try to combat respondent bias was to emphasise that I was also a PhD student trying to impartially conduct an evaluation. I have little doubt though that impressions were made even before I entered the research environment.

Secondly, during the general introduction phase of the interviews I observed an emphasis by the majority of participants on my professional identity. Most participants ‘checked’ that I was a nurse first, before confirming with me that I was responsible for the management and implementation of the initiative. Only a small number of participants questioned my role as researcher–evaluator. This ‘professional-identity checking’ most certainly confirmed either a social or a professional impression and had an impact on the conversations that subsequently ensued.

Perceptions

I am unsure whether participants were more accepting of me as the national implementer because I was a nurse (one of their own) and less of a threat or whether participants were gauging the organisational level at which their experiences were about to be divulged. I am undecided as to whether a non-nurse researcher (or implementer) would have received less warm welcomes and less favourable responses. I have little doubt that perceptions of my professional and organisational identity shaped the conversations and interactions within the research environment and during data collection. In the spirit of reflexivity, I can now acknowledge this interviewer effect and possible bias. Action evaluation cannot avoid the impact of relationships. They do affect the generalisability of action evaluation findings, which brings me to the final point.

I have reflected considerably on the different experiences, perceptions and feedback that might have emerged from participants if I was a researcher with a front-line, ward-based background instead of holding the position I held, something Ritchie and Lewis (2003) have referred to as ‘interviewer and participant matching’. For instance, this may have allowed ward managers to voice greater criticism of the project supports

in the sites or allowed some of the staff nurses and support staff to offer more detailed explanations in relation to the lack of progress with the programme other than the general 'too busy'. My organisational position may have deterred some of the participants from providing any information that might be interpreted as being related to performance for example, for fear of some form of management intervention.

One of the disadvantages of managing this evaluation as a lone researcher has been the inability to cross-reference any of the qualitative data and analysis against other interviewers' data and analysis 'lens' and vice versa. This runs the risk of having a possible implementer influence in the data and this conceivable bias must be acknowledged also.

Format

When revisiting the process of interviewing within the evaluation, it is important to acknowledge the opportunities and constraints that were associated with the use of a loose, semi-structured format. Whilst the emphasis in healthcare action evaluation is on collaboration and participation, treating participants as co-investigators, this is easier said than done. Each interview situation is completely different, and whilst I tried to assess each participant's view of me as interviewer–evaluator, adapting my technique accordingly, the reality is that assessing a participant's perception is extremely complex and difficult. Gauging whether the participant views one in the research–evaluation interview situation as a critical friend, co-investigator, facilitator, and problem-solver or as an unwelcome judgemental intruder is a real skill which I recognise will require further development.

That being said, the loose semi-structured style and the open conversational approach used in this study did produce a diversity of accounts and a very rich pool of interview data. This rich pool of data will most probably provide the opportunity of further analysis and post-doctoral work in the future.

11.4.6 The impact of my manager–implementer–evaluator role on data analysis

Although there is little doubt that the use of data-analysis software has added a whole new dimension of robustness to qualitative analysis, there are lots of weaknesses in being a lone researcher and using such software. Although the methods provided by Creswell (2005) which were used for the qualitative data analysis are both prescriptive and systematic, the activities of transcribing, open coding and developing concepts are pretty lonely ones and one does question one's thought patterns from time to time. Although it could be argued that the same could be said for manual analysis, my experience is that there is more movement, interaction and activity associated with manual analysis than the endless hours in front of a computer screen. This is not to undermine the dialogue and debate with, and the support of, my study supervisors (Professor John Wells and Professor Tony Butterworth); I am still left wondering whether the data-analysis procedures might have flowed a little easier in the company of a research team. Regularly observing the facility in NVivo that compares analysis between different individual coders/researchers did not help, and I was again left conscious as to whether my manager–implementer role influenced the analysis in any way. I may have over-spent my on-line support credit with QDA training who provided technical assistance with NVivo.

Familiarity

It must also be highlighted that as the sole manager–implementer–researcher, working excessive hours on both the implementation and the evaluation, one becomes overly familiar with the content and material. This allowed me to become totally immersed in the data and content. At times, especially in the secondary data analysis of the interviews, it became increasingly difficult to see or hear anything new in the data. That being said, I am more than satisfied with the coding records provided by NVivo, and the numerous discussions during supervision which served to bolster my confidence as a hybrid manager–implementer and researcher–evaluator.

11.5 My Organisational Position and the Evaluation Process

As a senior manager with responsibility for implementation of the PW initiative in the research sites, I was inevitably influenced by some of the assumptions and beliefs I would have absorbed from multiple interactions with the management teams in those sites. These interactions included progress reports and implementation stories relayed to me through the national implementation group. In my own case, I have no doubt that beliefs, assumptions and impressions were made, for example, from stories and reports about the benefits realised in some organisations, transformations in various ward settings, different types of transformations, high-performing sites, poorly performing sites, poor ward managers or project leads, and unsupportive hospital management teams.

Transforming

Becoming an active researcher–evaluator also provided me with some opportune moments to leave my management–implementation duties and to reflect on and review some of these beliefs. Being the researcher provided alternative ‘reference points’ from which I could position myself at various moments and obtain different perspectives on the implementation, those involved, the individual sites and the initiative itself. As the researcher–evaluator, I had respite from the responsibilities associated with implementation and found myself at times wandering between two distinct jurisdictions – the world of academia and the world of health service management. When wearing my manager ‘hat’ I became totally immersed in the culture of the health service, fixated with delivering on my mandates and the roll-out of the initiative.

When transformed into the researcher–evaluator, I got many opportunities to ‘step outside’ the health service management culture and to listen to and hear what front-line services and ward-based teams were experiencing, and I soaked up the individual culture of each organisation/site. That being said, not everyone likes to be evaluated. Being evaluated generally means being subjected to judgements about behaviour and outcomes, and on a couple of occasions, sites I visited were a little uncomfortable with

the reality that they were slow to make progress or that some of their QI efforts were being inappropriately managed.

Project-research journal

The process of moving between the health service manager and researcher roles was somewhat facilitated by the maintenance of a very basic project-research journal in which I could occasionally log my reflexive thoughts and concerns. Keeping a brief journal helped to orientate myself in relation to my dual roles and what 'hat' I had on (or at least should have had on) in particular moments and circumstances.

For example a number of my field notes from the interviews referred to the lack of detailed knowledge that some participants had in relation to detailed module content. I transferred these concerns into my journal and was able to use the journal entries to help area co-ordinators plan the content for their regional update and networking events. A review of module content was featured in each regional update.

This log also served as an agenda prompt for the regular meeting with my academic supervisor. Conversations with my supervisor and regular meetings with academic colleagues provided further important opportunities for debate, discussion and reflexivity, and the deconstruction of my health service management assumptions in relation to the project and how the research should be designed, integrated and implemented.

For example there is one instance when I used the entries that I had made in relation to the multiple drafts of the project reporting template, as the focal point for a brainstorming session with my supervisor and an academic colleague. This exercise and a removed, non-implementation viewpoint provided another dimension and possible solutions to the next revised reporting template.

Feedback

In terms of the impact of reflexivity, the most notable opportunity provided to me was the semi-structured interviews and the many conversations around these interviews in the qualitative phase of the study. Meeting with local steering groups and ward-based

teams effectively provided me with feedback in relation to what was going well with this national initiative and what was not. Whilst some of this feedback reassured me in relation to how positive the initiative was, some views were expressed by ward-team members and indeed by the project team that were less easy for me as the national lead and project manager to hear. For example, feedback in relation to the difficulty of accessing training, restrictions on training numbers and the lack of management or regional support were direct criticisms of my own performance as a health service and national project manager. However, I took some comfort in the knowledge that I had received the feedback directly and was empowered, as the manager–implementer, to make changes. This feedback has directly influenced future policy on PW training (see section 11.3). One of the main aims of healthcare evaluation is to learn in order to improve our practice and services, as well as to diligently avoid mistakes and repetition in healthcare policies and reform (Ovretveit, 2002).

Negativity

Whilst it may outwardly appear that my position as a senior nurse in the health service might translate to influence and coercion in the research or evaluation setting, in the complex heterogeneous system that is our national health service, my experience has been that this is not necessarily the case. It is usually much more complex than that. Every participant viewed me differently, through their own unique lens. On the few occasions when I felt I was being viewed as the manager my impression is that I generated the complete opposite of influence and experienced negativity and intransigence, being viewed as an unwelcome intruder who had come to sit in judgement. However, the majority of times I felt I was viewed and accepted as a researcher, and welcomed as a critical friend, collaborative investigator and possible problem-solver. There is evidence of negative commentary against ‘management’ in the transcripts in one particular site, which is referred to in Chapter 10. There are a number of negative comments recorded and coded also expressing PW as being ‘management’s plan’.

Reassurance

If indeed the initiative was generally perceived as being 'management's plan' and as having a 'top-down' approach, then the likelihood is that staff did not get involved, did not participate in the QI activities or were not engaged by it. The irony is that the programme was designed to have entirely the opposite effect and is intended to use a 'bottom-up' approach. As manager–implementer, hearing the words 'management's plan' in a couple of interviews had a very unnerving effect and I became conscious of the 'top-down' perception held by participants during that early stage of the interviews. It was only after reflection and discussion with my academic supervisor that I became reassured that the study sites had overwhelmingly reported that they were positively 'engaged' a number of months previously, in the very first phase of the research study.

Ownership

Subsequent interviews also provided diverse views in relation to the 'ownership' of PW which provided some reassurance to me as the manager–implementer. That being said, it was obvious from a small number of interactions during the interview stages (referred to earlier) that I had underestimated the extent to which the manager–implementer aspect might influence some ward-team members' perception of me as 'the establishment'. Reviewing the manuscripts from one or two participants, the tone and content would lead one to believe that I was most definitely perceived as the implementer–manager and this may have permeated into the data they provided, in terms of their views and experiences.

The literature in this area shows that tensions and asymmetries in power and position are the norm rather than the exception. This is especially so with the diversity of backgrounds usually associated with healthcare QI implementation and evaluations (Baur et al., 2010, Aveling and Jovchelovitch, 2014).

Data influence

As well as reflecting on how my role as manager–implementer may have influenced the research/evaluation process, it is also important and interesting to reflect on how

the researcher role in turn influenced me as the national lead and implementer. The most obvious example would be in relation to my approach regarding the return of improvement data and completion of the *DPC time activity follow*. I became aware that on a number of occasions I was less than understanding of sites that had not completed their 12-month *DPC activity follow*. Not only did the sites need to measure their performance, I also needed my research evaluation data. As I became more aware of the complexities of my 'dual' role as implementer–evaluator, and the necessity to interact with and have a relationship with the sites, I realised (through my academic supervision meetings) that there was very little that I could do about it. Although it is difficult to articulate, acknowledging the tension, friction and balancing of competing forces and recording them in my research diary became liberating in a way. I began to feel I had permission and was free to move and switch between my dual roles.

11.6 Discussion of the Findings

This section examines the findings from each of the empirical phases and discusses them independently and collectively, using aspects of the findings from the literature review (Chapters 3-6) and some of the experiences of implementation reflected earlier in this chapter. The main aim of this section is to provide additional insight and knowledge relating to QI programmes like PW, gain some further understanding of how they are viewed by their implementing healthcare team and explore some of the determinants that can help or hinder implementation, thus contributing to future implementation efforts of PW in Ireland and elsewhere. This section will also serve to develop some discussion around the JD-R framework and the findings in this study which propose a number of antecedents of implementation which can be framed as either a job demand or job resource. The discussion is organised around the four original research questions to provide an explorative discussion of the findings. Aspects of the qualitative findings are examined and discussed as a job demand or job resource and alternative qualitative measures of improvement performance are suggested for future QI research or practice.

11.6.1 To what extent does the PW initiative ‘engage’ the ward teams who implement it?

The quantitative findings in this study (Chapter 9) support the contention of RQ1, that the PW initiative does engage ward teams that implement it. Whilst there is a view in the literature that individuals engaged in change or improvement efforts is not all that straightforward (Gollop et al., 2004), the quantitative results in this study indicate the contrary. This may in part be due to the initial testing, piloting, marketing and investment that went into developing PW. It has been reported that the ‘releasing time to care’ strapline was added after the piloting phase in order to further ‘engage’ nurses and ward teams into an industrial methods approach that was PW (NHSI and NNRU, 2010a). Bate et al. (2004) advocate the use of this ‘social movement theory’ approach as being a critical enabler, especially amongst healthcare professionals. Although the ‘grass root’ energy approach adopted by PW has been vigorously criticised for creating ‘desirability’ (Rudge, 2013), the sustained, positive WE findings in this study would indicate that to a large extent, the PW methods, tools and patient-focus engages ward teams.

The quantitative findings in Chapter 9 present a new insight and potentially important contribution to knowledge for a number of key reasons. First, it identifies and defines a unique perspective of engagement within the QI context (most probably for the first time) which is WE. Second, it provides evidence to claims in the literature that the involvement or engagement is associated with the success (or perception of success) of healthcare QI efforts (Kaplan et al., 2010, Dixon-Woods et al., 2012). Third it successfully tests the UWES and WE construct, arguably for the first time, as a suitable measure within a QI context. Finally it provides previous critics of PW (Wright and McSherry, 2013) with measured effects and impacts of PW and the confirmation that WE can be maintained and sustained (at least over 12 months).

The qualitative findings (Chapter 10) also, in the main, substantiate the quantitative results, in that staff reported PW and their experiences quite positively. However we know from the literature that QI programmes, like PW, are complex social interventions (Ovretveit and Gustafson, 2002) and that context can affect

improvement efforts (Krein et al., 2010), and is a process that is constantly changing (McDermott and Keating, 2012). It is from this perspective that the qualitative results have provided a much deeper and richer understanding of participant experiences, providing key determinants that can help or hinder the implementation and success of PW. These are discussed in the subsequent sections.

The qualitative findings provide insight and potentially contribute to the knowledge gap identified in the literature review (chapter 3) of the many 'what' factors associated with QI implementation. Examining the PW determinants through the JD-R theoretical lens also contributes to the knowledge and understanding of what elements of PW implementation are viewed as typical job demands and job resources within ward environments. Identifying and managing these determinants during early implementation will undoubtedly impact the WE of participants and contribute to the success of the initiative.

11.6.2 Consideration of participants' experience (perceptions and reflections) of the PW initiative and its implementation?

The qualitative findings in chapter 10 provide a good robust perspective and insight into RQ2 and the experiences of PW participants from an Irish healthcare context. The themes that emerged reflect to some degree the research question in that they have been described in two distinct categories:

- Outcomes or outputs of the programme and what was achieved or attained
- Reflections of how the initiative was implemented and managed (what helped and what hindered).

Many of the determinants (sub-themes) that constitute the theme 'implementation and management' also presented themselves in the findings of the PW literature review outlined in Chapter 5. The contextual determinants presented in Chapter 5 are the result of a content analysis of reports in the literature identifying key elements that have augmented PW implementation efforts (White et al., 2013b). They are presented alongside the constituent sub-themes findings of 'implementation and management' in table 11.1 for comparison.

Table 11.1: Literature Review Findings V's Study Findings

Key Theme/Determinant in PW Literature review	Associated Key Theme/Determinant in Qualitative findings	Theme: Implementation & Management or output
A Robust & Engaging Communication Strategy	<i>Enabling Communication & Information</i>	<i>Implementation & Management</i>
Enabling & Empowering Roles	<i>Choosing Certain Staff</i>	<i>Implementation & Management</i>
Project Planning & Management	<i>Project Management</i>	<i>Implementation & Management</i>
Role of Leadership	<i>Highlighted Leadership</i>	<i>Output</i>
Corporate/Management Engagement & Support	<i>Corporate Support</i>	<i>Implementation & Management</i>
A Financial & Human Resource Commitment	<i>Extra Resources provided</i>	<i>Implementation & Management</i>
Appropriate Training & Support	<i>The Training</i>	<i>Implementation & Management</i>

Authors own source

There are a number of points of discussion that arise from comparing the findings in the literature to the findings in the qualitative analysis of participant's experience. Firstly it is both reassuring and interesting that the majority of findings in the largest theme 'Implementation and Management', generally align with the findings of reports in the literature. However, some of the alignment requires deeper examination of the constituent sub-themes to extract sub-themes that exactly 'match'. For example the literature review theme 'Enabling and Empowering Roles' is aligned to 'Choosing

certain staff', a subtheme of 'Project Management'. Nevertheless, they are present as constituent sub-themes of 'Implementation and Management'.

Secondly it is important to highlight that leadership did feature as a reported key determinant of implementation in both the PW and Lean literature reviews (Chapters 4 and 5). However, leadership did not figure within the 'Implementation and Management' theme and was reported and classified separately, amongst the output and outcome themes (which are a result of PW implementation and management). All of the participants in the qualitative phase expressed a view that PW had highlighted and accentuated elements of leadership amongst the ward team and ward manager. Participants placed particular emphasis on how the ward manager and certain members of the ward team had developed a positive, influencing style of leadership during the implementation of PW.

This finding and thematic classification does not correspond with the general thrust of 'QI', 'Lean' and 'PW' literature which has promoted the role of leadership as a key determinant of QI success (West et al., 2014, Dixon-Woods et al., 2012, NHS Institute and NNRU, 2010a, Mann, 2009, Emiliani and Stec, 2005, Boyer, 1996,). Although there are some references to the PW creating opportunities to grow leadership (Morrow et al., 2012), in general, the literature has not over-emphasised the development of leadership capability as an output of QI. This study therefore contributes to the knowledge and understanding of the role of PW and QI activities in cultivating leaders and building leadership capacity.

Finally, when comparing the themes from the literature reviews in Chapters 3-5 with the thematic findings of participant's experience in Chapter 10, the most notable theme that is absent from the literature review is the 'Negative Experiences of Implementation' which featured strongly within the 'Implementation and Management' theme. Whilst one would not expect to find a large volume of negative implementation experiences amongst the QI, Lean and PW literature, given the financial and political support and reported success the initiative has received, there is a noticeable absence of 'what hindered implementation' information available within

the literature. Although there is general consensus amongst QI researchers and practitioners in relation to the importance of learning from implementation successes and failures, the early work from Pressman & Wildavsky (1973) suggesting the reporting of failed implementation stories, are yet to be realised, at least within the QI context.

The negative experiences of implementation expressed in Chapter 10 therefore provide a unique opportunity for QI and PW practitioners to explore the 'what hindered' list identified and catalogued in this study. The most notable constituent 'challenges to implementation' refers to the busyness of the ward environments and the additional pressure that the PW activities and modules placed on the already overstretched ward teams. Although the misfit of industry-based QI methods (like Lean), with the logic of the public health services have been described previously (Radnor and Osborne, 2012), the impact of this 'misfit' on implementing healthcare teams has not received much attention.

Unlike manufacturing and production industries, healthcare processes in clinical environments cannot be suspended to undertake a process mapping, or 5S exercise. They host real people with real problems and without innovative solutions to release clinical staff from their workload, there will always be an underlying tension relating to whether QI tools and activities are viewed as a job demand or a job resource. Reviewing the reported challenges within this sub-theme, especially in relation to staffing pressures, competing priorities (including essential care duties) and engaging other members of the ward team, there are indications that for some participants, some of the time, PW became a job-demand, thus negatively impacting their WE.

11.6.3 Consideration of the impact of participants' experience on engagement?

In Chapter 10 the qualitative analysis shows it is possible to associate a major theme with WE. Elements of the associated outcome/output theme 'positive experiences, behaviours and attitudes' were then mapped and aligned to aspects of the WE construct; vigour, absorption and dedication (section 10.5). The elements reported in

section 10.5 describe how PW delivered: an enhanced team approach, positive experiences of improving quality, increased levels of enthusiasm, empowerment and the creation of QI champions.

These findings are not dissimilar to the seminal work of West (2013) which draws on extensive research within the UK NHS and correlates HR-related practices, quality of care and mortality. His work describes the importance of a vision of high-quality care that is not just promulgated by leaders, but is also shared and enacted at every level of a health-care system. West (2013) demonstrated that staff engagement was higher in positive, optimistic, and supportive work-place climates and where there were high levels of trust in leadership.

Leadership

I would suggest that many of the PW outcomes/outputs reported by participants, especially under the theme 'positive experiences, behaviours and attitudes, were as direct result of the structure and tools that PW provided to the ward managers, which allowed appreciative, empowering leadership to flourish. This may in some way explain the phenomena identified in the previous section, where leadership did not feature as a key theme of implementation, but was reported as an outcome or output of PW. It may also explain the considerable differential observed in the coding reference pattern of the Rehab site for the theme 'leadership'(appendix R) who also returned far higher WE scores. If the PW modules, tools and structure did facilitate the development and maturity of leadership amongst the implementing ward managers, it may provide some explanation to the mechanisms that elevated WE in this study group.

Teamwork

West (2013) also highlights the importance of teamwork as being a 'key fundamental' to high-quality healthcare. He differentiates between collegiality and high performing teams, outlining how high quality healthcare requires well-defined teams with clear objectives, interdependent working, and regular reviews of team performance. I would again suggest that the modules, methods and tools that are integral to PW,

served to renew the focus of the ward teams participating in this study, creating a culture of team performance and outputs. Participants reported an enhanced approach to teamwork and team problem-solving which had not been previously present. In this new team environment and culture, previous isolated professional concerns about quality and care (an obvious job demand) quickly translate to common team concerns and many participants reported the 'empowering' effect of a team-based approach (an obvious job resource).

The creation and flourishing of a team-based culture, as a reported output/outcome of PW (and possible job resource) is a noteworthy finding. Dixon-woods et al. (2104) have recently reported from their study of 71 NHS trust boards, that the consistent achievement of high-quality care was challenged by unclear goals, poor performing teams, overlapping priorities that distracted attention, and compliance-oriented bureaucratised management. The new emphasis on 'team' created by the PW and reported by participants undoubtedly negated previous job demands and impacted on participant's engagement.

Implementation

It is important not to under-emphasize the role that the experiences of implementation and management of the initiative had on participants WE. Although some of these have been discussed in 11.6.2, the impact that the implementation strategy and effort has influencing WE is worthy of a separate mention.

Almost all elements of the theme 'Implementation and Management' can be framed as a contextual job demand or job resource, thus directly influencing WE. Project management, information and communication, preparation for PW and training delivered appropriately, to the right people, at the right time, can be viewed both independently and collectively as a job resource. Alternatively, if they are delivered inappropriately, omitting key individuals or groups, they can be framed as a job demand. Either way they have the potential to be a major impact on the engagement of participant's.

A recent literature review of 107 QI implementation studies (Alexander and Hearld, 2013) identified four types of predictors that were assumed to affect implementation, engagement and success of QI interventions (content of QI innovation, organisational processes, internal context, and external context). Internal context and organisational processes (the way the intervention was invoked and managed within the organisation) were the most frequently studied categories. However, it was the external context and organisational processes (the way the intervention was invoked and managed) that exhibited the highest rate of positive effects on QI implementation, engagement and success.

Identifying and describing the 'positive experiences/behaviours/attitudes' of participants that are positively linked to WE contributes knowledge and understanding in considering what influenced these experiences/behaviours/attitudes. Whilst leadership and teamwork have come to the fore as impressing participants experiences/behaviours/attitudes, it is the determinants of implementation and management of the initiative (the organisational processes) that have had the most influence on vigour, absorption and dedication (or WE) of participants.'

11.6.4 The relationship between engagement and improvement performance?

The quantitative findings in section 9.8.2 addressed RQ4 and reported that no significant relationship was found between WE and DPC times. One direction of enquiry and discussion at this juncture is the appropriateness and 'fit' of the DPC times as a suitable measure of improvement performance. At the research design stage, it seemed appropriate to utilise the measure as it was standardised, was simple and easy to use, was periodically collected and was reported as part of the national implementation structure. Other measures of improvement not used in this specific study, could perhaps yield other perspectives of relevance to the findings if applied.

For example the qualitative results in chapter 10 identified a number of output and outcome themes that could be viewed as improvement performance measures. Rated high amongst the number of citations was the theme 'organisational benefits'. Many

of the achievements and successes expressed could potentially be described as improvement performance. If one was to take this constituent sub-theme as a measure of improvement success, 22 of the 24 participants provided examples of improvements that had taken place within the ward environment. Many of these improvements were structural changes to the layout of the ward in order to improve flow and reduce waste. Nevertheless the still represent a measure of improvement performance and a robust data collection tool could be designed to capture this improvement data.

A second potential alternative measure for improvement performance lies in the reported output/outcome theme 'leadership'. All of the participants reported that the initiative had highlighted positive leadership, either with the ward manager/lead or within the team. West's (2013) research shows that a key determinant of quality healthcare is the extent to which healthcare staff are managed effectively, through promoting empowerment, satisfaction and commitment at work. He reports that this is achieved via supportive, respectful, and appreciative supervisory leadership, along with appropriately designed human resource management practices. If one was to accept the development of leadership capacity as a measure of improvement performance, based on the qualitative results presented in this study, there is a definitive relationship between positive WE and improvement performance.

The final potential measure of improvement performance that is available from the qualitative findings in this study is in the output/outcome theme 'the learning'. The vast majority of participants identified aspects of learning that had taken place in relation to QI methods and tools. Some participants identified the learning that had taken place in relation to communicating effectively as a team. Many highlighted the power of learning by sharing and networking. Participants expressed that the learning was integral to creating a culture of measurement, knowledge about improvement tools and methods and QI. This QI culture was reported as being absent before the introduction of PW. The vast majority of ward-team members indicated that they were too busy delivering care to even think about quality prior to the PW initiative.

Mannion et al. (2005) in a multiple case study design compared the cultural characteristics of 'high' and 'low' performing hospitals in the UK NHS. They found that different cultural patterns (many involving quality of healthcare) could be identified within cases grouped by performance, and concluded that organisational culture and attitudes relating to QI can be associated with performance.

If one were to accept QI knowledge and learning as an improvement performance metric, then this study demonstrates that there is a positive relationship between QI knowledge/learning (a QI culture) and WE.

The main point of discussion in this section relates to the difficulty in identifying, capturing and measuring improvement performance measures at ward and organisational level. In hindsight attempting to capture improvement performance just using one quantitative measure in my study design was shortsighted. As highlighted above, other improvement performance measurement opportunities could have been explored and utilised thus giving an alternative perspective to RQ4. The 'learning' from this reflection contributes to the knowledge-base and debate in relation to utilising useful and robust measures that are suitable for QI practice and evaluation/research.

11.7 Chapter Summary

Mason (2002) proffers the role of the phenomenological researcher as an integral part of the interpretation offered, including themselves in the texts they produce so that the research (or evaluation) account can be read as an integrated account.

A reflexive reading will locate you as part of the data you have generated ... You will probably see yourself inevitably and inextricably implicated in the data generation and interpretation processes, and you will therefore seek a reading of the data which captures those relationships.

(Mason, 2002 p. 149)

I agree with the contentions of Mason and others who articulate that positioning oneself within the text enhances rather than detracts from the research narrative by facilitating the reader in forming their own opinions about the relevance of the study.

I have therefore attempted to make myself and my reflections in relation to both the implementation and the research evaluation process more visible to the reader.

In this chapter I have offered my reflections of implementation in terms of what went well, what went wrong and what is next for PW. How and what the PW has influenced, and what I, in my role as implementer, have influenced, both in terms of PW and healthcare QI policy, are then examined. I then explored some of the implications that adopting an action evaluation approach had for my dual role and for this study, highlighting some of the opportunities, challenges and tensions that were created on my journey. In particular I have tried to highlight and address my difficulties in managing an action evaluation whilst juggling the competing and often conflicting roles of manager–implementer and researcher–evaluator. The process of managing the implementation and transitioning the initiative from pilot to stand-alone programme while writing a PhD has proven most challenging, specifically in relation to the requirement to meet the many, very different agendas. In hindsight it was probably both naïve and unrealistic of me to suppose that there would have been little or no conflict in managing the competing needs, priorities and interests of this national initiative and an action evaluation.

The discussion of findings towards the end of this chapter identifies a number of key points and alternative perspectives which can be derived from the empirical phases of this study. It highlights that many of the determinants of implementation and management established in the qualitative phase (chapter 10) are not too dissimilar to the findings of key determinants identified in the literature review chapters.

One important contribution to the literature that this study provides is the detailed compilation of negative experiences of PW implementation. This provides future implementer and researchers with a comprehensive list of determinants that ‘hindered’. This aspect contributes to the stories of implementation difficulties of failure which are absent in much of the QI literature.

The discussion of findings also explores elements of the themes ‘positive experiences, behaviours and attitudes’ and ‘implementation and management’ to ascertain if any

aspects can be attributed to participant's engagement. Finally, potential improvement performance measures base on the qualitative results are proffered as alternative measures of QI performance.

Chapter 12: Conclusion

12.1 Introduction

This study was guided by three aims that translated into four research questions:

- **RQ1:** To what extent does the PW initiative 'engage' the ward teams who implement it?
- **RQ2:** What are the participants' experiences (perceptions and reflections) of the PW initiative and its implementation?
- **RQ3:** What elements of participants' experiences impact on engagement?
- **RQ4:** Is there a relationship between engagement and improvement performance?

The first and primary aim of this study aimed to examine the relationship between QI activity (participation in a QI intervention like the PW programme), engagement and a QI outcome. These were addressed through RQ 1 and RQ3. Although the longitudinal survey positively supported the proposition that participation in the QI improvement programme PW engages participants, the examination and analysis of the main QI data from the initiative failed to support the proposition that engagement is positively related to QI outcomes. However, exploration of the qualitative data in Chapter 11 draws attention to the suitability of DPC times as the sole measure and indication of performance improvement. A number of outcomes and outputs were identified in the qualitative analysis which could possibly provide an alternative measure of QI. These include many of the positive experiences and behaviours, organisational benefits realised and the influence of leadership. In relation to this aim, this study also provided some clarity around the term and concept of engagement, and suggested a working definition and measure that is suitable for healthcare QI.

The second aim of this study was to explore the experiences and perceptions of participants involved in the PW initiative to identify possible key determinants attributable to engagement. This was addressed by RQ2. This study identified a broad range of key contextual determinants that impact on both the implementation and outcomes or outputs related to the PW initiative. Qualitative analysis identified a

possible relationship between the theme ‘positive experiences/behaviours/attitudes’ and WE. The constituents of the ‘implementation and management’ theme were mapped against the WE construct (vigour, absorption and engagement) for ‘fit’ and many of the elements firmly aligned.

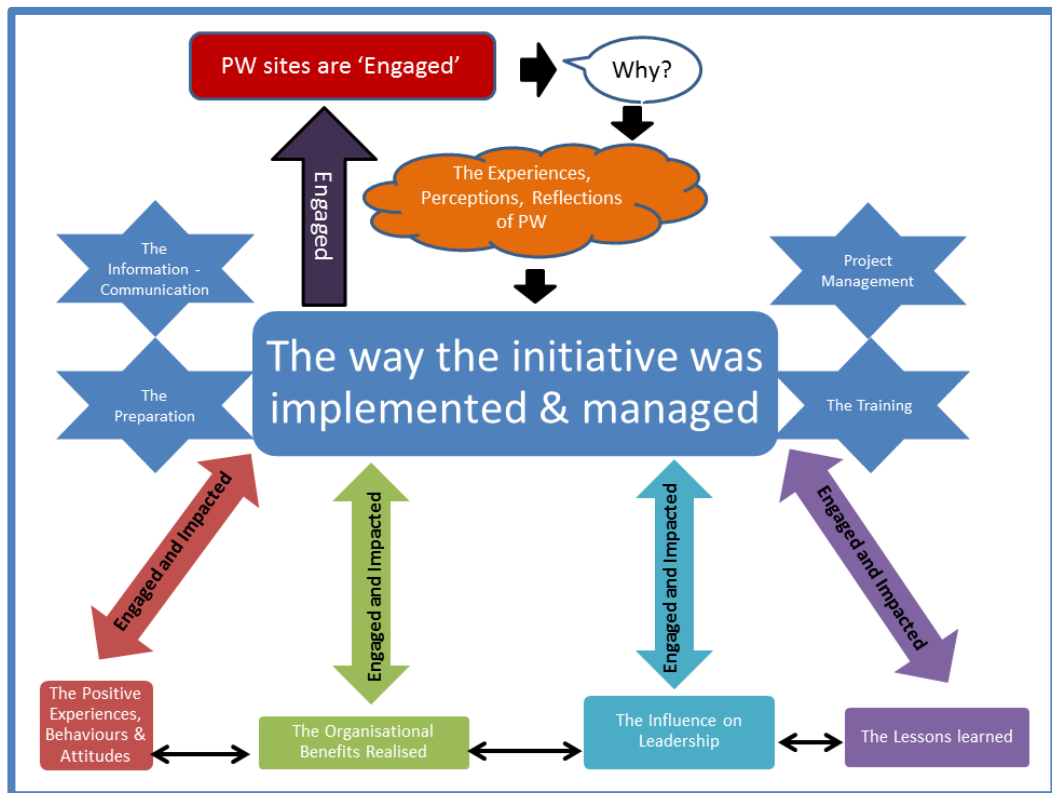
The final aim of this study was to reflect on and review the value of action evaluation as a suitable approach for obtaining appropriate research and evaluation data for a QI intervention. Much of chapter 11 is dedicated to reflecting and discussing how this study has delivered a critical, robust research study which has already influenced and impacted implementation of the initiative in Ireland.

In section 12.2, I summarise the issues that emanated from the empirical phases and research questions of this study, starting with the literature review, which shaped the research design, and followed by a summary of each research phase that are structured around the three research aims and associated research question. I discuss the theoretical contributions made by this study under each aim. The methodological contributions of each element of the mixed methods approach adopted by this evaluation are discussed in section 12.3. The implications for future PW and QI implementation and recommendations for further research are highlighted in sections 12.4 and 12.5 respectively. Section 12.6 reflects on some of the limitations of this study (and evaluation) as a whole. This chapter closes with some final reflections relevant to the action evaluation process and the production of a dissertation.

12.2 Key Findings, Implications and Contributions in accordance with each research aim

In this section, I summarise the key findings from the literature review, the three empirical phases, and reflect on the theoretical contributions with respect to the aims of this study. Although each research phase included a complete discussion of the findings in the results chapters (Chapters 9 and 10), and a general discussion of the findings is presented in chapter 11, the focus in this section is on the main points which have the most important implications. Figure 12.1 provides a conceptualisation of the significant relationships identified from the empirical phases of this study.

Figure 12.1: Significant Relationships



12.2.1 Aim 1: The relationship between QI activity (participation in a QI intervention like the PW programme), engagement and a QI outcome (RQ1 and RQ4)

The concept of a QI–engagement relationship was first identified in the literature review in Chapters 3 - 5 and was expanded and developed into RQ1 and RQ4 in Chapter 7. Identifying an appropriate definition, concept and measure of engagement suitable for QI and this study was explored in Chapter 6. The QI–engagement relationship was examined through the longitudinal survey outlined in Chapter 8 and reported in Chapter 9. The survey focused on measuring and establishing WE amongst a national cohort of PW sites who had just started implementing the initiative. In order to measure and gauge the effect, the results were then compared to a matched control group. The 12-month follow-up survey confirmed the initial positive result of increased levels of WE amongst the PW group, endorsing the proposition that the QI activities associated with the PW initiative could sustain WE.

The proposition of an engagement–QI performance relationship was identified in Chapter 6 of the literature review, which highlighted the literature attributing engagement with organisational performance. This relationship was primarily examined through the collection of QI performance data (DPC times) from the participating PW sites over two time periods, and compared with the corresponding WE scores (Phase 4 of the study design). This phase of the study tested the proposition that changes in mean WE scores would relate to changes in QI performance data.

Contributions to theory and knowledge

The process of examining the first aim through RQ1 produced a number of significant findings that contribute to knowledge and theory. The first relates to the provision of a definition and measure of engagement that is wholly suited to an improvement or QI environment. The QI, Lean and PW literature provides anecdotal reports of engagement without any definition or empirical measure. This study contributes a robust definition of engagement, that is, WE, which has been tested in a QI/Lean/PW intervention, through this study and has produced a convincing measure of effect. The quantitative findings also identify the shortcomings of the measure when used without rich, qualitative details of context. This study therefore contributes additional knowledge and understanding to the WE field and the expanding domains of QI and Lean healthcare.

The second contribution relates to the finding that PW sites were more positively engaged over two time periods when compared to a matched control group. This finding provides evidence, arguably for the first time, to add to the growing body of knowledge and literature proposing that PW (and other QI interventions in their various guises) with its various methods and tools, can engage employees who participate, thus making important contributions to improvement science and

implementation theory¹⁰, as well as the QI and Lean healthcare literature. The findings from RQ1 also contribute to the knowledge and understanding of social movement theory¹¹ which was integrated in the early design of PW in order to mobilise ward teams to engage with an industrial method in order to 'release time to care'.

The third contribution lies in the findings that different contexts (clinical environment or site specialty) and employment grade had some effect and impact on participants' WE scores. Whilst this broadly contributes to some elements of 'context' theory¹², it also contributes to theoretical understandings that QI interventions are complex social interventions (Ovretveit, 2011b) and impact on socio-technical systems (Joosten et al., 2009).

The final contribution is in the testing of WE as an antecedent and mediator of QI performance. The organisational-behaviour literature provides ample evidence of the positive relationships between engagement (including WE) and work or job-related performance (MacLeod and Clarke, 2009, Bakker and Schaufeli, 2008). There has been little or no empirical evidence regarding the impact and role of engagement on QI performance. Although the findings in relation to RQ4 were inconclusive for the QI performance measure chosen in the quantitative phase of this study, QI outputs and outcomes were recorded in the qualitative phase. These output and outcome themes may be specific at representing a QI performance measure, and include leadership, learning and teamwork amongst them. This study therefore makes an important contribution to understandings of WE (and the associated JD-R theoretical framework) and its transferability into other organisational-performance or QI fields.

¹⁰ Implementation theory is an area of game theory closely related to mechanism design where an attempt is made to add into a game a mechanism such that the equilibrium of the game conforms to some concept of social optimality.

¹¹ Social movement theory generally seeks to explain why social mobilisation occurs, the forms under which it manifests, as well as potential social, cultural, and political consequences.

¹² Context theory is the theory of how environmental design and planning of new development should relate to its context. When decisions have been made they are implemented by means of land Use plans, zoning plans and environmental assessments. A number of context theories set out principles for relationships new designs and the existing environment.

12.2.2 Aim 2: To explore the experiences and perceptions of participants involved in the PW initiative to identify possible key determinants attributable to 'engagement' (RQ 2 and RQ3)

The purpose of this aim was primarily to establish a broad understanding of experiences, issues and reflections of participants involved in the PW initiative. This translated into and was addressed by RQ2. A secondary ambition related to identifying a number of common, key determinants that may affect the engagement of participants and this was addressed through RQ3.

The common determinants experienced by participants are initially identified in the literature reviews in chapters 4 and 5 and principally examined in the second empirical phase of this study, the in-depth interviews outlined in Chapter 8 (reported in Chapter 10). The findings of this qualitative phase of study are summarised in Figure 12.1.

Contributions to theory and knowledge

There are two important theoretical contributions associated with research aim 2 that are primarily addressed by RQ2. Firstly, this qualitative phase of study and subsequent findings adds to the limited but growing body of knowledge in relation to understanding the conditions for improvement, that is, the many contextual influences that affect improvement success. This study broadly supports the proposition that PW, as a QI initiative, is a complex social intervention (Ovretveit, 2011a, Dixon-Woods et al., 2012) with many internal contexts or conditions, a finding arising from the detailed qualitative analysis of participants' experiences of implementation.

In this regard, the study identifies and reports a list of common (contextual) themes that can be classified as related to implementation and management of the initiative and themes that can be regarded as outcome or outputs of the implementation of PW. The theme 'implementation and management' provides an inventory of common key determinants that will help or hinder implementation efforts and can guide future application and roll-out of PW. Amongst this theme (the largest by way of citations/expressions) is the sub-theme 'negative experiences of implementation' which catalogues the elements of implementation that participants found most

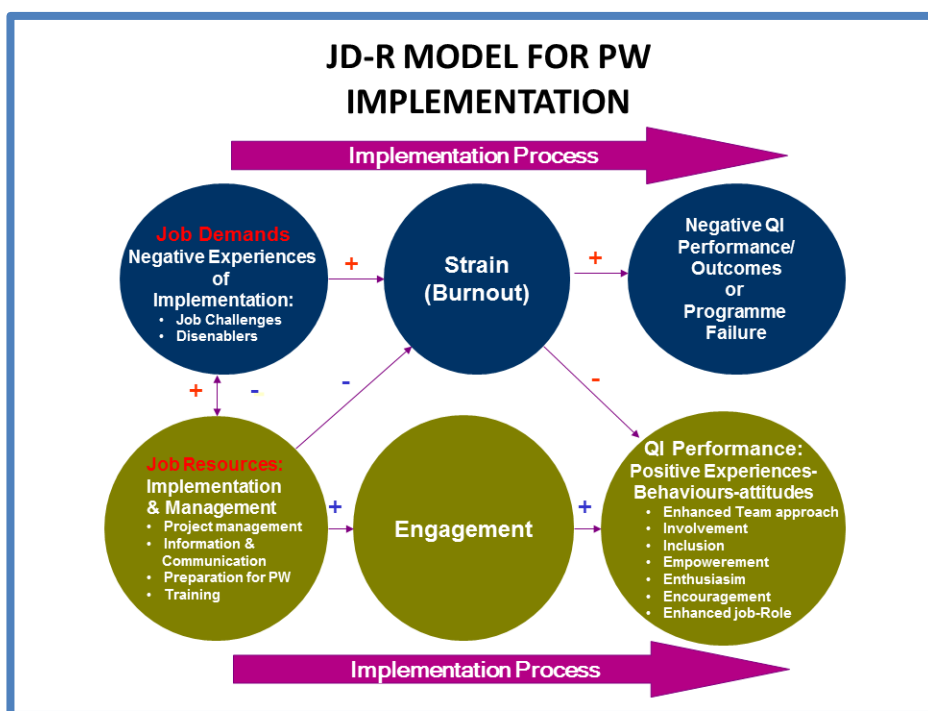
difficult and challenging. This inventory of difficulties and challenges represent an honest list of 'what hinders' implementation, progress and success with PW (or possibly any QI intervention) and contributes researched knowledge and understanding to the PW literature . This finding (and subsequent inventory) of 'negative experiences' contributes to implementation theory, as many elements of the list represent possible mechanisms for or risks to implementation failure.

The other reported themes represent many of the key impacts, outcomes or outputs that can be realised as a result of the PW and its implementation. These findings and themes now provide (arguably for the first time) empirical-based insights and lessons of PW implementation, thus contributing to the QI/Lean healthcare/PW literature and the associated contextual and implementation theory base.

The second important theoretical contribution relates to the qualitative analysis performed with the theme 'experiences/behaviours/attitudes', and its endeavour to align with WE . As many of the aspects from the theme can be mapped and associated with the WE construct (vigour, absorption and dedication) this finding substantiates, to some degree, the findings from the first empirical phase, associating positive WE with the positive QI performance outputs (enhanced team-working, involvement and inclusion of the team, empowerment, enthusiasm etc.).

Although the JD-R theoretical lens could not determine direct correlations with the largest qualitative theme, 'implementation and management', this thesis nevertheless makes an important contribution to the JD-R theoretical field. By mapping the determinants of 'implementation and management' as either 'job demands or resources' and translating the output/outcome themes identified in the analysis as QI 'performances' in the JD-R framework, a practical implementation model for PW is proposed (see Figure 12.2).

Figure 12.2: The JD-R Model for PW Implementation



The lack of citation analysis evidence to support or connect the JD-R framework to participants' experiences of implementation and management or another aspect of PW output or outcome (other than positive experiences/behaviours/attitudes), does not distract from the findings that further interrogation of the qualitative findings provided. Section 11.6.3 articulates that it is reasonably simple exercise to align constituent elements of the outcome/output theme 'positive experiences/behaviours/attitudes' with the constituent elements of the WE construct, vigour absorption and dedication. This in itself represents an interesting and a noteworthy contribution.

The ease with which the qualitative findings align to the WE construct adds credence to the view that 'one size does not fit all' when it comes to defining 'engagement' and that there are other aspects that support and effect the WE construct which do not feature in the definition or construct. These findings contribute knowledge and understanding to the growing theory and evidence base that context is pretty much everything in QI implementation (Dixon-Woods et al., 2012, Dixon-Woods et al., 2013,

Radnor, 2011, Bate et al., 2014). Everything, that is, except the QI intervention itself (Ovretveit, 2011a).

12.2.3 Aim 3: To reflect and review the value of ‘action evaluation’ as a suitable approach for obtaining appropriate research and evaluation data for a QI intervention

In addition to the theoretical contributions provided by the first two aims, Aim 3 specifically focuses on the question of whether action evaluation is a suitable approach for obtaining appropriate research and evaluation data for a QI intervention. The robust standards applied to the review of the literature and the four empirical phases of research broadly support the proposition that this action evaluation approach was fit for purpose. It was fit for purpose in that it provided useful research/evaluation data and delivered an immediate practical focus, involved me, the researcher–evaluator, in an independent role with the intervention users, and allowed me as the implementer to make subtle changes to implementation. Although the action evaluation approach is explicitly covered in the previous reflexive chapter, it is worth noting that judging the quality of findings from an action evaluation is wholly based on the ‘usefulness’ of the data collected for assessing or improving the intervention from the users’ or providers’ perspective (Ovretveit, 2002).

Contribution to theory and knowledge

This study, with its action evaluation approach, makes an important theoretical contribution. It challenges the traditional action research approach which promotes the interpretive perspective by introducing the JD-R theoretical framework as theory for understanding mechanism. By blending an experimental approach (and propositions) with a causal and explanatory assumption, this study contributes a unique perspective to the action evaluation and healthcare field.

12.3 Methodological Contributions of this Study

In this section I briefly consider the methodological contributions made by each empirical phase. In the first and third phase, the longitudinal survey, I primarily focused on measuring the QI–engagement relationship. This phase of study has three

particular strengths. Firstly, objective and reliable WE measures were obtained via an anonymous postal survey, which, acknowledging the bias associated with an action research approach, nevertheless served to reduce the risk of implementer–evaluator bias and to improve the validity of the results.

Secondly, introducing an experimental design with a control group identified and measured effect, which was repeated across many settings. This improved the reliability and validity of the results.

Thirdly, by collecting the data across two time periods, with the PW intervention occurring in-between, it was possible to examine the relationship between T1 and T2 changes using the variables. Both of these approaches to the design considerably improved the methodological strength, addressing concerns in relation to the action evaluation approach. This is one of the first quantitative impact studies of the PW initiative.

In the third phase, the qualitative study, I focused on exploring the experiences of and reflections on implementation in participants actively involved in the PW initiative. Despite the popularity of the initiative, only a small amount of exploratory empirical evidence exists that establishes participant experiences in any depth. Utilising qualitative methods on such a large cohort of participants in this study has highlighted a depth and richness of experience which is not evident in the PW literature presently. Future post-doctoral publications from the qualitative element of this study will positively benefit the PW literature. Using the thematic analysis principles of Creswell (2005), this study categorised the experiences into five major themes. Through the use of NVivo and advanced coded-data patterns, this study provides a robust secondary analysis which identifies and confirms a relationship between the positive experiences/attitudes/behaviours in the qualitative phase and the WE ranking patterns in the quantitative phase.

Finally, the longitudinal collection of QI performance data (DPC times) primarily focuses on the engagement–QI performance relationship. By cross-referencing this data with the T1 and T2 WE data collected in Phases 1 and 3, this triangulation

approach adds credence to methodological design and has two particular strengths. This QI performance data was collected and measured by the participating PW sites themselves, which reduces the risk of implementer–researcher bias and improves the validity of the results. Secondly, just like Phases 1 and 3, by collecting the data across two time periods with the PW intervention occurring in-between, it was possible to analyse the relationships between the changes in the variables. Again both of these approaches to this phase of research design improved the methodological strength of the evaluation and the quality of this dissertation.

12.4 Implications for Implementation and Practice

The main aim of an action evaluation approach is to help QI users and providers to change or adapt their QI programme by providing a practical, involved focus or view (Ovretveit and Gustafson, 2002, Ovretveit, 2002). The conclusion of this study therefore has and will have a number of implications for practitioners going forward. Firstly, as discussed in the previous chapter, the results of the Phase 1 study influenced the scale and pace of further phases of roll-out. The qualitative phase influenced the readiness assessments and the amount and type of training provided in further phases of implementation.

Secondly, the primary measure in this study, engagement (or more specifically WE), has gained considerable interest with QI practitioners in recent years. For example, recent publications by the Health Foundation and the King’s Fund in the UK highlight staff engagement as a key challenge and priority (Dixon-Woods et al., 2012, The King's Fund, 2012). Given the substantial differences between engaged and disengaged employees in terms of employee activity, performance and output, as well as the potential business advantages of converting unengaged to engaged, it is surprising that employee engagement, as a topic, has not dominated the interest of QI practitioners and researchers. The findings of this study would advocate and support the use and measure of WE as a fundamental element of measuring PW (and QI) implementation impact. However, the measure of WE in isolation, without the rich qualitative data and analysis, provides nothing more than a measure of impact. Used in conjunction

with qualitative measures and analysis, it can provide additional understanding to the measure and its construct (vigour, absorption and dedication).

The findings in the qualitative phase suggest a list of key contextual determinants of implementation and management, common across all sites which can be interpreted as job resources or demands and are reported to both positively and negatively impact (help or hinder) implementation and management efforts of PW. How the initiatives implementation and management processes directly impact the positive experiences-attitudes-behaviours, a desired QI outcome/output still needs to be fully understood (see Figure 12.1 and 12.2). It would therefore be beneficial for practitioners introducing or expanding the PW programme to examine each site independently to include or tailor many of these key determinants into their implementation design.

The theme 'negative experiences of implementation' provides a key list of 'things to observe and improve' during implementation for both PW sponsors and practitioners. There are also a number of implementation lessons highlighted in the reflexive chapter (Chapter 11) which would benefit future PW and QI initiative implementation and roll-out. The most obvious is the requirement to robustly use a readiness assessment to identify both suitable and unsuitable sites for implementation in terms of context and leadership. The second important lesson relates to positive results that were achieved with the supportive implementation structure used by this national pilot and which would benefit future implementation policy and strategy.

Cognisance should also be paid to the implementation lessons reflected in Chapter 11 in relation to the exposure of more ward-team members to training/networking and the many benefits this exposure brings. The power of 'improvement' stories and the web-based support feature prominently in the reflexive lessons learned in the previous chapter and will most definitely feature in future QI training and support in the HSE.

Finally, the most important implementation lesson can be found in exploring the 'what went wrong in PW implementation' (Chapter 11, section 11.2.2). The most prominent determinants of what went wrong relate to variability in ward-manager leadership and

dwindling or absent corporate management support for the initiative. Paying attention to these two elements alone prior to implementation will result in a much smoother implementation and more consistent improvements.

12.5 Strengths and Limitations Relating to this Study

Strengths

In addition to the limitations highlighted for each empirical phase of study (Chapters 9 and 10) and the reflexivity chapter (Chapter 11), there are a number of strengths and limitations which relate to this study in its entirety.

The strengths of this study lie firstly in the thorough exploration of a very broad and expansive literature base. Four distinct phases of review were conducted, a unique fusion of business, Lean, healthcare improvement and organisational behaviour literature.

The second area of strength lies in the study's multi-method, multi-organisation, multi-participant and multi-level design.

Multi-method: data was gathered in a number of ways – a large participant survey (n=668) over T1 and T2. Twenty-four ward-based team members participated in the qualitative phase, which used in-depth interviews. Triangulation of data from multiple sources improved the overall understanding of the PW participant experience through analysis and comparison between the data sets.

Multi-organisation: this study sampled 18 organisational sites in total, nine PW sites (four medical, two surgical, two rehab and one elderly) and nine matched control sites. Attention was focused on the nine PW sites for the qualitative phase. This entire cohort of a national phase of implementation provides a representative overview of 'general' ward environments

Multi-participant: this study includes data from a range of staff and professional grades which make up ward-based teams, including nurses, healthcare assistants, ward clerks and domestic staff. Participant views in the qualitative phase of study were representative of these grades.

Multi-level: the views of front-line staff (nurses, healthcare assistants and household staff) and managers (ward leads and junior ward managers) were included in this study. Findings in both the quantitative and qualitative phases of study were examined and interpreted via the employment grade lens.

Limitations

Whilst an initial aim of this study was to identify possible key determinants from PW experiences that are attributable to 'engagement', it has not been possible to fully explore all of these issues in their entirety. The focus of the qualitative phase of study was shaped both by the literature and by my role as implementer–evaluator, which probably led the direction of enquiry down a very 'implementation and management-orientated' path when other contextual paths were available. This limitation could in itself form the basis of a recommendation for further empirical work.

An original aspiration of this study was to include many other professionals as part of the inter-disciplinary team, but ultimately many professional groups, including medical staff, are only visiting members of ward teams and the sample is mainly comprised of registered nurses and healthcare assistants.

Although the limitations of an action evaluation are discussed in Chapter 11, from a study perspective being an implementer and evaluator is a limitation in itself. The scale and pace of this piece of work and the dual role has been far greater than I ever anticipated and has probably resulted in a much broader focus of enquiry than originally intended; there are a number of elements of this study (outlined in 11.4) which would make interesting post-doctoral work.

Finally, I recognise that this study only has limited scope, being related to a unique QI programme in the Irish health system. I contend that many separate elements of the empirical phases findings can and will be used in future practice and research as a direct result of the robust standards applied throughout this study.

12.6 Recommendations for Future Research Arising from this Study

This evaluative study provides a novel and unique perspective of PW implementation and points to a number of opportunities for future research. Firstly, further work could examine and test the WE measure in other QI or Lean settings. Whilst this study provides a practical, robust, working definition for engagement within QI, this merits some additional empirical work to further test suitability and usability. It is my contention that the WE measure is only suitable for measuring impact or effect. This study therefore suggests that using the WE measure only becomes meaningful in QI research when it is augmented with a qualitative measure and analysis of environment and context.

Secondly, the JD-R model for implementation proposed in Figure 12.2, which is designed to aid practitioners in introducing or rolling-out PW into new sites, deserves testing, evaluation and development. There is little doubt that there are other key determinants or contextual factors that are common to the PW initiative and 'general' clinical environments that may not have featured in this study and which could aid or guide implementation.

Thirdly, further in-depth longitudinal work to examine the sustainability of WE in ward-based teams is warranted. The majority of PW sites reported reduced WE scores over the 12-month period and the question of whether participants continue to have the same levels of vigour, absorption and dedication with QI activities after 18 or 24 months is a pertinent one.

Fourthly, although the use of the standardised QI performance metric DPC did not support the proposition regarding the WE and QI performance relationship, the results of the qualitative phase of the study did to some degree. All participants identified organisational benefits and achievements. All participants reported positive experiences/behaviours/attitudes that correlated with their engagement scores. These QI outcomes and outputs are performance measures in themselves and deserve more specific study, possibly identifying and using unique performance measures for each PW site.

I also suggest further qualitative work to shed light on the interactions between the implementation and management themes and the outcome/output themes identified in the qualitative phase of this study. Rehab and Elderly sites were, for example, highly expressive about their experiences of and reflections on leadership. There is little doubt that the impact of 'implementation and management' on the outcome/output themes is reciprocal in some way and both may impact on QI performance to some degree. It would be interesting to examine the relationship and this deserves further exploratory work.

Lastly, I would propose more specific studies at organisational level to further examine the issues highlighted under the theme 'implementation and management'. These studies would explore how different climates or environments, support structures and management styles impact upon the implementation and WE of ward-based teams, for example:

- the role of the local ward-based team environment in providing support for and understanding of PW, its purpose, methods and activities.
- the role of middle (project) managers and ward managers (leads) in providing this support and training.
- the impact of ward-based job demands, the extent to which they detract from the engagement of ward-based teams and QI performance, as outlined in Figure 12.2.
- the piloting and evaluation of strategies to build resilience that would support engagement and help to sustain QI efforts in ward-based teams

12.7 Conclusions

This study makes important contributions to understandings of one of the most prominent Lean-based healthcare improvement initiatives (Waring and Bishop, 2010). The first important point to note is that this study supports the dominant view in the literature that QI improvement activities/interventions 'engage' their participants. Addressing research aim 1 and RQ1, this study provides the empirical evidence to support this claim in finding that a national cohort of participants involved in early

stage implementation of PW was considerably more engaged than a matched control group. This finding was repeated 12 months later in a repeat measure.

Despite this finding, exploring participant experiences through research aim 2 did not confirm the proposition that QI, its tools and methods were simply an aspect of job resources in the JD-R theoretical framework, and this proposition requires further exploration. There are some elements within the theme 'implementation and management' that can easily be interpreted as either job demands or job resources all of which become antecedents of WE. The qualitative and quantitative findings did, converge to support a relationship between WE and the theme positive experiences/behaviours/attitudes. The findings from this qualitative phase are presented as either implementation/management or outcome/output themes.

The implementation and management theme provides a list of key determinants (or common contextual factors), identified by participants, which forms a useful inventory to guide what helps and hinders implementation of PW. The outcome/output themes provide a catalogue of expected consequences or deliverables from PW implementation. The implementation/management and outcome/output themes contribute to a PW implementation conceptualisation that will no doubt be of value for future implementers and further research. The JD-R model was also conceptualised, adapted and reframed to provide possible explanations for the findings.

Although no direct relationship was found between engagement and the QI performance measure DPC, this study provides further understanding of the role of engagement in predicting other QI outcome/output measures in terms of positive experiences/behaviours/attitudes. This imparts further intelligence in trying to understand some of the organisational-behavioural elements associated with QI and the PW initiative, highlighting both the complexity and diversity of the QI performance outputs that can be both measured and attained.

In relation to research aim 3, this study concludes that an action evaluation approach adds to our understanding of PW and of the experiences of the ward-based teams who

are implementing it in Ireland. Although not without its challenges, by adopting a robust approach and taking particular care in data collection, interpretation and presentation of results, this study is testament that the approach can deliver its objectives. It does so through the collection of: accurate data to assist implementation, reliable measures of impact, and objective data to explore reasons and associations. Lastly, it does so by being of sufficient quality to fulfil the academic standard and requirements of a PhD. This study contributes to the action evaluation approach by providing open, honest reflections of the ways in which bias was acknowledged and addressed.

Finally, this study makes important contributions to both the WE and QI fields. Firstly, it contributes by the merging of two prominent contemporary research areas of interest. Secondly, despite the fact that we now know the important mediating role that employee engagement has on business performance and outcomes, we know very little about its role and impact on QI performance and outcomes. This study has demonstrated the value of examining engagement from a QI and implementation perspective whilst exploring some of the explanatory components in a national QI initiative, the PW.

References

- ABDELHADI, N. & DRACH-ZAHAVY, A. 2012. Promoting patient care: work engagement as a mediator between ward service climate and patient-centred care. *Journal of Advanced Nursing*, 68, 1276-1287.
- ADRIAENSSENS, J., DE GUCHT, V., VAN DER DOEF, M. & MAES, S. 2011. Exploring the burden of emergency care: predictors of stress-health outcomes in emergency nurses. *Journal of Advanced Nursing*, 67, 1317–1328.
- AHERNE, J. 2007. Think Lean. *Nursing Management*, 13, 13.
- AHERN, K. J. 1999. Ten tips for reflexive bracketing. *Qualitative Health Research*, 9, 407–411.
- AIKEN, L., CLARKE, S. P., SLOANE, D. M., SOCHALSKI, J. & SILBER, J. H. 2002. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*, 288, 1987–1993.
- ALEXANDER, J. A. & HEARLD, L. R. 2009. What can we learn from quality improvement research? A critical review of research methods. *Medical Care Research and Review*, 66, 235–271.
- ALEXANDER, J. A. & HEARLD, L. R. 2013. The Science of Quality Improvement Implementation Developing Capacity to Make a Difference. *Medical Care*, 49, S6 - S20.
- ALEXANDER, J. A., WEINER, B. J., SHORTELL, S. M. & BAKER, L. C. 2007. Does quality improvement implementation affect hospital quality of care? *Hospital Topics*, 85, 3–12.
- ALLSOPP, P., FARUQI, J., GASCOIGNE, L. & TENNYSON, R. 2009. Productive Ward 2: practical advice to facilitators implementing the programme. *Nursing Times*, 105, 19–21.
- ANDERSEN, H., RØVIK, K. A. & INGEBRIGTSEN, T. 2014. Lean thinking in hospitals: is there a cure for the absence of evidence? A systematic review of reviews. *BMJ Open*, 4.
- ANTHONY, S. 2008. The 'Productive Ward' comes to maternity services. *Midwives*, 11, 34–35.
- ARMITAGE, C. & HIGHAM, P. 2011. The Productive Ward: encouraging teambuilding and innovation. *Nursing Management – UK*, 18, 28–31.
- ATKINSON, S., INGHAM, J., CHESHIRE, M. & WENT, S. 2010. Defining quality and quality improvement. *Clinical Medicine*, 10, 537–539.
- AVELING, E. L. & JOVCHELOVITCH, S. 2014. Partnerships as knowledge encounters: A psychosocial theory of partnerships for health and community development. *Journal of Health Psychology*, 19, 34–45.
- AVIS, K. 2009. Releasing Time to Care in Saskatchewan: promising signs that programme engages clinicians. Saskatoon SK: Health Quality Council.
- AVIS, K. 2011. *Looking back thinking forward: Insight and recommendations from health region leadership on creating a culture of continuous performance in Saskatchewan*. Saskatoon SK: Health Quality Council.
- BABCOCK-ROBERSON, M. E. & STRICKLAND, O. J. 2010. The relationship between charismatic leadership, work engagement, and organizational citizenship behaviors. *Journal of Psychology*, 144, 313-326.

- BAKKER, A. B. & DEMEROUTI, E. 2009. The crossover of work engagement between working couples : a closer look at the role of empathy. *Journal of Managerial Psychology*, 24, 220-236.
- BAKKER, A. B., DEMEROUTI, E. & SCHAUFELI, W. B. 2005. The crossover of burnout and work engagement among working couples. *Human Relations*, 58, 661-689.
- BAKKER, A. B., DEMEROUTI, E., XANTHOPOULOU, D. & SCHAUFELI, W. B. 2009a. Work engagement and financial returns : a diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82, 183-200.
- BAKKER, A. B. & SCHAUFELI, W. B. 2008. Positive organizational behavior: engaged employees in flourishing organizations. *Journal of Organizational Behavior*, 29, 147-154.
- BAKKER, A. B., VAN EMMERIK, H. & EUWEMA, M. C. 2006. Crossover of burnout and engagement in work teams. *Work and occupations*, 33, 464-489.
- BAKKER, A. B., WESTMAN, M. & VAN EMMERIK, I. J. H. 2009b. Advancements in crossover theory. *Journal of Managerial Psychology*, 24, 206-219.
- BARGAGLIOTTI, A. L. 2012. Work engagement in nursing: a concept analysis. *Journal of Advanced Nursing*, 68, 1414-1428.
- BATE, P., MENDEL, P. & ROBERT, G. B. 2008. *Organizing for quality: the improvement journeys of leading hospitals in Europe and the United States*. Oxford: Radcliffe Publishing.
- BATE, P., ROBERT, G. & BEVAN, H. 2004. The next phase of healthcare improvement: what can we learn from social movements? *Quality & Safety in Health Care*, 13, 62-66.
- BATE, P., ROBERT, G., OVRETVEIT, J. & DIXON-WOODS, M. 2014. *Perspectives on Context*. London: The Health Foundation.
- BAUR, V. E., VAN ELTEREN, A. H. G., NIERSE, C. J. & ABMA, T. A. 2010. Dealing with distrust and power dynamics: asymmetric relations among stakeholders in responsive evaluation. *Evaluation*, 16, 233-248.
- BAZELEY, P. & JACKSON, K. 2013. *Qualitative Data Analysis with NVivo*. London: Sage Publications.
- BERWICK, D. M. 2003. Improvement, trust, and the healthcare workforce. *Quality & Safety in Health Care*, 12, 448-452.
- BERWICK, D. M. 2008. The science of improvement. *Journal of the American Medical Association*, 299, 1182-1184.
- BERWICK, D. M., ENTHOVEN, A. & BUNKER, J. P. 1992. Quality management in the NHS: the doctor's role: I. *British Medical Journal*, 304, 235-239.
- BEVAN, H. 2009. The six lessons for successful implementation. *Nursing Times*, 105, 7.
- BISGAARD, S. 2008. Quality management and Juran's legacy. *Quality Engineering*, 20, 390-401.
- BISOGNANO, M. & KENNEY, C. 2012. *Pursuing the triple aim*. San Francisco: Jossey Bass Ltd.
- BLACK, J. 2009. Transforming the patient care environment with Lean Six Sigma and realistic evaluation. *Journal for Healthcare Quality*, 31, 29-36.
- BLAKEMORE, S. 2009a. How productive wards can improve patient care. *Nursing Management – UK*, 16, 14-18.

- BLAKEMORE, S. 2009b. Streamlining and efficiency bring benefits to the wards. *Mental Health Practice*, 12, 8-9.
- BLISS, D. 2009. *Lean in healthcare – wow*. Health Administration Press, 26, 39-42.
- BLOODWORTH, K. 2009. Productive Ward. 1: Implementing the initiative across a large university teaching hospital. *Nursing Times*, 105, 22-25.
- BLOODWORTH, K. 2010. Pointers for greater efficiency. *Nursing Standard*, 24, 64.
- BLOODWORTH, K. 2011a. Figuring out best practice: Kerry Bloodworth urges nurses to take control, as the cuts begin to bite, by delivering good care while making savings. *Nursing Management-UK*, 17, 11.
- BLOODWORTH, K. 2011b. The productive ward and the productive operating theatre. *Journal of Perioperative Practice*, 21, 97-103.
- BOADEN, R. J., HARVEY, G. & PROUDLOVE, N. 2008. Quality improvement: theory and practice in healthcare. Coventry: NHS Institute for Innovation and Improvement.
- BOUDRIAS, J. S., MORIN, A. J. S. & BRODEUR, M. M. 2012. Role of psychological empowerment in the reduction of burnout in Canadian healthcare workers. *Nursing & Health Sciences*, 14, 8-17.
- BOYER, K. K. 1996. An assessment of managerial commitment to Lean production. *International Journal of Operations & Production Management*, 16, 48-59.
- BRACKETT, T., COMER, L. & WHICHELOW, R. 2011. Do Lean practices lead to more time at the bedside? *Journal for Healthcare Quality*, 35, 7-17.
- BRUNORO-KADASH, C. & KADASH, N. 2013. Time to care: a patient-centered quality improvement strategy. *Leadership in Health Services*, 26, 220-231.
- BRYMAN, A. 2012. *Social research methods*. New York: Oxford University Press.
- BRYMAN, A. & BELL, E. 2011. *Business research methods*. New York, NY: Oxford University Press.
- BURGESS, N. 2010. Lean paradox: can Lean influence healthcare? Available: http://www.academia.edu/258484/Lean_Paradox_Can_Lean_Influence_Healthcare. [Accessed 1 March 2013]
- BURGESS, N. & RADNOR, Z. 2013. Evaluating Lean in healthcare. *International Journal of Health Care Quality Assurance*, 26, 220-235.
- BURGESS, R. G. 2002. *In the field: an introduction to field research*. London: Taylor & Francis.
- BURSTON, S., CHABOYER, W., WALLIS, M. & STANFIELD, J. 2011. A discussion of approaches to transforming care: contemporary strategies to improve patient safety. *Journal of Advanced Nursing*, 67, 2488-2495.
- BUSHELL, S. 2002. Discovering Lean thinking at Progressive Healthcare. *Journal for Quality and Participation*, 25, 20-25.
- CALAPRICE, A. 1996. *The ultimate quotable Einstein*. Princeton: Princeton University Press.
- CARLISLE, D. 2013. Our nurse-led approach to productivity must live on. *Nursing Standard*, 27, 14-15.

- CARTWRIGHT, S. & HOLMES, N. 2006. The meaning of work: The challenge of regaining employee engagement and reducing cynicism. *Human Resource Management Review*, 16, 199-208.
- CASTLEDINE, G. 2008. Increasing the time nurses spend on patient care. *British Journal of Nursing*, 17, 729.
- CATHCART, D., JESKA, S., KARNAS, J., MILLER, S. E., PECHACEK, J. & RHEAULT, L. 2004. Span of control matters. *Journal of Nursing Administration*, 34, 395-399.
- CHARLES, R. G., III, KATHLEEN, L. M. & SRIRANJITA, S. 2012. Contrasting continuous quality improvement, Six Sigma, and Lean management for enhanced outcomes in US hospitals. *American Journal of Business*, 27, 133-153.
- CHOW, D., SMITH, S. & HENWICK, S. 2009. Applying Lean management to automation. *Medical Laboratory Observer*, 41, 36-38.
- CIMA, R. R., DESCHAMPS, C., BROWN, M. J., HEBL, J. R., MOORE, R., ROGERS, J. C., KOLLENGODE, A., AMSTUTZ, G. J., WEISBROD, C. A., NARR, B. J., MAYO, C. & SURGICAL PROCESS IMPROVEMENT TEAM, M. C. R. 2011. Use of Lean and Six Sigma methodology to improve operating room efficiency in a high-volume tertiary-care academic medical center. *Journal of the American College of Surgeons*, 213, 83-92.
- CLANCY, C., MUNIER, W., BRADY, J., MOY, E., CHAVES, K., FREEMAN, W. & BONNET, D. 2013. 2012 *National Healthcare Quality & Disparities Report*. In: Services, U. D. O. H. A. H. (ed.). Rockville, Washington DC: AHRQ Publications.
- CLARKE-JONES, J. 2007. Productive ward: the way forward. *Health Service Journal*, 117, 18-19.
- CLEWS, G. 2011. Productive ward goes global. *Nursing times.net* [Online]. Available: <http://www.nursingtimes.net/whats-new-in-nursing/acute-care/productive-ward-goes-global/5027919.article> [Accessed 01 March 2013].
- COLLINS, C. G. & JOYCE, P. 2008. Focus on quality in healthcare in Ireland. *International Journal of Health Care Quality Assurance*, 21, 219-228.
- COLQUITT, J. A. & ZAPATA-PHELAN, C. P. 2007. Trends in theory building and theory testing: A five-decade study of the Academy of Management Journal. *Academy of Management Journal*, 50, 1281-1303.
- COUTTS, J. 2010. Releasing time to care. *Healthcare Quarterly*, 13, 21-23.
- CRESWELL, J. W. 2005. *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River: Pearson Education.
- CRESWELL, J. W. 2009. *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, Calif.: Sage Publications.
- CRESWELL, J. W. & CLARK, V. L. P. 2011. *Designing and conducting mixed research methods*. London: Sage.
- CSIKSZENTMIHALYI, M. 2002. *Flow: the classic work on how to achieve happiness*. London: Rider.
- DAHLGAARD, J. J., PETERSEN, J. & DAHLGAARD-PARK, S. M. 2011. Quality and Lean health care: a system for assessing and improving the health of healthcare organisations. *Total Quality Management & Business Excellence*, 22, 673-689.

- DAMSCHRODER, L. J., ARON, D. C., KEITH, R. E., KIRSH, S. R., ALEXANDER, J. A. & LOWERY, J. C. 2009. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science*, 4, 50.
- DARZI, A. 2008. *High quality care for all: NHS next stage review final report*. In: Health, D. O. (ed.). London: Crown Publications.
- DAVIES, H., POWELL, A. & RUSHMER, R. 2007. Why don't clinicians engage with quality improvement? *Journal of Health Services Research & Policy*, 12, 129-130.
- DAVIS, C. 2011. Adopting an initiative from the car parts industry to transform culture at ward level. *Nursing Management – UK*, 18, 8-9.
- DAVIS, J. & ADAMS, J. 2012. The 'Releasing Time to Care – Productive Ward' programme: participants' perspectives. *Journal of Nursing Management*, 20, 354-360.
- DE SOUZA, L. B. 2009. Trends and approaches in Lean healthcare. *Leadership in Health Services*, 22, 121-139.
- DEAN, E. 2010. Productive ward scheme will be evaluated to prove nurses' worth. *Nursing Standard*, 24, 11.
- DEANS, R. & WADE, S. 2011. Finding a balance between 'value added' and feeling valued: revising models of care. *Healthcare Quarterly*, 14, 3.
- DEARMON, V., ROUSSEL, L., BUCKNER, E. B., MULEKAR, M., POMRENKE, B., SALAS, S., MOSLEY, A., BROWN, S. & BROWN, A. N. N. 2013. Transforming Care at the Bedside (TCAB): Enhancing direct care and value-added care. *Journal of Nursing Management*, 21, 668-678.
- DEIHL, B. 2011. Sharpening coordinated care processes. *Industrial Engineer*, 43, 5.
- DELOITTE 2010. *Lean and fit: Improving frontline service in an age of austerity*. London: Deloitte.
- DEMEROUTI, E., BAKKER, A. B., DE JONGE, J., JANSSEN, P. P. & SCHAUFELI, W. B. 2001. Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health*, 27, 279-286.
- DEMING, W. E. 1986. *Out of the crisis: quality, productivity and competitive position*. Cambridge: Cambridge University Press.
- DEN HARTOG, D. N. & BELSCHAK, F. D. 2012. Work engagement and Machiavellianism in the ethical leadership process. *Journal of Business Ethics*, 107, 35-47.
- DENZIN, N. K. 1970. *The Research Act: A theoretical introduction to sociological methods*. Chicago: Aldine Publishing Company.
- DENZIN, N. K. & LINCOLN, Y. S. 2005. *The SAGE handbook of qualitative research*. Thousand Oaks: Sage Publications.
- DEPARTMENT OF FINANCE 2014. *Comprehensive expenditure report 2015-2017*. In: Finance, D. O. (ed.). Dublin: The Stationery Office.
- DEPARTMENT OF HEALTH 2000. *Organisation with a memory, report of an expert group on learning from adverse event in the NHS*. London: The Stationery Office.
- DEPARTMENT OF HEALTH 2013. *The establishment of hospital groups as a transition to independent hospital trusts*. Dublin: The Stationery Office.

- DEPARTMENT OF HEALTH 2014. *HSE Midland Regional Hospital, Portlaoise Perinatal Deaths (2006–date)*. Dublin: The Stationary Office.
- DEPARTMENT OF HEALTH AND CHILDREN 2008. *Building a culture of patient safety: report of the commission on patient safety and quality assurance*. Dublin: The Stationery Office.
- DEPARTMENT OF HEALTH AND CHILDREN 2011. *Building a culture of patient safety: report of the implementation steering group on the recommendations of the commission on patient safety and quality assurance*. Dublin: The Stationary Office.
- DICKSON, E., SINGH, S., CHEUNG, D., WYATT, C. & NUGENT, A. 2007. Application of Lean manufacturing techniques in the emergency department. *Journal of Emergency Medicine*, 37, 5.
- DIENER, E. & CRANDALL, R. 1978. *Ethics in Social and Behavioral Research*. Chicago: University of Chicago Press.
- DIXON-WOODS, M., BOSK, C. L., AVELING, E. L., GOESCHEL, C. A. & PRONOVOST, P. J. 2011. Explaining Michigan: developing an ex post theory of a quality improvement program. *Milbank Quarterly*, 89, 167-205.
- DIXON-WOODS, M., LESLIE, M., TARRANT, C. & BION, J. 2013. Explaining Matching Michigan: an ethnographic study of a patient safety program. *Implementation Science*, 8, 70.
- DIXON-WOODS, M., MCNICOL, S. & MARTIN, G. 2012. Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. *BMJ Quality & Safety*, 21, 876-884.
- DIXON-WOODS, M., OZIERANSKI, P., WILLARS, J., WILKIE, P., WEST, M., BAKER, R., CHARLES, K., DAWSON, J., JERZEMBEK, G., MARTIN, G., MCCARTHY, I., MCKEE, L. & MINION, J. 2014. Culture and behaviour in the English National Health Service: overview of lessons from a large multimethod study. *BMJ Quality & Safety*, 23, 106–115.
- DONABEDIAN, A. 1966. Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly*, 44, Suppl: 166-206.
- DONABEDIAN, A. 1978. The quality of medical care. *Science*, 200, 856-864.
- DONABEDIAN, A. 2005. Evaluating the quality of medical care. *Milbank Quarterly*, 83, 691-729.
- DRAYCOTT, T., SIBANDA, T., LAXTON, C., WINTER, C., MAHMOOD, T. & FOX, R. 2010. Quality improvement demands quality measurement. *BJOG: An International Journal of Obstetrics & Gynaecology*, 117, 1571-1574.
- DYRBYE, L. N., NOVOTNY, P. J., SLOAN, J. A., SHANAFELT, T. D., THOMAS, M. R., MASSIE, F. S., POWER, D. V., EACKER, A., HARPER, W., DURNING, S., MOUTIER, C. & SZYDLO, D. W. 2008. Burnout and suicidal ideation among US medical students. *Annals of Internal Medicine*, 149, 334-370.
- EASTERBY-SMITH, M., THORPE, R. & JACKSON, P. 2008. *Management research*. London: SAGE.
- EDWARDS, K., NIELSEN, A. P. & JACOBSEN, P. 2012. Implementing Lean in surgery? Lessons and implications. *International Journal of Technology Management*, 57, 4-17.
- EMILIANI, M. L. 2003. Linking leaders' beliefs to their behaviors and competencies. *Management Decision*, 41, 893-910.
- EMILIANI, M. L. 2011. Lean management failure at HMRC. *Management Services*, 55, 13.

- EMILIANI, M. L. & STEC, D. J. 2005. Leaders lost in transformation. *Leadership & Organization Development Journal*, 26, 370-387.
- ERNST, M. M., WOOLDRIDGE, J. L., CONWAY, E., DRESSMAN, K., WEILAND, J., TUCKER, K. & SEID, M. 2010. Using quality improvement science to implement a multidisciplinary behavioral intervention targeting pediatric inpatient airway clearance. *Journal of Pediatric Psychology*, 35, 14-24.
- ESIMAI, G. 2005. Lean Six Sigma reduces medication errors. *Quality Progress*, 38, 51-57.
- ESTRADA, C. A., DOLANSKY, M. A., SINGH, M. K., OLIVER, B. J., CALLAWAY-LANE, C., SPLAINE, M., GILMAN, S. & PATRICIAN, P. A. 2012. Mastering improvement science skills in the new era of quality and safety: the Veterans Affairs National Quality Scholars Program. *Journal of Evaluation in Clinical Practice*, 18, 508-514.
- FAN, E., LAUPACIS, A., PRONOVOST, P. J., GUYATT, G. H. & NEEDHAM, D. M. 2010. How to use an article about quality improvement. *Journal of The American Medical Association*, 304, 2279-2287.
- FARRELL, M. & CASEY, M. 2011. Productive ward project: Saving our most valuable asset, time. *World of Irish Nursing & Midwifery*, 19, 36-37.
- FERLIE, E. B. & SHORTELL, S. M. 2001. Improving the quality of health care in the United Kingdom and the United States: a framework for change. *Milbank Quarterly*, 79, 281-315.
- FIELD, A. P. 2009. *Discovering statistics using SPSS: and sex and drugs and rock 'n' roll*. London: Sage.
- FIELDING, N. G. & LEE, R. M. 1998. *Computer analysis and qualitative research*. London: Sage Publications.
- FILLINGHAM, D. 2007. Can Lean save lives? *Leadership in Health Services*, 20, 231-241.
- FINE, B. A., GOLDEN, B., HANNAM, R. & MORRA, D. 2009. Leading Lean: a Canadian healthcare leader's guide. *Healthcare Quarterly (Toronto, Ont.)*, 12, 32-41.
- FIXSEN, D. L., NAOOM, S. F., BLASE, K. A., FIEDMAN, R. M. & WALLACE, F. 2005. *Implementation research: a synthesis of the literature*. Tampa, FL: University of South Florida.
- FLOTTORP, S., OXMAN, A., KRAUSE, J., MUSILA, N., WENSING, M., GODYCKI-CWIRKO, M., BAKER, R. & ECCLES, M. 2013. A checklist for identifying determinants of practice: A systematic review and synthesis of frameworks and taxonomies of factors that prevent or enable improvements in healthcare professional practice. *Implementation Science*, 8, 35.
- FOLEY, B. & COX, A. 2013. *Work organisation and innovation: Case study: Nottingham University Hospitals NHS Trust, UK*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- FORD, S. 2010. Productive Ward boosts leadership. *Nursing Times*, 106, 2-2.
- FOSTER, S., GORDON, P. & MCSHERRY, W. 2009. Rolling out Productive Ward foundation modules across a hospital trust. *Nursing Times*, 105, 28-30.
- FRANCIS, R. 2013. *Report of the Mid Staffordshire NHS Trust Public Enquiry*. In: Parliament, H. O. (ed.). London: Stationery Office.

- FREENEY, Y. & TIERNAN, J. 2006. Employee engagement: An overview of the literature on the proposed antithesis to burnout. *Irish Journal of Psychology*, 27, 130-141.
- FREENEY, Y. M. & TIERNAN, J. 2009. Exploration of the facilitators of and barriers to work engagement in nursing. *International Journal of Nursing Studies*, 46, 1557-1565.
- GAUTIER, E. 1998. Bibliometric analysis of scientific and technological research: a user's guide to the methodology. Available: <http://www.statcan.gc.ca/pub/88f0006x/88f0006x1998008-eng.pdf> [Accessed 11 July 2013].
- GEBHART, F. 2010. Lean management generates substantial pharmacy savings. *Drug Topic*, 154, 43.
- GILL, D., MOUNTFORD, J. & ARASARATNAM, R. 2012. What is a quality improvement project? *British Journal of Hospital Medicine*, 73, 252-256.
- GLASER, B. G. & STRAUSS, A. L. 1967. *The discovery of grounded theory: strategies for qualitative research*. Chicago: Aldine Publishing Company.
- GLASGOW, J. M., DAVIES, M. L. & KABOLI, P. J. 2012. Findings from a national improvement collaborative: are improvements sustained? *BMJ Quality & Safety*, 21, 663-669.
- GLASGOW, J. M., SCOTT-CAZIEWELL, J. R. & KABOLI, P. J. 2010. Guiding inpatient quality improvement: a systematic review of Lean and six sigma. *Joint Commission Journal on Quality and Patient Safety*, 36, 533-540.
- GLASZIOU, P., MEATS, E., HENEGHAN, C. & SHEPPERD, S. 2008. What is missing from descriptions of treatment in trials and reviews? *BMJ: British Medical Journal*, 336, 1472-1474.
- GOBEL, B., ZWART, D., HESSELINK, G., PIJNENBORG, L., BARACH, P., KALKMAN, C. & JOHNSON, J. K. 2012. Stakeholder perspectives on handovers between hospital staff and general practitioners: an evaluation through the microsystems lens. *BMJ Quality & Safety*, 21, 106-113.
- GOFFMAN, E. 1990. *The presentation of self in everyday life*. London: Penguin.
- GOLLOP, R., WHITBY, E., BUCHANAN, D. & KETLEY, D. 2004. Influencing sceptical staff to become supporters of service improvement: a qualitative study of doctors' and managers' views. *Quality and Safety in Health Care*, 13, 108-114.
- GONZÁLEZ-ROMÁ, V., SCHAUFELI, W. B., BAKKER, A. B. & LLORET, S. 2006. Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, 68, 165-174.
- GRABAN, M. 2012. *Lean hospitals: improving quality, patient safety, and employee engagement*. New York: CRC Press.
- GRABAN, M. & SWARTZ, J. E. 2012. Change for health. *Management Services*, 56, 35-29.
- GRANT, P. 2008. 'The productive ward round': a critical analysis of organisational change. *International Journal of Clinical Leadership*, 16, 193-201.
- GRAY, J. 2008. Nurses' ideas get results. *Nursing Standard*, 22, 1.
- GREENHALGH, T., HUMPHREY, C., HUGHES, J., MACFARLANE, F., BUTLER, C. & PAWSON, R. 2009. How do you modernize a health service? A realist evaluation of whole-scale transformation in london. *Milbank Quarterly*, 87, 391-416.

- GREENHALGH, T., ROBERT, G., BATE, P., KYRIAKIDOU, O. & PEACOCK, R. 2004a. *How to spread good ideas: a systematic review of the literature on diffusion, dissemination and sustainability of innovations in health service delivery and organisation*. London: NHS NCCSDO.
- GREENHALGH, T., ROBERT, G., MACFARLANE, F., BATE, P. & KYRIAKIDOU, O. 2004b. Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Quarterly*, 82, 581-629.
- GRIBBEN, B., MCCANCE, T. & SLATER, P. 2009. *Belfast Health and Social Care Trust, Productive Ward: Releasing Time to Care evaluation report*. Belfast, NI: BHSCT.
- GRUNDEN, N. 2009. Lean at the front line: all hands on deck. *Frontiers of Health Services Management*, 26, 33-37.
- GUBA, E. G. & LINCOLN, Y. S. 1989. *Fourth generation evaluation*. Newbury Park, Calif.: Sage Publications.
- HAKANEN, J. J., BAKKER, A. B. & SCHAUFELI, W. B. 2006. Burnout and work engagement among teachers. *Journal of School Psychology*, 43, 495-513.
- HAKANEN, J. J. & SCHAUFELI, W. B. 2012. Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of Affective Disorders*, 141, 415.
- HAKANEN, J. J., SCHAUFELI, W. B. & AHOLA, K. 2008. The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22, 224-241.
- HALLBERG, U. E., SCHAUFELI, W. B., STOCKHOLMS, U., SAMHÄLLSVETENSKAPLIGA, F. & PSYKOLOGISKA, I. 2006. 'Same same' but different? Can work engagement be discriminated from job involvement and organizational commitment? *European Psychologist*, 11, 119-127.
- HAMMERSLEY, M. 2007. The issue of quality in qualitative research. *International Journal of Research & Method in Education*, 30, 287.
- HANCOCK, D. R. & ALGOZZINE, R. 2006. *Doing case study research: a practical guide for beginning researchers*. New York: Teachers College Press, Columbia University.
- HARRISON, K. 2009. Lean management improves patient care. *Radiation Therapist*, 18, 2.
- HART, C. 2010. *Doing a literature search: Releasing the social science research imagination*. London: Sage.
- HARTER, J. K., SCHMIDT, F. L. & HAYES, T. L. 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal of Applied Psychology*, 87, 268-279.
- HASLE, P., BOJESEN, A., JENSEN, P. L. & BRAMMING, P. 2012. Lean and the working environment: a review of the literature. *International Journal of Operation & Production Management*, 32, 829-849.
- HAVELOCK, R. G. & EDUCATIONAL TECHNOLOGY PUBLICATIONS, E. C. N. J. 1973. *The change agent's guide to innovation in education*. Englewood Cliffs N. J.: Educational Technology Publications
- HCM 2010. ED decreases 4-hour wait times to 9 minutes. *Hospital case management : the monthly update on hospital-based care planning and critical paths*, 18, 46.

- HEALTH INFORMATION AND QUALITY AUTHORITY 2012. *National Standards for Safer Better Healthcare*. Dublin: Health Information and Quality Authority.
- HEALTH INFORMATION AND QUALITY AUTHORITY 2013. *Investigation into the safety, quality and standards of services provided to patients, including pregnant women, at risk of clinical deterioration including those provided by University Hospital Galway and as reflected in the care and treatment provided to Savita Halappanavar*. Dublin: Health Information and Quality Authority.
- HEALTH QUALITY COUNCIL 2011. *Releasing Time to Care : The Productive Ward long-term care pilot project report*. Saskatoon SK: Health Quality Council.
- HEALTH SERVICES DIRECTORATE 2011. *Service Plan 2012*. Dublin: Health Services Executive.
- HEALTH SERVICES DIRECTORATE 2013. *Service Plan 2014*. Dublin: Health Services Executive.
- HINES, P., FOUND, P., GRIFFITHS, G. & HARRISON, R. 2011. *Staying Lean: thriving, not just surviving*. Second Edition. New York: Taylor & Francis.
- HOLDEN, R. J., KTH, ERGONOMI & SKOLAN FÖR TEKNIK OCH, H. 2011. Lean thinking in emergency departments: a critical review. *Annals of Emergency Medicine*, 57, 265-278.
- HCPN. 2007. OR Department uses Lean to cut unneeded inventory and saves money. *Healthcare Purchasing News*, 31, 68.
- HUHTALA, H. & PARZEFALL, M. R. 2007. A review of employee well-being and innovativeness: an opportunity for a mutual benefit. *Creativity and Innovation Management*, 16, 299-306.
- HYDES, T., HANSI, N. & TREBBLE, T. M. 2012. Lean thinking transformation of the unседated upper gastrointestinal endoscopy pathway improves efficiency and is associated with high levels of patient satisfaction. *BMJ Quality & Safety*, 21, 63-69.
- INSTITUTE OF MEDICINE, C. O. Q. O. H. C. I. A. 2001. *Crossing the quality chasm: a new health system for the 21st century*. Washington, D.C: National Academy Press.
- IVERS, N., OXMAN, A. D., JAMTVEDT, G., FLOTTORP, S., YOUNG, J. M., ODGAARD-JENSEN, J., FRENCH, S. D., O'BRIEN, M. A., JOHANSEN, M. & GRIMSHAW, J. 2012. Audit and feedback: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews*. Available from: http://www.cochrane.org/CD000259/EPOC_audit-and-feedback-effects-on-professional-practice-and-patient-outcomes [Accessed 01 May 2014].
- JAMES, B. A., LARRY, W. H., STEVEN, M. N. & KYLE, W. L. 2008. Using positivity, transformational leadership and empowerment to combat employee negativity. *Leadership & Organization Development Journal*, 29, 110-126.
- JIMMERSON, C., WEBER, D. & SOBEK, D. K., II 2005. Reducing waste and errors: piloting Lean principles at intermountain healthcare. *Joint Commission Journal on Quality & Patient Safety*, 31, 249-257.
- JOOSTEN, T., BONGERS, I. & JANSSEN, R. 2009. Application of Lean thinking to health care: issues and observations. *International Journal for Quality in Health Care*, 21, 341-347.
- JURAN, J. M. 1989. *Juran on leadership for quality: an executive handbook*. New York: Free Press.
- JURAN, J. M. & GRYNA, F. M. 1988. *Juran's quality control handbook*. London: McGraw-Hill.

- KAHN, W. A. 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724.
- KAPLAN, G. 2008. Lean and mean. *Healthcare Informatics*, 25, 40-45.
- KAPLAN, G. 2010. Toyota Situation is no reason to abandon Lean, say experts. *Healthcare Benchmarks and Quality Improvement*, 17, 73-84.
- KAPLAN, H. C., BRADY, P. W., DRITZ, M. C., HOOPER, D. K., LINAM, W. M., FROEHLE, C. M. & MARGOLIS, P. 2010. The influence of context on quality improvement success in health care: a systematic review of the literature. *Milbank Quarterly*, 88, 500-559.
- KAY, J. 2007. Vantage point. *Nursing Management – UK*, 14, 8.
- KENDALL-RAYNOR, P. 2010. Wards urged to adopt successful productive ward scheme quickly. *Nursing Standard*, 25, 8-8.
- KEOGH, B. 2013. *Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report*. In: NHS (ed.).
- KHAN, N. & CHANNING, D. 2007. Improving access to lab services through the implementation of Lean principles. *Clinical Leadership and Management Review*, 21, E1-7.
- KIM, C. S. 2009. Creating value in health care: the case for Lean thinking. *Journal of Clinical Outcomes Management*, 16, 557-562.
- KIM, C. S., SPAHLINGER, D. A., KIN, J. M. & BILLI, J. E. 2006. Lean health care: What can hospitals learn from a world-class automaker? *Journal of Hospital Medicine*, 1, 191-199.
- KIM, C. S., SPAHLINGER, D. A., KIN, J. M., COFFEY, R. J. & BILLI, J. E. 2009. Implementation of Lean thinking: one health system's journey. *Joint Commission Journal on Quality and Patient Safety*, 35, 406-413.
- KINNAIR, D. 2012. A good row focuses the mind. *Nursing management*, 18, 3.
- KNAPP, H. & ANAYA, H. D. 2012. Implementation science in the real world: a streamlined model. *Journal for Healthcare Quality : Official Publication of the National Association for Healthcare Quality*, 34, 27-35.
- KOHN, L. T., CORRIGAN, J., DONALDSON, M. S. & EBRARY, I. 2000. *To err is human: building a safer health system*. Washington, D.C: National Academy Press.
- KOTTER, J. R. 2007. Leading change – Why transformation efforts fail. *Harvard Business Review*, 85, 96-96.
- KREIN, S. L., DAMSCHRODER, L. J., KOWALSKI, C. P., FORMAN, J., HOFER, T. P. & SAINT, S. 2010. The influence of organizational context on quality improvement and patient safety efforts in infection prevention: A multi-center qualitative study. *Social Science & Medicine*, 71, 1692-1701.
- LANGLEY, A. & DENIS, J. L. 2011. Beyond evidence: the micropolitics of improvement. *BMJ Quality & Safety*, 20, 143-146.
- LANGLEY, G., NOLAN, K., NORMAN, C., PROVOST, L. & NOLAN, T. 2009. *The improvement guide: a practical approach to enhancing organizational performance*. San Francisco, CA: Jossey-Bass.

- LASCHINGER, H. K. S., WONG, C. A. & GRECO, P. 2006. The impact of staff nurse empowerment on person-job fit and work engagement/burnout. *Nursing Administration Quarterly*, 30, 358.
- LECOMPTE, M. D. & GOETZ, J. P. 1982. Problems of reliability and validity in ethnographic research. *Review of Educational Research*, 52, 31-60.
- LEE, T. H. 2010. Turning doctors into leaders. *Harvard Business Review*, 88, 50-58.
- LENNARD, C. 2012. How the Productive Ward scheme gives staff more time to care. *Mental Health Practice*, 15, 30-33.
- LIKER, J. 2004. *The Toyota way: 14 management principles from the world's greatest manufacturer*. New York: McGraw-Hill.
- LIKER, J. K. & FRANZ, J. K. 2012. The Toyota way: helping others help themselves. *Manufacturing Engineering*, 149, 87-95.
- LINCOLN, Y. S. & GUBA, E. G. 1985. *Naturalistic inquiry*. Beverly Hills, Calif.: Sage Publications.
- LIPLEY, N. 2009. Productive Wards hailed for transforming care. *Nursing Management – UK*, 16, 4-4.
- LUTHANS, F. & PETERSON, S., J. 2002. Employee engagement and manager self-efficacy: Implications for managerial effectiveness and development. *Journal of Management Development*, 21, 376.
- LUTHER, D. B. 1997. Storytellers, science, and continuous improvement. *Quality Progress*, 30, 77-78.
- MACEY, W. H. & SCHNEIDER, B. 2008. The meaning of employee engagement. *Industrial and Organizational Psychology*, 1, 3-30.
- MACLEOD, D. & CLARKE, N. 2009. Engaging for success: enhancing performance through employee engagement. In: Information, O. O. P. S. (ed.). Surrey, UK: Department for Business, Innovation and Skills.
- MACLEOD, D. & CLARKE, N. 2010. Leadership and employee engagement: passing fad or a new way of doing business? *International Journal of Leadership in Public Services*, 6, 26-30.
- MANAGEMENT SERVICES 2011. Improving healthcare quality at scale and pace. *Management Services Journal*, 55, 16.
- MANN, D. 2009. The missing link: Lean leadership. *Frontiers of Health Services Management*, 26, 15-26.
- MANNION R, DAVIES H.T., MARSHALL M.N. 2005. Cultural characteristics of "high" and "low" performing hospitals. *Journal of Health Organisation and Management*, 19, 431-439
- MANOS, A. 2006. Make healthcare Lean. *American Society for Quality*, 39, 24-30.
- MARSHALL, M. 2009. Applying quality improvement approaches to health care. *British Medical Journal*, 339.
- MARSHALL, M. 2011. Seeing with new eyes: what can general practice learn from the science of improvement? *British Journal of General Practice : The Journal of the Royal College of General Practitioners*, 61, 352-355.
- MARSHALL, M. & MOUNTFORD, J. 2013. Developing a science of improvement. *Journal of the Royal Society of Medicine*, 106, 45-50.

- MARSHALL, M., PRONOVOST, P. & DIXON-WOODS, M. 2013. Promotion of improvement as a science. *Lancet*, 381, 419-421.
- MASLACH, C. & LEITER, M. P. 1997. *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco, CA: Jossey-Bass.
- MASLACH, C. & LEITER, M. P. 2008. Early predictors of job burnout and engagement. *Journal of Applied Psychology*, 93, 498-512.
- MASLACH, C., SCHAUFELI, W. B. & LEITER, M. P. 2001. Job burnout. *Annual Review of Psychology*, 52, 397-422.
- MASON, J. 2002. *Qualitative researching*. London: Sage.
- MAUNO, S., KINNUNEN, U. & RUOKOLAINEN, M. 2007. Job demands and resources as antecedents of work engagement: A longitudinal study. *Journal of Vocational Behavior*, 70, 149-171.
- MAYKUT, P. S. & MOREHOUSE, R. E. 1994. *Beginning qualitative research: a philosophic and practical guide*. London: Falmer Press.
- MAZUR, L., MCCREERY, J. & ROTHENBERG, L. 2012. Facilitating Lean learning and behaviors in hospitals during the early stages of Lean implementation. *Engineering Management Journal*, 24, 11-22.
- MAZZOCATO, P., HOLDEN, R. J., BROMMELS, M., ARONSSON, H., BÄCKMAN, U., ELG, M. & THOR, J. 2012. How does Lean work in emergency care? A case study of a Lean-inspired intervention at the Astrid Lindgren Children's hospital, Stockholm, Sweden. *BMC Health Services Research*, 12, 28-28.
- MAZZOCATO, P., SAVAGE, C., BROMMELS, M., ARONSSON, H. & THOR, J. 2010. Lean thinking in healthcare: a realist review of the literature. *Quality & Safety in Health Care*, 19, 376-382.
- MCDERMOTT, A. M. & KEATING, M. A. 2012. Making service improvement happen: the importance of social context. *Journal of Applied Behavioral Science*, 48, 62-92.
- MCDONALD, L. 2010. *Florence Nightingale: At first hand*. London: Continuum International Publishing.
- MCINTOSH, B. & COOKSON, G. 2012. Lean management in the NHS: fad or panacea. *British Journal of Healthcare Management*, 18, 130-135.
- MCINTYRE, R. C. 2012. Improving quality improvement: Presidential address. *American Journal of Surgery*, 204, 815.
- MILLER, D. 2005. *Going Lean in healthcare*. Cambridge, MA: Institute for Healthcare Improvement.
- MORROW, E., COTTERELL, P., ROBERT, G., GROCCOTT, P. & ROSS, F. 2013. Mechanisms can help to use patients' experiences of chronic disease in research and practice: an interpretive synthesis. *Journal of Clinical Epidemiology*, 66, 856.
- MORROW, E., ROBERT, G., MABEN, J. & GRIFFITHS, P. 2010. *Facilitating the spread of the Productive Ward*. London, UK: National Nursing Research Unit, Kings College Hospital.
- MORROW, E., ROBERT, G., MABEN, J. & GRIFFITHS, P. 2012. Implementing large-scale quality improvement: lessons from the Productive Ward: Releasing Time to Care. *International Journal of Health Care Quality Assurance*, 25, 237-253.

- MORSE, G., SALYERS, M. P., ROLLINS, A. L., MONROE-DEVITA, M. & PFAHLER, C. 2012. Burnout in mental health services: a review of the problem and its remediation. *Administration and Policy in Mental Health and Mental Health Services Research*, 39, 341-352.
- MORSE, J. M. 1999. Myth #93: Reliability and validity are not relevant to qualitative inquiry. *Qualitative Health Research*, 9, 717-718.
- MUMVURI, M. & PITHOUSE, A. 2010. Implementing and evaluating the Productive Ward initiative in a mental health trust. *Nursing Times*, 106, 15-18.
- MURRELL, K. L., OFFERMAN, S. R. & KAUFFMAN, M. B. 2011. Applying Lean: implementation of a rapid triage and treatment system. *Western Journal of Emergency Medicine*, 12, 184-191.
- NAHRGANG, J. D., MORGESON, F. P. & HOFMANN, D. A. 2011. Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96, 71-94.
- NATIONAL NURSING RESEARCH UNIT 2011. Implementing and sustaining change in the contemporary NHS: lessons from the Productive Ward. *Policy Plus Evidence, Issues and Opinions in Healthcare*, 1, 1-2.
- NERSTAD, C. G. L., RICHARDSEN, A. M. & MARTINUSSEN, M. 2010. Factorial validity of the Utrecht Work Engagement Scale (UWES) across occupational groups in Norway. *Scandinavian Journal of Psychology*, 51, 326.
- NEWTON, P. J., HALCOMB, E. J., DAVIDSON, P. M. & DENNISS, A. R. 2007. Barriers and facilitators to the implementation of the collaborative method: reflections from a single site. *Quality & Safety in Health Care*, 16, 409-14.
- NHS INSTITUTE 2011. *Rapid impact assessment of the Productive ward: Releasing Time to Care*. Warwick: NHS Institute.
- NHS INSTITUTE 2012. *Putting patients first – the Productive Series*. Coventry: NHS Institute for Innovation and Improvement.
- NHS INSTITUTE & NNRU 2010a. *Improving healthcare quality at scale and pace: Lessons for the Productive Ward: Releasing Time to Care™ Programme*. Warwick: NHS Institute.
- NHS INSTITUTE & NNRU 2010b. *The Productive Ward: Releasing Time to Care™ Learning and Impact Review*. Warwick: NHS Institute.
- NHS INSTITUTE & NNRU 2010c. *Top Tips for Spreading the Productive Ward within NHS Trusts*. Warwick: NHS Institute.
- NHS INSTITUTE FOR INNOVATION AND IMPROVEMENT 2012. *Annual Report and accounts of the NHS Institute for Innovation and Improvement*. London: The Stationery Office.
- NHS SCOTLAND 2008. *NHS Scotland: Releasing Time to Care evaluation*. Edinburgh: NHS Scotland.
- NHSI 2011. Improving healthcare quality at scale and pace. *Management Services*, 55, 16.
- NIGHTINGALE, J. M. & MARSHALL, G. 2011. Citation analysis as a measure of article quality, journal influence and individual researcher performance. *Radiography*, 18, 60.
- NIMTZ-RUSCH, K. & THOMPSON, J. 2008. Nursing and Six Sigma: A perfect match for quality and safety improvement. *CHART Journal of Illinois Nursing*, July, 10-13.

- NOLAN, A. 2007. Productive ward: making time to improve patient care. *Health Services Journal* [Online]. Available: <http://www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care/293099.article> [Accessed on 19 May 2013].
- NURSING MANAGEMENT 2008. Productive ward scheme rolled out. *Nursing Management – UK*, 15, 5.
- NURSING MANAGEMENT 2011. Research emphasises efficacy of productive ward programme. *Nursing Management – UK*, 17, 5.
- NURSING STANDARD 2012. Full roll-out for productive wards by 2013. *Nursing Standard*, 26, 7.
- NURSING TIMES 2008. Productive Ward plan must be funded. *Nursing Times*, 104, 1.
- O'BRIEN, Y. & BOAT, P. 2009. Getting 'Lean' the grassroots way. *Nursing Management*, 40, 28-33.
- O'NEILL, S., JONES, T., BENNETT, D. & LEWIS, M. 2011. Nursing works: the application of Lean thinking to nursing processes. *Journal of Nursing Administration*, 41, 546-552.
- OECD 2013. *OECD reviews of health care quality: Denmark 2013: Raising Standards*. Denmark: OECD Publishing.
- OVRETVEIT, J. 1998. *Evaluating health interventions: an introduction to evaluation of health treatments, services, policies and organizational interventions*. Michigan: Open University Press.
- OVRETVEIT, J. 2000. Total quality management in European healthcare. *International Journal of Health Care Quality Assurance*, 13, 74-80.
- OVRETVEIT, J. 2002. *Action evaluation of health programmes and changes: a handbook for a user-focused approach*. London: Radcliffe Medical Press.
- OVRETVEIT, J. 2009. *Does improving quality save money? A review of the evidence of which improvements to quality reduce costs to health service providers*. London: The Health Foundation.
- OVRETVEIT, J. 2011a. Understanding the conditions for improvement: research to discover which context influences affect improvement success. *BMJ Quality and Safety*, 20, i18-i23.
- OVRETVEIT, J. 2011b. Widespread focused improvement: lessons from international health for spreading specific improvements to health services in high-income countries. *International Journal for Quality in Health Care: Journal of the International Society for Quality in Health Care*, 23, 239–246.
- OVRETVEIT, J. 2013. Contemporary quality improvement. *Cadernos De Saúde Pública*, 29, 424-426.
- OVRETVEIT, J. & GUSTAFSON, D. 2002. Evaluation of quality improvement programmes. *Quality & Safety in Health Care*, 11, 270-275.
- PALMER, B., QUINN GRIFFIN, M. T., REED, P. & FITZPATRICK, J. J. 2010. Self-transcendence and work engagement in acute care staff registered nurses. *Critical Care Nursing Quarterly*, 33, 138.
- PAPADOPOULOS, T., RADNOR, Z. & MERALI, Y. 2011. The role of actor associations in understanding the implementation of Lean thinking in healthcare. *International Journal of Operations & Production Management*, 31, 167-191.

- PATTERSON, P. 2009. Getting the staff's buy-in for Lean. *OR Manager*, 25, 13-15.
- PATTON, M. Q. 2002. *Qualitative research and evaluation methods*. Thousand Oaks, Calif.: Sage Publications.
- PEARSALL, J. 2001. *The concise Oxford dictionary*. Oxford: Oxford University Press.
- PEARSON, A. 2010. Improvement science: getting the evidence into practice. *International Journal of Evidence-based Healthcare*, 8, 109.
- PEDEN, C. J. & ROONEY, K. D. 2009. The science of improvement as it relates to quality and safety in the ICU. *Journal Intensive Care Society*, 10, 260-265.
- PEDERSEN, E. R. G. & HUNICHE, M. 2011. Determinants of Lean success and failure in the Danish public sector. *International Journal of Public Sector Management*, 24, 403-420.
- PERLA, R. J., BRADBURY, E. & GUNTHER-MURPHY, C. 2013. Large-scale improvement initiatives in healthcare: a scan of the literature. *Journal for Healthcare Quality: Official Publication of the National Association for Healthcare Quality*, 35, 30-40.
- PETTIGREW, A. & WHIPP, R. 1993. *Managing change for competitive success*. London: Wiley.
- PINTO, J. K. & SLEVIN, D. P. 1989. Critical success factors in R-and-D projects. *Research-Technology Management*, 32, 31-35.
- POKSINSKA, B. 2010. The current state of Lean implementation in health care: literature review. *Quality Management in Health Care*, 19, 319-329.
- POOLE, K., HINTON, J. & KRAEBBER, K. 2010. The Gradual Leaning of Health Systems. *Industrial Engineer: IE*, 42, 50-55.
- POWELL, A. E., RUSHMER, R. K. & DAVIES, H. T. O. 2009. *A systematic narrative review of quality improvement models in health care*. Edinburgh: NHS Quality Improvement Scotland.
- PRESSMAN, J. L. & WILDAVSKY, A. B. 1973. *Implementation: how great expectations in Washington are dashed in Oakland; or, why it's amazing that federal programs work at all, this being a saga of the economic development administration as told by two sympathetic observers who seek to build morals on a foundation*. Berkeley: University California Press.
- QIANMEI, F. & CHRIS, M. M. 2008. Under the knife: a national survey of six sigma programs in US healthcare organizations. *International Journal of Health Care Quality Assurance*, 21, 535-547.
- QIPP-NHS EVIDENCE. 2009. The productive ward: quality and productivity example. Available: <http://www.evidence.nhs.uk/document?ci=http%3A%2F%2Farms.evidence.nhs.uk%2Fresources%2FQIPP%2F29542&q=productive%20ward&ReturnUrl=%2Fsearch%3Fq%3Dproductive%2Bward> [Accessed 2 june 2012].
- RADNOR, Z. 2011. Implementing Lean in health care: Making the link between the approach, readiness and sustainability. *International Journal of Industrial Engineering and Management*, 2, 1-12.
- RADNOR, Z. & BOADEN, R. 2008. Editorial: Lean in public services: Panacea or paradox? *Public Money & Management*, 28, 3-7.
- RADNOR, Z. & OSBORNE, S. P. 2012. Lean: A failed theory for public services? *Public Management Review*, 15, 265-287.

- RADNOR, Z. & WALLEY, P. 2008. Learning to walk before we try to run: Adapting Lean for the public sector. *Public Money & Management*, 28, 13-20.
- RADNOR, Z. J., HOLWEG, M. & WARING, J. 2012. Lean in healthcare: The unfilled promise? *Social Science & Medicine*, 74, 364-371.
- REILLY, C. 2013. Safety agency to follow Canadian model. *Irish Medical Times*, 47, 3.
- RICH, B. L., LEPINE, J. A. & CRAWFORD, E. R. 2010. Job engagement: antecedents and effects on job performance. *Academy of Management Journal*, 53, 617-635.
- RITCHIE, J. & LEWIS, J. 2003. *Qualitative research practice*. London: Sage.
- ROBERT, G. 2011. Progress of the Productive Ward. *Nursing Times*, 107, 18-19.
- ROBERT, G., MORROW, E., MABEN, J., GRIFFITHS, P. & CALLARD, L. 2011. The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England.[Miscellaneous Article].
- ROBERTS, S. & SINGH, S. 2009. Implementing Lean in primary care. *British Journal of Healthcare Management*, 15, 380-386.
- ROBERTSON-SMITH, G. & MARKWICK, C. 2009. *Employee engagement: A review of current thinking. Report 469*. Brighton, UK: Institute for Employment Studies.
- ROBSON, C. 2002. *Real world research: a resource for social scientists and practitioner-researchers*. Oxford, UK: Blackwell Publishers.
- ROOKE, J., KOSEKELA, L. & KAGIOLOU, M. 2012. Lean health care: the success of a toolkit depends also on the people who use the tools. *Annals of Emergency Medicine*, 60, 395-396.
- ROSS, J. & STEVENSON, L. 2011. A first-class production. *Midwives*, 14, 28-29.
- ROUSSEAU, D. M. & BARENDS, E. G. R. 2011. Becoming an evidence-based HR practitioner. *Human Resource Management Journal*, 21, 221-235.
- RUDGE, T. 2013. Desiring productivity: nary a wasted moment, never a missed step. *Nursing Philosophy*, 14, 201-211.
- SAKS, A., M. 2006. Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21, 600-619.
- SAKS, A. M. 2008. The meaning and bleeding of employee engagement: how muddy is the water? *Industrial and Organizational Psychology*, 1, 40-43.
- SALANOVA, M., LORENTE, L., CHAMBEL, M. J. & MARTÍNEZ, I. M. 2011. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. *Journal of Advanced Nursing*, 67, 2256-2266.
- SALANOVA, M. & SCHAUFELI, W. B. 2008. A cross-national study of work engagement as a mediator between job resources and proactive behaviour. *International Journal of Human Resource Management*, 19, 116-131.
- SCHAUFELI, W. B. 2014. What is engagement? In: Truss, C., Alfes, K., Delbridge, R., Shantz, A. & Soane, E. (eds.). *Employee Engagement in Theory and Practice*. Oxford: Routledge.
- SCHAUFELI, W. B. & BAKKER, A. B. 2004. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25, 293-315.

- SCHAUFELI, W. B., BAKKER, A. B. & SALANOVA, M. 2006. The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66, 701-716.
- SCHAUFELI, W. B. & ENZMANN, D. 1998. *The burnout companion to study and research: A critical analysis*. London: Taylor and Francis.
- SCHAUFELI, W. B. & JANCZUR, B. 1994. Burnout among nurses: a Polish–Dutch comparison. *Journal of Cross-Cultural Psychology*, 25, 95-113.
- SCHAUFELI, W. B. & SALANOVA, M. 2007. Efficacy or inefficacy, that's the question: burnout and work engagement, and their relationships with efficacy beliefs. *Anxiety, Stress, and Coping*, 20, 177-196.
- SCHAUFELI, W. B., SALANOVA, M., GONZÁLEZ-ROMÁ, V. & BAKKER, A. B. 2002. The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.
- SCHAUFELI, W. B. & TARIS, T. W. 2014. A critical review of the job demands-resources model: implications for improving work and health. In: Bauer, G. & Hämmig, O. (eds.). *Bridging Occupational, Organizational and Public Health: A Transdisciplinary Approach*. Dordrecht: Springer Netherlands.
- SCHAUFELI, W. B., TARIS, T. W. & VAN RHENEN, W. 2008. Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology – An International Review*, 57, 173-203.
- SCHOUTEN, L. M. T., HULSCHER, M. E. J. L., VAN EVERDINGEN, J. J. E., HUIJSMAN, R. & GROU, R. P. T. M. 2008. Evidence for the impact of quality improvement collaboratives: systematic review. *BMJ (Clinical Research Ed.)*, 336, 1491-1494.
- SEERS, K. & TOYE, F. 2012. What is quality in qualitative health research? *Evidence-Based Nursing*, 15, 1-1.
- SEPPALA, P., MAUNO, S., FELDT, T., HAKANEN, J., KINNUNEN, U., TOLVANEN, A. & SCHAUFELI, W. 2009. The construct validity of the Utrecht Work Engagement Scale: multisample and longitudinal evidence. *Journal of Happiness Studies*, 10, 459-481.
- SHEPHERD, S. 2009. This is a phenomenon. *Nursing Times*, 105, 4-6.
- SHERMAN, J. 2006. Achieving REAL Results with Six Sigma. (Cover story). *Healthcare Executive*, 21, 9-14.
- SHIROM, A. 2011. Vigor as a positive affect at work: conceptualizing vigor, its relations with related constructs, and its antecedents and consequences. *Review of General Psychology*, 15, 50-64.
- SHOJANIA, K. G. & GRIMSHAW, J. M. 2005. Evidence-based quality improvement: the state of the science. *Health Affairs*, 24, 138-150.
- SHOJANIA, K. G., MCDONALD, K. M., WACHTER, R. M. & OWENS, D. K. 2004. *Closing the quality gap: a critical analysis of quality improvement strategies*. Rockville (MD): Agency for Healthcare Research and Quality (US).
- SHRAGA, O. & SHIROM, A. 2009. The construct validity of vigor and its antecedents: A qualitative study. *Human Relations*, 62, 271-291.

- SHUCK, B. 2011. Integrative literature review: four emerging perspectives of employee engagement: an integrative literature review. *Human Resource Development Review*, 10, 304.
- SIMPSON, M. 2009a. Predictors of work engagement among medical-surgical registered nurses. *Western Journal of Nursing Research*, 31, 44-65.
- SIMPSON, M. R. 2009b. Engagement at work: A review of the literature. *International Journal of Nursing Studies*, 46, 1012-1024.
- SIRIWARDENA, A. N. 2009. Engaging clinicians in quality improvement initiatives: art or science? *Quality in Primary Care*, 17, 303-303.
- SMITH, J. & RUDD, C. 2010. Implementing the productive ward management programme. *Nursing Standard*, 24, 45-48.
- SPENCER, L., OFFICE, G. B. C. & UNIT, G. B. C. O. S. 2003. *Quality in qualitative evaluation: a framework for assessing research evidence*. London: Cabinet Office.
- SRNA 2010. Releasing Time to Care program is gaining momentum. *SRNA Newsbulletin*, 12, 23-23.
- STAINES, R. 2008. Productive Ward will drive up NHS quality. *Nursing Times*, 104, 5.
- STEED, A. 2012. An exploration of the leadership attributes and methods associated with successful Lean system deployments in acute care hospitals. *Quality Management in Health Care*, 21, 48-58.
- STONEMETZ, J., PHAM, J. C., NECOCHEA, A. J., MCGREADY, M., HODY, R. E. & MARTINEZ, E. A. 2011. Reduction of regulated medical waste using Lean sigma results in financial gains for hospital. *Anesthesiology Clinics*, 29, 145-152.
- STORM, K. & ROTHMANN, I. 2003. A psychometric analysis of the Utrecht Work Engagement Scale in the South African police service. *South African Journal of Industrial Psychology*, 29, 62-80.
- SVEDAHL, S. 2009. Releasing time to care. *SRNA Newsbulletin*, 11, 5-5.
- TASHAKKORI, A. & TEDDLIE, C. 2010. *Sage handbook of mixed methods in social & behavioral research*. London: Sage.
- TATA, R. M. & JONES, G. D. 2011. Six Sigma culture as a management principle. *Transfusion*, 51, 1604-1608.
- TAYLOR, J. 2006. Productive ward. Stand by your bed. *Health Service Journal*, 116, 26-27.
- TAYLOR, J. 2009. Putting into practice. *Nursing Times Supplement*, 105, 2.
- TAYLOR, S. J. & BOGDAN, R. 1984. *Introduction to qualitative research methods: the search for meanings*. London: Wiley.
- THE HEALTH FOUNDATION 2011. *Evidence scan: improvement science*. London: The Health Foundation.
- THE KING'S FUND 2012. Leadership and engagement for improvement in the NHS: Together we can. In: Rowling, E. (ed.) *King's Fund Leadership Review 2012*. London: The King's Fund.
- THE NATIONAL OFFICE OF CLINICAL AUDIT 2012. Available: <http://www.noca.ie/> [Accessed 21 January 2014].

- TOUSSAINT, J. 2009. Why are we still underperforming? *Frontiers of Health Services Management*, 26, 27-32.
- TOWNE, J. 2010. Lean transformations. *Health Facilities Management*, 23, 51-54.
- TRAVERS, M. 2007. *The new bureaucracy: quality assurance and its critics*. Bristol: The Policy Press.
- ULRICH, D. 1997. *Human resource champions: the next agenda for adding value and delivering results*. Boston: Harvard Business School Press.
- VAN ACHTERBERG, T., SCHOONHOVEN, L. & GROL, R. 2008. Nursing implementation science: how evidence-based nursing requires evidence-based implementation. *Journal of Nursing Scholarship*, 40, 302-310.
- VAN DEN BROECK, A., DE CUYPER, N., DE WITTE, H. & VANSTEENKISTE, M. 2010. Not all job demands are equal: Differentiating job hindrances and job challenges in the Job Demands–Resources model. *European Journal of Work and Organizational Psychology*, 19, 735-759.
- VAN DEN BROEK, J., BOSELIE, P. & PAAUWE, J. 2013. Multiple institutional logics in health care: Productive Ward: Releasing Time to Care. *Public Management Review*, 1-20.
- VAN VLIET, E. J., SERMEUS, W., VAN GAALEN, C. M., SOL, J. C. & VISSERS, J. M. 2010. Efficacy and efficiency of a Lean cataract pathway: a comparative study. *Quality & Safety in Health Care*, 19, 1-6.
- VATS, A., GOIN, K. H., VILLARREAL, M. C., YILMAZ, T., FORTENBERRY, J. D. & KESKINOCAK, P. 2012. The impact of a Lean rounding process in a pediatric intensive care unit. *Critical Care Medicine*, 40, 608-615.
- VLADUT, C. I. & KÁLLAY, É. 2010. Work stress, personal life, and burnout. Causes, consequences, possible remedies: A theoretical review. *Cognition, Brain, Behavior. An Interdisciplinary Journal*. 14, 261-280.
- VOGUES, N. 2011. Using engagement to drive performance cost effectively. *Healthcare Executive*, 26, 48.
- WALSHE, K. 2009. Pseudoinnovation: the development and spread of healthcare quality improvement methodologies. *International Journal for Quality in Health Care*, 21, 153-159.
- WARD, L. & PARISH, K. 2009. Putting it into practice. *Nursing Times*, 105, 10-1 supplement.
- WARING, J. J. & BISHOP, S. 2010. Lean healthcare: rhetoric, ritual and resistance. *Social Science & Medicine (1982)*, 71, 1332-1340.
- WARSHAWSKY, N. E., HAVENS, D. S. & KNAFL, G. 2012. The influence of interpersonal relationships on nurse managers' work engagement and proactive work behavior. *Journal of Nursing Administration*, 42, 418-425.
- WEBB, E. J. 2000. *Unobtrusive measures*. Thousand Oaks, Calif.: Sage Publications.
- WELLS, J. S. G. 1995. Discontent without focus – an analysis of nurse management and activity on a psychiatric inpatient facility using a soft-systems approach. *Journal of Advanced Nursing*, 21, 214–221.
- WELLS, J. S. G. 2007. Priorities, 'street level bureaucracy' and the community mental health team. *Health & Social Care in the Community*, 5, 333-342.

- WELLS, J. & WHITE, M. 2014. The impact of the economic crisis and austerity on the nursing and midwifery professions in the Republic of Ireland – ‘boom’, ‘bust’ and retrenchment. *Journal of Research in Nursing*, 19, 562-577.
- WEST, M. 2013, Creating a culture of high-quality care in health services. *Global Economics and Management Review*, 18, 40-44.
- WEST, M.A, LYUBOVNIKOVA, J., ECKERT, E., DENIS, J. 2014. Collective leadership for cultures of high quality health care. *Journal of Organizational Effectiveness: People and Performance*, 1, 240 – 260.
- WHITE, M., WELLS, J. G. S. & BUTTERWORTH, T. 2013a. Leadership, a key element of quality improvement in healthcare. Results from a literature review of ‘Lean healthcare’ and the Productive Ward: Releasing Time to Care Initiative. *International Journal of Leadership and Public Services*, 9, 1-22.
- WHITE, M., WELLS, J. S. G. & BUTTERWORTH, T. 2013b. The Productive Ward: Releasing Time to Care™ – What we can learn from the literature for implementation. *Journal of Nursing Management*, 22, 914-923.
- WHO 2004. *World Alliance for Patient Safety: Forward Programme 2005*. Geneva: WHO Publications.
- WILSON, G. 2009. Implementation of releasing time to care – the productive ward. *Journal of Nursing Management*, 17, 647-654.
- WOJTYS, E. M., SCHLEY, L., OVERGAARD, K. A. & AGBABIAN, J. 2009. Applying Lean techniques to improve the patient scheduling process. *Journal for Healthcare Quality: Official Publication of the National Association for Healthcare Quality*, 31, 10.
- WOLCOTT, H. F. 2001. *Writing up qualitative research*. Thousand Oaks, Calif.: Sage Publications.
- WOMACK, J. P. & JONES, D. T. 1998. *Lean thinking: banish waste and create wealth in your corporation*. London: Touchstone.
- WOMACK, J. P., JONES, D. T., ROOS, D. & MASSACHUSETTS INSTITUTE OF, T. 1990. *The machine that changed the world: based on the Massachusetts Institute of Technology 5-million dollar 5-year study on the future of the automobile*. New York: Rawson Associates.
- WRIGHT, S. & MCSHERRY, W. 2013. A systematic literature review of Releasing Time to Care: the Productive Ward. *Journal of Clinical Nursing*, 22, 1361-1171.
- XANTHOPOULOU, D., BAKKER, A. B., DEMEROUTI, E. & SCHAUFELI, W. B. 2009. Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74, 235-244.
- YOUNG, T. P. & MCCLEAN, S. I. 2008. A critical look at Lean Thinking in healthcare. *Quality & Safety in Health Care*, 17, 382-386.
- ZIGARMI, D., NIMON, K., HOUSON, D., WITT, D. & DIEHL, J. 2011. A preliminary field test of an employee work passion model. *Human Resource Development Quarterly*, 22, 195-221.

**An Evaluative, Implementation study of the
Productive Ward in Ireland.**

Appendices

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Appendix A: Peer Reviewed Publications from this study to date



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Leadership, a key element of quality improvement in healthcare. Results from a literature review of “Lean Healthcare” and the Productive Ward

Releasing time to care initiative

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Abstract

Purpose – This paper reviews the Lean Healthcare and Productive Ward: releasing time to care (RTC) literature and extracts the reported effects and impacts experienced by employees who implement it. The purpose of this paper is to identify and investigate the strength of the connection between the two models and explores the implications for leadership and implementation.

Design/methodology/approach – This study reviewed the Lean Healthcare and Productive Ward: RTC literature using strict systematic inclusion criteria. A qualitative content analysis was used to identify key characteristics of reported employee experience, effect or impact. Themes and categories were ranked by the number of citations and presented.

Findings – This study outlines the similar employee effects and impacts that exist between Lean-type improvement initiatives and the Productive Ward: RTC programme. It discusses the three top themes of: Empowerment, Leadership and Engagement and explores the opportunities for leadership. It also identifies one key difference between the two initiatives, the socio-cultural effect and impact which is strongly reported with Lean-type improvement initiatives. The socio-cultural element is discussed and presented as one of the fundamental aspects of Lean and the original Toyota production system.

Originality/value – This study brings new insights for leaders involved in Lean-type improvement initiatives which are currently being imported into healthcare and provides a comprehensive list of reported employee impacts and effects of value to healthcare leaders attempting to establish an environment and culture of improvement.

Keywords Leadership, Employee engagement, Quality improvement, Empowerment, Productive Ward, Releasing time to care

Paper type Literature review



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Introduction

Health Services world-wide are continually striving for more cost-effective, improved, quality focused modes and models of care delivery (Ferlie and Shortell, 2001). The emphasis in health care is rapidly shifting from a model of low-cost provision to one

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that embraces low-cost, improvement and high quality (Mazur *et al.*, 2012). This emphasis to improve requires new thinking and a new breed of leader (Lee, 2010). Expectations to improve performance and reduce costs have also led many public services to look to the private sector, industry and management systems for tools and methods that can help meet these expectations. The “Lean” approach has been proposed as one such improvement method from industry which can achieve both substantial cost savings and quality improvement (Radnor and Walley, 2008).

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Lean as a concept was popularised by Womack *et al.* (1990), who highlighted how the Toyota production system (TPS) could simultaneously improve the quality and reduce the cost of their cars. The approach has revolutionised business processes in manufacturing globally. Utility, financial services and the public sector first engaged with the Lean concept in early 2000. Healthcare organisations began reporting Lean initiative implementation soon after (Bushell, 2002; Miller, 2005). The impact of Lean on quality improvement in healthcare has been relatively positive (Fillingham, 2007; Mazzocato *et al.*, 2010; Mazur *et al.*, 2012; de Souza, 2009). However, there appears to be some challenges in relation to how it is implemented (Radnor *et al.*, 2012; Mazzocato *et al.*, 2010), how it engages healthcare professionals (Poksinska, 2010; Holden, 2011; Mann, 2009; Graban, 2012) and how leadership is a key ingredient to its success (Miller, 2005; Mann, 2009; Emiliani and Stec, 2005; Emiliani, 2003).

The Productive Ward: releasing time to care (RTC) programme (based on Lean thinking), is probably the most prominent health care example of Lean in the UK (Waring and Bishop, 2010) and was designed to utilise “Lean” improvement techniques, the intrinsic motivators of social movement theory and the front line engagement theories of large-scale change in a health care environment (NHS Institute and NNRU, 2010b). This paper reviews the literature to extract the reported effects and impact that “Lean” and the Productive Ward: RTC has on the employees who implement it. We investigate the strength of the connection between both models and explore the implications for leadership and implementation.

Background

Lean and Lean thinking

Lean and Lean thinking have their origins in the TPS, first established in the 1950s. TPS is a philosophy that rejects waste in any form and strives to eliminate defects and continually attacking both in a never-ending pursuit of perfection (Womack *et al.*, 1990). Lean thinking discourages temporary or interim solutions, classified as “workarounds” and encourages resolution at the root of the problem (Womack and Jones, 1998).

Assuming that organisations are process driven, there are five core principles of Lean thinking described in the list below (Womack and Jones, 1998; Radnor and Boaden, 2008):

- (1) Specify the value desired by the customer. It is also useful to identify who the real customer is and better understand their requirements, which can be complex.
- (2) Identify the value stream for each product providing that value and challenge all of the wasted steps.
- (3) Make the product flow continuously. Standardising processes around best practice allows them to run more smoothly, freeing up time for creativity and innovation.

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(4) Introduce pull between all steps where continuous flow is impossible. This focuses upon the demand from the customer and triggers events backwards through the value chain. In this way inventory (or people waiting) and human activity is linked to customer needs.

(5) Manage towards perfection so that non-value adding activity will be removed from the value chain and the number of steps and the amount of time and information needed to serve the customer continually falls.

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A number of authors have highlighted the differences between simple application (using Lean tools) and the systemic comprehensive application of Lean (Radnor and Walley, 2008; Waring and Bishop, 2010; Poksinska, 2010; Mazzocato *et al.*, 2010). Adopting Lean and the TPS philosophy, requires a complete and radical change in organisation culture and leadership.

In their research on eight public sector organisations, Radnor and Walley (2008) identified two very distinct approaches to Lean implementation. They distinguished between: The Rapid Improvement Event (RIE)-based approach – characterised as short-term, focusing on a quick return and a “full implementation” systems-approach whereby Lean is aligned to the strategic goals and vision of the organisation, focused around long-term improvement.

Lean Healthcare

The application of Lean into health care appears to have been driven by the necessity to do more with less (Fine *et al.*, 2009; Kim *et al.*, 2006). The term “Lean Healthcare” is a relatively new term with a focus on efficiency and patient satisfaction (de Souza, 2009). It is a term that has not been precisely defined and has often been misunderstood.

Many healthcare organisations are guilty of the “quick win, tool-based” approach and commence lean implementation without fully understanding the cultural and structural preconditions or the leadership competencies which are necessary for its effective implementation (Dahlgaard *et al.*, 2011; Emiliani, 2003). Poksinska (2010) reports that a high number of healthcare organisations take just a process improvement approach to Lean implementation, adapting instead of adopting, and in some cases focusing just on a particular technique or tool that is associated with Lean, such as the 5S exercise, for example:

5S is short for: Sort, Set in order, Shine, Standardise and Sustain and is described as: A management system that is designed to help workers establish and maintain a clean and safe work environment that is easy to use and that make it easy to recognise when something is out of the ordinary (Kim *et al.*, 2009).

The consequence of such a process improvement approach is that the techniques or tools are then seen as “Lean”, some “quick win” improvements are made, and little additional energy or focus is spent on the development of a sustainable culture of structured problem solving (Radnor and Walley, 2008). This short-term thinking and ignorance of the total Lean management system has been referred to in the literature as “fake Lean” (Emiliani, 2011) and has had consequences for leaders not realising the full potential of the Lean management system (Emiliani and Stec, 2005).

Healthcare organisations who effectively engage with Lean principles not only see improvements in their organisations performance in terms of systems processes and

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quality, but also experience significant outcomes with employees (Poksinska, 2010). Some of the reported employee impacts include:

- improved enthusiasm and involvement (Jimmerson *et al.*, 2005; Holden, 2011);
- leadership (Mazur *et al.*, 2012; Mann, 2009; Kim, 2009; Emiliani and Stec, 2005);
- reduced stress levels (Chow *et al.*, 2009);
- improved staff satisfaction (Cima *et al.*, 2011); and
- empowerment (Wojtys *et al.*, 2009; Vats *et al.*, 2012).

The Productive Ward: RTC

Productive Ward: RTC is an improvement initiative that has been positively reported, adopted into many NHS organisations (NHS Institute and NNRU, 2010a, b; Robert *et al.*, 2011) and has spread internationally (Farrell and Casey, 2011; Clews, 2011; Davidson, 2011; Coutts, 2010). It was designed and developed by the NHS Institute for Innovation and Improvement (NHSI) in 2005 and it has three main aims:

- to increase the proportion of time nurses spend in direct patient care;
- to improve experience for staff and for patients; and
- to make structural changes to the use of ward spaces to improve efficiency in terms of time effort and money (NHS Institute and NNRU, 2010b).

After piloting in some large UK NHS trusts in 2006, it was formally launched in 2007, at the Royal College of Nursing Conference. By 2009 it was reported that 40 per cent of all NHS hospitals had purchased some level of NHSI support package (Robert, 2011). International interest in the initiative began in 2008 and continues to grow. Since its design and testing in 2005, it has been widely reported in the nursing and healthcare press and media as having had a positive impact on ward environments, patient safety and quality improvement (Taylor, 2006; Kay, 2007; Nolan, 2007; Castledine, 2008; Blakemore, 2009b; Bloodworth, 2009; Kendall-Raynor, 2010; Smith and Rudd, 2010; Davis and Adams, 2012).

The Productive Ward: RTC programme is designed around the improvement principles of “Lean Manufacturing” to help nursing staff tackle previously neglected everyday issues (NHS Institute, 2011). The programme provides tools and leadership methods to engage front line staff in service improvement at ward level.

As a model of service improvement it is entirely unique, in that it is reported to have the backing of the UK Health Secretary (Nursing Management, 2008) and the UK Prime minister (Nursing Standard, 2012). It is also reported to have had positive impacts on:

- leadership (Lipley, 2009; Ford, 2010; Armitage and Hingham, 2011; NHS Institute, 2011; Davis and Adams, 2012);
- improving nurses lives (Lennard, 2012a; Lipley, 2009);
- empowerment (Blakemore, 2009a; Wilson, 2009; Avis, 2011; Lennard, 2012b); and
- employee engagement (Avis, 2009; Lipley, 2009).

Methods

The aim of this review was to analyse the publications related to the implementation of Lean-based initiatives in healthcare including the Productive Ward: RTC initiative to

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identify the effects and impacts that it may have on its participating employees, exploring the common and unique elements of benefit and the leadership opportunities for implementation.

In a systematic review of the literature, published material relating to both Lean healthcare and Productive Ward: RTC was examined. Because the application of Lean now spans many industries the initial search of databases included healthcare, business, management and technology. The databases consulted included: CINAHL, Academic Search Complete, ISI Web of Knowledge, Ovid Nursing, Ovid Journals, ABI/INFORM Global, PsycINFO, ScienceDirect, Wiley, Emerald Fulltext Management Xtra and Medline (January 1980 until January 2013). Key search terms used were: Productive Ward, Productive Series and RTC, Lean, Six Sigma, Lean Sigma and Healthcare were included.

Article selection

In an effort to summarise and identify key characteristics from the vast array of published literature, some basic standards were used to establish inclusion criteria. To be included in the review all articles were required to meet the following criteria:

- identified in the title or abstract as reporting on a Productive Ward, Productive Series, RTC project/initiative or a Lean, Six Sigma or Lean Sigma project/initiative;
- focused in a healthcare organisation or environment;
- provide a description or overview of the research/study/project/initiative; and
- offer results/improvements or reports.

Healthcare organisations and environments were defined to include any activity associated with the care and management of patients/clients, including hospital support services (e.g. laboratories, radiology, outpatients) that support the patient journey. In order to capture “real life” experiences and reports, articles were accepted from a variety of sources and included peer-reviewed papers, professional journals, health-related publications and healthcare media.

This comprehensive search retrieved a total of 519 references from the “Productive Ward: RTC” search theme and 402 references from the “Lean/Six Sigma/Lean Sigma and healthcare” theme. A further search through the reference lists of the relevant publications and using Google and Google scholar yielded nine additional Productive Ward: RTC papers and 12 additional Lean/Six Sigma/Lean Sigma papers. See the list below for retrieval totals and breakdowns of peer-reviewed papers.

Productive Ward: RTC theme:

- total publications retrieved: 528 papers;
- duplicate and non-relevant citations removed: 419 papers;
- screened for thematic relevance: 109 papers;
- employee experience/outcome/engagement cited: 44 papers; and
- peer reviewed: 12 papers, evaluations/reports: 7, Professional journals: 22 papers, 2 editorials.

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Lean/Six Sigma/Lean Sigma and Healthcare:

- total publications retrieved: 414 papers;
- duplicate and non-relevant citations removed: 262 papers;
- screened for thematic relevance: 152 papers;
- employee experience/outcome/engagement cited: 65 papers; and
- peer reviewed: 39 papers, professional journals: 24 papers, 2 editorials.

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Analysis

The reviewed articles were then subjected to a systematic qualitative content analysis as outlined by (Bryman, 2012). All papers were examined for items relating to, containing or reporting on the employee experience. We identified 44 Productive Ward papers and 66 Lean/Six Sigma/Lean Sigma and Healthcare papers that met our criteria. Each paper was then explored and coded in terms of its employee impact or experience. The emphasis in using this approach was to let the categories or themes of employee experience/impact, cited in the selected literature, emerge from the text. The list outlines the categories that emerged in both the Productive Ware: RTC Literature and the Lean/Six Sigma/Lean Sigma (referred to as "Lean" from here-in) healthcare literature.

Ranking

Because some papers contained multiple categories, subjects and themes, it was decided to employ a counting/frequency table of the categories as they were uncovered during analysis. This was explored further by examining the occurrence of keywords or characteristics within the context of the cited employee experience or impact, and within the category or theme. The Categories were then ranked by the number of occurrences (see Table I).

Productive Ward: RTC literature

1.	Empowerment	Allsopp <i>et al.</i> (2009), Anthony (2008), Bloodworth (2011), Bevan (2009), Blakemore (2009a, b), Beasley (2009), Farrell and Casey (2011), Ford (2008), Foster <i>et al.</i> (2009), Gray (2008), Gribben <i>et al.</i> (2009), HQC (2011), Lennard (2012a), Liple (2009), Mumvuri and Pithouse (2010), QIPP NHS Evidence(2009), Management Services (2011), Staines (2008), Smith and Rudd (2010), Shepherd (2008), Taylor (2006), Wilson (2009), Ward and Parish (2009)
2.	Leadership	Bevan (2009), Blakemore (2009b), Coutts (2010), Davis and Adams (2012), Eason (2008), Ford (2010), Grant (2008), HQC (2011), Morrow <i>et al.</i> (2012), Management Services (2011), Robert <i>et al.</i> (2011), NHS Institute and NNRU (2010a, b), Shepherd (2008, 2009)
3.	Stress and resistance	Armitage and Hingham (2011), Coutts (2010), Davis and Adams (2012), Gribben <i>et al.</i> (2009), HQC (2011), Morrow <i>et al.</i> (2012), Mumvuri and Pithouse (2010), Ross and Stevenson (2011), NHS Institute and NNRU(2010a)
4.	Engagement	Avis (2009), Grant (2008), Liple (2009), Management Services (2011), NHS Institute and NNRU (2010b), Shepherd (2008), SRNA (2010), Svedahl (2009)

(continued)

Table I.
Ranking of categories
as they occurred in
the literature

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IJLPS 9,3/4 96	5.	Improved team work	Ford (2008, 2010), Health Quality Council (2009), NHS Institute and NNRU (2010a), QIPP NHS evidence (2009), Robert <i>et al.</i> (2011), Smith and Rudd (2010), Wilson (2009)	
	6.	Staff morale	Blakemore (2009a), HQC (2011), National Nursing Research Unit (2011), NHS Scotland (2008), NHS Institute and NNRU (2010a), Smith and Rudd (2010)	
	7.	Role enhancement	Bevan (2009), Davis and Adams (2012), Farrell and Casey (2011), Taylor (2006)	
	8.	Socio-cultural impact	Gribben <i>et al.</i> (2009), Ward and Parish (2009)	
	9.	Staff satisfaction	NHS Institute and NNRU (2010a)	
	<i>Lean literature</i>			
	1.	Socio-cultural impact	Black (2009), Bliss (2009), Brackett <i>et al.</i> (2011), Burgess and Radnor (2010), Davis (2011), Dahlgaard <i>et al.</i> (2011), Esimai (2005), Fine <i>et al.</i> (2009), Grunden (2009), Graban and Swartz (2012), Holden (2011), Hasle <i>et al.</i> (2012), Joosten <i>et al.</i> (2009), Kim (2009), Murrell <i>et al.</i> (2011), Mann (2009), Mazzocato <i>et al.</i> (2010), Manos (2006), Mazur <i>et al.</i> (2012), Papadopoulos <i>et al.</i> (2011), Poole <i>et al.</i> (2010), Patterson (2009), Radnor <i>et al.</i> (2012), Rooke <i>et al.</i> (2012), Roberts and Singh (2009), Radnor and Walley (2008)	
	2.	Empowerment	Aherne (2007), Deans and Wade (2011), Deloitte (2010), Deihl (2011), Dickson <i>et al.</i> (2007), Edwards <i>et al.</i> (2012), Graban and Swartz (2012), Khan and Channing (2007), Murrell <i>et al.</i> (2011), Mazzocato <i>et al.</i> (2012), Mazzocato <i>et al.</i> (2010), Poksinska (2010), Stonemetz <i>et al.</i> (2011), Towne (2010), Tata and Jones (2011), Van Vliet <i>et al.</i> (2010), Wojtys <i>et al.</i> (2009)	
	3.	Engagement	Burgess and Radnor (2010), Bliss (2009), Cima <i>et al.</i> (2011), Deans and Wade (2011), Fine <i>et al.</i> (2009), Holden (2011), Hydes <i>et al.</i> (2012), Jimmerson <i>et al.</i> (2006), Kim (2009), Kaplan (2008), Nimitz-Rusch and Thompson (2008), O'Neill <i>et al.</i> (2011), Poole <i>et al.</i> (2010), Radnor (2011)	
4.	Leadership	Emiliani and Stec (2005), Bliss (2009), Fine <i>et al.</i> (2009), Grunden (2009), Holden (2011), Kim <i>et al.</i> (2009), Kaplan (2010), Mazur <i>et al.</i> (2012), Mann (2009), Poksinska (2010), Steed (2012), Toussaint (2009), Waring and Bishop (2010)		
5.	Role enhancement	Aherne (2007), Davis (2011), Deloitte (2010), Edwards <i>et al.</i> (2012), Gebhart (2010), McIntosh and Cookson (2012), Manos (2006), Poksinska (2010), Sherman (2006)		
6.	Improved team-work	Fillingham (2007), HCM (2010), Harrison (2009), Mazzocato <i>et al.</i> (2012), Manos (2006), O'Brien and Boat (2009), Roberts and Singh (2009)		
7.	Staff satisfaction	Cima <i>et al.</i> (2011), Deloitte (2010), Esimai (2005), Vats <i>et al.</i> (2012)		
8.	Stress and resistance	Chow <i>et al.</i> (2009), Fine <i>et al.</i> (2009), Glasgow <i>et al.</i> (2010), HPN (2007)		
9.	Loss of power	Kaplan (2008), Mazzocato <i>et al.</i> (2012), Pedersen and Huniche (2011)		
10.	Ownership	Hydes <i>et al.</i> (2012), Nimitz-Rusch and Thompson (2008), Rooke <i>et al.</i> (2012)		

Table I.

Results: the common effects and impacts

Our findings are organised by the common effects and impacts reported in the literature. Both sets of literature share three common effects and impacts in their "top five" themes. Empowerment (24 Productive Ward: RTC, 17 Lean), Leadership (15 Productive Ward: RTC, 13 Lean) and Engagement (nine Productive Ward: RTC, 14 Lean). These three themes have no rank or particular order nor are they mutually exclusive, as the literature reviewed used many different Lean tools, methodologies

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and models of implementation. Each report and case study cited in the literature may also contain many contextual factors. As outlined in the list, the papers reviewed are an eclectic mix of peer-reviewed articles, professional journals, reports and editorials. We also acknowledge from the literature that Lean healthcare is a complex intervention, which integrates multiple variations and components (Mazzocato *et al.*, 2012). However, their occurrence throughout the literature of both Productive Ward: RTC and Lean Healthcare initiatives merits exploration and discussion.

Empowerment

The empowerment effect and impact reported by employees in both sets of the literature are very similar. The bottom-up philosophy of Lean is generally cited as the most empowering factor (Aherne, 2007; Gribben *et al.*, 2009; Deihl, 2011; Murrell *et al.*, 2011; Graban, 2012). But there are also descriptions of how group ownership of an improvement project (Stonemetz *et al.*, 2011) and front-line staff having a say (Lipley, 2009), empowers participants in both Lean and Productive Ward: RTC initiatives. In both sets of literature, having control and increased control of improvement work is cited as empowering (Bloodworth, 2011; Edwards *et al.*, 2012). Doing the job in a more efficient way, whilst directly helping patients, has also been reported as an empowering factor (Anthony, 2008; Blakemore, 2009b; Wojtys *et al.*, 2009).

Using metrics, measuring and monitoring the improvements has been found to empower. Tata and Jones (2011) describe how using metrics and measuring the improvements and changes empowered the management team to challenge the status quo. Challenging changes to the way work is organised (Wilson, 2009; Blakemore, 2009b; Smith and Rudd, 2010), bringing about changes to work (Lennard, 2012a, b); being encouraged to solve their own problems (Gray, 2008; Foster *et al.*, 2009; Health Quality Council (HQC), 2011) and challenging the traditional hierarchies (Management Services, 2011) and mind-sets (Ward and Parish, 2009) have all reportedly impacted on the empowerment of front line healthcare staff.

Dickson *et al.* (2007), Aillsopp *et al.* (2009), Bevan (2009), Deloitte (2010), Mazzocato *et al.* (2010, 2012) and Poksinska (2010) have all described empowerment as a key enabler of Lean, harnessing employees eagerness to realise their own ideas as opposed to top-down process improvements. Towne (2010) and Deans and Wade (2011) report that empowerment unleashes the true potential of Lean transformation.

Leadership

The impact and effect that Leadership has on employees, as cited in both the Lean and Productive Ward: RTC literature, appear to be no different than any those characterised in other major change models and initiatives (Pinto and Slevin, 1989; Kotter, 2007). There are, however, three key areas of leadership that are reported which contribute to the success of Lean and Productive Ward: RTC implementation in health care, and they recur in several papers.

The first is the impact and effect that top-level, executive or CEO leadership sponsorship and involvement has on Lean and Productive Ward: RTC initiatives. Kim *et al.* (2009, p. 411) describes this executive support and project championing as "Lean leadership". It has also been reported as Leadership visibility (Steed, 2012) and the role defined as "visible leaders of Lean" (Holden, 2011, p. 274). Kaplan (2010) describes Lean organisations as ones where leaders get personally involved in advancing the principals of Lean and improvement. Coutts (2010) and Bloodworth (2009, 2011) clearly outline the requirement for Productive Ward: RTC to have strong leadership support,

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visits to the ward and time to talk through the improvements with staff. Mazur *et al.* (2012) in their study of Lean implementation outline the need for organisational leadership, commitment and persistence so that it is seen as on-going dedication to transformation, reassuring sceptical, uncommitted employees. Corporate or CEO involvement also is reported as being fundamental to success. Both sets of literature report how CEO involvement in the initiative means it spreads more quickly (Fine *et al.*, 2009; NHS Institute and NNRU, 2010b).

The second impact and effect is the role that leadership plays in the improvement work of both Lean and Productive Ward: RTC initiatives. This has been described as establishing and creating conditions for Lean (Mann, 2009), and the “how” and the “when” ward staff can be enabled to carry out Productive Ward: RTC activities (NHS Institute and NNRU, 2010b). Grunden (2009) and Toussaint (2009) report the major impact for Lean when Leaders Lean to move away from control and command towards arming frontline workers with the tools to improve and away from being bosses towards “coaches and mentors”.

The leadership role in Lean is a much more subordinate role (Poksinska, 2010), where the front-line workers design and improve the standard work (Toussaint, 2009). Leaders can put appropriate structures in place (Mann, 2009), remove obstacles (Steed, 2012) during Lean implementation and make the resource commitment (financial and manpower) required for Lean improvements (Mazur *et al.*, 2012). Waring and Bishop (2010) outline the change challenges associated with Lean and the role effective leadership has in shaping and sustaining the change processes of Lean.

The third is the impact and affect that Lean and the Productive Ward: RTC initiative has in growing and developing leadership in the employees who engage with it. The Productive Ward: RTC project has been described as a leadership development programme for nurses (Shepherd, 2009; Ford, 2010), a method of leadership for nurse leaders (Shepherd, 2008), and an opportunity for the organisation to grow its leadership capacity (NHS Institute and NNRU, 2010a). Morrow *et al.* (2012) in their study reported that the Productive Ward: RTC programme was helping build leadership skills at ward level by introducing new theory and methods. The HQC in Saskatchewan, Canada (2011) reports that by working through the Productive Ward: RTC project some natural leaders emerged who helped spread, engage and get “buy-in”. Similar reports are cited in the Lean literature where Steed (2012) identifies “Lean learning” as a leadership method for developing employees. Mazur *et al.* (2012) outline how employees grow and become emergent leaders and Mann (2009) mentions the Lean mind-set and how it affects and changes the way leaders practice and behave.

Finally, leadership is reported as one of the fundamental ingredients for a Lean transformational change effort to be successful in a hospital effort (Steed, 2012) and the most commonly reported facilitating factor for successful implementation of Productive Ward: RTC is project leadership (Robert *et al.*, 2011).

Engagement

The literature widely acknowledges that the engagement of employees is a key enabler for Lean and Productive Ward: RTC efforts. Our findings identify the following areas of engagement.

Involvement and participation is most frequently mentioned as the most enabling and engaging aspect of Lean and Productive Ward: RTC. Jimmerson *et al.* (2005) and Holden (2011) outline how participation in Lean sessions, process mapping and redesign makes employees more likely to further participate and accept changes

created by Lean. Radnor (2011) found that staff began behaving differently and became more motivated as a result of being involved in Lean project activities. The Productive Ward: RTC module activities report similar experiences (Lipley, 2009; NHS Institute & NNRU, 2010a, b; Avis, 2011). Cima *et al.* (2011) describes how involvement and active participation by all stakeholders ensured employee engagement in their Six Sigma project. Hydes *et al.* (2012) also comment how active involvement in their Lean activities improved employee engagement.

Lean and Productive Ward: RTC activities appear to impact on the team engagement of healthcare workers. Lean differs from all other improvement initiatives as it engages all front-line workers to develop ideas and make the changes (Fine *et al.*, 2009). The HQC (2011) report outlines how the Productive Ward: RTC project both engaged and motivated the team and the residents. Burgess and Radnor (2010) describe how RIEs engaged managers and clinicians and Deans and Wade (2011) outline how their Lean learning events produced whole team involvement. Kaplan (2008) advises involving resistant staff (nurses/physicians) or having them lead on some activities and initiatives as it acts to engage others.

Fine *et al.* (2009) describes how including issues of key concerns for improvement work has engaged physicians in his organisation and involved them in the improvement processes. Nintz-Rusch and Thompson (2008) and O'Neill *et al.* (2011) report that involvement in similar process improvement activities engaged nursing staff.

Levels of engagement are affected by concerns that Lean means cutting jobs and the scepticism that Lean is another flavour of the month or management fad (Fine *et al.*, 2009). It is also affected by uni-professional improvement activities (Grant, 2008). Using dignity, respect and valuing contributions in Lean activities and exercises have all helped with the engagement of staff (Deans and Wade, 2011; Holden, 2011).

A unique impact and effect

One of the most notable results that emerged from the literature review is that only two Productive Ward: RTC papers referred to any significant Socio-cultural impacts in their environments or organisations following implementation of the initiative, compared to the Lean literature which ranked the Socio-cultural as its top impact/effect. Gribben *et al.* (2009) found that the Productive Ward: RTC initiative helped "link" their improvement work with the organisations patient safety agenda and objectives. Ward and Parish (2009) report that the Productive Ward: RTC initiative helped change both the mind-set and the culture of nurses who participated.

Over half (26) of the Forty Four Lean papers reviewed mentioned or reported the socio-cultural impacts and effects their programmes had with employees. Most referred to the organisational culture shifts experienced as they work through Lean activities or that needed to take place or as they try to replicate the TPS.

Bliss (2009) explains how successful "Lean" healthcare organisations like ThedaCare and Virginia Mason in the US, all share a commitment to cultural transformation and to leading the organisation in a new way. He also describes and how many others have tried, without great success, to copy this model. This is evident by the absence of any whole systemic "Lean" healthcare organisations outside of the US. One explanation for this is that "Lean" requires a complete organisational cultural change (Brackett *et al.*, 2011; Dahlgard *et al.*, 2011). Cultural penetration with Lean concepts must be the prime aim of a healthcare organisations implementing Lean (Fine *et al.*, 2009), and not just the quick wins that can be accomplished by using the tools of Lean (Radnor and Walley, 2008). Lean tools are just the first step towards a culture

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change (Grunden, 2009). The most crucial element of Lean is developing the cultural change required to support a continuous improvement mind-set (Roberts and Singh, 2009). In fact the challenge of Lean is to move beyond the tools of Lean and into the deeper learning of improvement (Mazur *et al.*, 2012), paying attention to the more complex socio-technical dynamics that Lean brings (Joosten *et al.*, 2009).

Grunden (2009) outlines how organisations start to implement Lean without having understood the cultural and structural preconditions for implementing it and find that without this firm and sustainable platform, Lean fails to exert any long-term impact (Burgess and Radnor, 2010). Fostering this culture of continuous process improvement ensures that initial results are not lost (Murrell *et al.*, 2011).

Patterson (2009) concludes that culture change for Lean is not a short-term project. There are no shortcuts to understanding Lean's fundamental principles (Radnor *et al.*, 2012). It requires that the structures need to be changed and not just the processes (Holden, 2011) and shifted from entrenched views, agendas and routines to a new process organisation (Papadopoulos *et al.*, 2011).

Conclusion

Our review of the literature has identified that despite the differences, in terms of context, tools used, and implementation, there are some employee effects and impacts which are commonly experienced in quality improvement initiatives in healthcare (like Lean and Productive Ward: RTC). The themes identified in this review can assist those responsible for leading quality improvement initiatives (like Lean or the Productive Ward: RTC) with planning, organising and implementation. The top three employee effects and impacts described in this paper: empowerment, leadership and engagement are key enablers for both Lean and Productive Ward: RTC implementation. Successful implementation or transformation of any healthcare environment using quality improvement initiatives or tools for improvement, requires the complete engagement and empowerment of the health care professional groups and employees who originally created it. Engagement and empowerment alone, however, will not drive or sustain improvement. They must be combined with a new breed of leadership that focuses on patient outcomes and performance measurement as a key motivator (Lee, 2010). Creating this new form of healthcare leadership is not straightforward. It cannot evolve from conventional leadership competencies and practices (Emiliani, 2003). It must be developed as a form of Lean leadership (Mann, 2009) which takes into account the politics associated with healthcare quality improvement (Langley and Denis, 2011).

This paper provides currency to those charged with leading and implementing Lean Healthcare and Productive Ward: RTC to create an environment for successful implementation and spread, by developing strategies that incorporate and acknowledge the employee experiences, impacts and effects reported in the literature. One of the most obvious opportunities and influences that can create the environment for successful quality improvement implementation is Leadership. Leadership that understands and embraces the technical skills and beliefs of improvement is best-placed to support and sustain the workforce empowerment and engagement that is required for quality improvement initiatives like Lean or Productive Ward: RTC. Leaders wishing to engage in quality improvement initiatives, like Lean or the Productive Ward: RTC must therefore discard the conventional and traditional models of leadership and embrace and actively participate in improvement initiatives themselves. They must develop the improvement/Lean techniques and

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beliefs simultaneously with the front-line employees, enabling themselves to “lead” on improvement workshops and events (Emiliani, 2003).

We have also identified in the literature the prominence of Socio-cultural effects and impacts on employees. More so in the Lean healthcare literature than the Productive Ward: RTC. Leaders have a pivotal role in developing and shaping the socio-culture aspects of their organisations. Understanding, implementing and practicing the techniques and beliefs of quality improvement will help create and support a socio-cultural environment of improvement/Lean. Paying attention to the detail of this particular impact/effect of quality improvement implementation, may also help reduce the risk of improvement/Lean initiatives being viewed through the same lens as many other “quick-win, short-lived” management projects that have been imported into healthcare from industry, instead of the structured, problem solving, quality improvement lens they deserve.

References

- Aherne, J. (2007), “Think lean”, *Nursing Management (Harrow, London, England: 1994)*, Vol. 13 No. 10, pp. 13-15.
- Allsopp, P., Faruqi, J., Gascoigne, L. and Tennyson, R. (2009), “Productive Ward 2: practical advice to facilitators implementing the programme”, *Nursing Times*, Vol. 105 No. 25, pp. 19-21.
- Anthony, S. (2008), “The ‘productive ward’ comes to maternity services”, *Midwives*, Vol. 11 No. 6, pp. 34-35.
- Armitage, C. and Hingham, P. (2011), “The productive ward: encouraging teambuilding and innovation”, *Nursing Management*, Vol. 18 No. 1, pp. 28-31.
- Avis, K. (2009), *Releasing Time to Care in Saskatchewan: Promising Signs That Programme Engages Clinicians*, Health Quality Council, Saskatoon.
- Avis, K. (2011), *Looking Back Thinking Forward; Insight and Recommendations from Health Region Leadership on Creating a Culture of Continuous Performance in Saskatchewan*, Health Quality Council, Saskatoon.
- Beasley, C. (2009), “The productive series will allow staff to revolutionise the NHS”, *Nursing Times*, Vol. 105 No. 9, p. 3.
- Bevan, H. (2009), “The six lessons for successful implementation”, *Nursing Times*, Vol. 105 No. 9, p. 7.
- Black, J. (2009), “Transforming the patient care environment with Lean Six Sigma and realistic evaluation”, *Journal for Healthcare Quality: Official Publication of the National Association for Healthcare Quality*, Vol. 31 No. 3, pp. 29-36.
- Blakemore, S. (2009a), “How productive wards can improve patient care”, *Nursing Management*, Vol. 16 No. 5, pp. 14-18.
- Blakemore, S. (2009b), “Streamlining and efficiency bring benefits to the wards”, *Mental Health Practice*, Vol. 12 No. 8, pp. 8-9.
- Bliss, D. (2009), “Lean in healthcare – Wow”, *Frontiers of Health Services Management*, Vol. 26 No. 1, pp. 39-42.
- Bloodworth, K. (2009), “Productive Ward 1: implementing the initiative across a large university teaching hospital”, *Nursing Times*, Vol. 105 No. 24, pp. 22-25.
- Bloodworth, K. (2011), “The productive ward and the productive operating theatre”, *Journal of Perioperative Practice*, Vol. 21 No. 3, pp. 97-103.
- Brackett, T., Comer, L. and Whichellow, R. (2011), “Do lean practices lead to more time at the bedside?”, *Journal for Healthcare Quality*, Vol. 35 No. 2, pp. 1-8.

Appendix A: Peer Reviewed Publications from this study to date

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- Bryman, A. (2012), *Social Research Methods*, 4th ed., Oxford University Press, New York, NY.
- Burgess, N. and Radnor, Z. (2010), "Lean paradox: can lean influence healthcare?", available at: www.academia.edu/258484/Lean_Paradox_Can_Lean_Influence_Healthcare (accessed 13 February 2013).
- Bushell, S. (2002), "Discovering lean thinking at progressive healthcare", *Journal for Quality and Participation*, Vol. 25 No. 2, pp. 20-25.
- Castledine, G. (2008), "Increasing the time nurses spend on patient care", *British Journal of Nursing*, Vol. 17 No. 11, p. 729.
- Chow, D., Smith, S. and Henwick, S. (2009), "Applying LEAN management to automation", *Medical Laboratory Observer*, Vol. 41 No. 10, pp. 36-38.
- Cima, R.R., Deschamps, C., Brown, M.J., Hebl, J.R., Moore, R., Rogers, J.C., Kollengode, A., Amstutz, G.J., Weisbrod, C.A., Narr, B.J., Mayo, C. and Surgical Process Improvement Team M.C.R. (2011), "Use of lean and Six Sigma methodology to improve operating room efficiency in a high-volume tertiary-care academic medical center", *Journal of the American College of Surgeons*, Vol. 213 No. 1, pp. 83-92.
- Clews, G. (2011), "Productive ward goes global", *Nursing times.net*, 3 May, available at: www.nursingtimes.net/whats-new-in-nursing/acute-care/productive-ward-goes-global/5027919.article (accessed 31 May 2013).
- Coutts, J. (2010), "Releasing time to care", *Healthcare Quarterly*, Vol. 13 No. 2, pp. 21-23.
- Dahlgaard, J.J., Pettersen, J. and Dahlgaard-Park, S.M. (2011), "Quality and lean health care: a system for assessing and improving the health of healthcare organisations", *Total Quality Management & Business Excellence*, Vol. 22 No. 6, pp. 673-689.
- Davidson, S. (2011), "Update: releasing time to care", Oregon Nurse, available at: www.oregonlive.com/politics/index.ssf/2011/10/oregon_nurses_use_british_tech.html (accessed 1 March 2013).
- Davis, C. (2011), "Adopting an initiative from the car parts industry to transform culture at ward level", *Nursing Management*, Vol. 18 No. 6, pp. 8-9.
- Davis, J. and Adams, J. (2012), "The 'Releasing Time to Care - the Productive Ward' programme: participants' perspectives", *Journal of Nursing Management*, Vol. 20 No. 3, pp. 354-360.
- Deans, R. and Wade, S. (2011), "Finding a balance between 'value added' and feeling valued: revising models of care", *Healthcare Quarterly*, Vol. 14 No. 3, pp. 58-61.
- Deihl, B. (2011), "Sharpening coordinated care processes", *Industrial Engineer*, Vol. 43 No. 12, pp. 41-47.
- Deloitte (2010), "Lean and fit, improving frontline service in an age of austerity", available at: www.deloitte.com/assets/Dcom-unitedKingdom/Local%20Assets/Documents/Industries/GPS/UK_GPS_Leanandfit.pdf (accessed 2 February 2013).
- de Souza, L.B. (2009), "Trends and approaches in lean healthcare", *Leadership in Health Services*, Vol. 22 No. 2, pp. 121-139.
- Dickson, E., Singh, S., Cheung, D., Wyatt, C. and Nugent, A. (2007), "Application of lean manufacturing techniques in the emergency department", *The Journal of Emergency Medicine*, Vol. 37 No. 2, pp. 177-182.
- Eason, S. (2008), "Releasing time to care", *Primary Health Care*, Vol. 18 No. 9, pp. 18-19.
- Edwards, K., Nielsen, A.P. and Jacobsen, P. (2012), "Implementing lean in surgery? Lessons and implications", *International Journal of Technology Management*, Vol. 57 Nos 1/2/3, pp. 4-17.
- Emiliani, M.L. (2003), "Linking leaders' beliefs to their behaviors and competencies", *Management Decision*, Vol. 41 No. 9, pp. 893-910.
- Emiliani, M.L. (2011), "Lean management failure at HMRC", *Management Services*, Vol. 55 No. 4, pp. 13-16.

Appendix A: Peer Reviewed Publications from this study to date

-
- Emiliani, M.L. and Stec, D.J. (2005), "Leaders lost in transformation", *Leadership & Organization Development Journal*, Vol. 26 No. 5, pp. 370-387.
- Esimai, G. (2005), "Lean six sigma reduces medication errors", *Quality Progress*, Vol. 38 No. 4, pp. 51-57.
- Farrell, M. and Casey, M. (2011), "Productive ward project: saving our most valuable asset, time", *World of Irish Nursing & Midwifery*, Vol. 19 No. 9, pp. 36-37.
- Ferlie, E.B. and Shortell, S.M. (2001), "Improving the quality of health care in the United Kingdom and the United States: a framework for change", *The Milbank quarterly*, Vol. 79 No. 2, pp. 281-315.
- Fillingham, D. (2007), "Can Lean save lives?", *Leadership in Health Services (Bradford, England)*, Vol. 20 No. 4, pp. 231-241.
- Fine, B.A., Golden, B., Hannam, R. and Morra, D. (2009), "Leading lean: a Canadian healthcare leaders guide", *Healthcare Quarterly*, Vol. 12 No. 3, pp. 32-41.
- Ford, S. (2008), "Productive theatre pilot improves care and boosts morale", *Nursing times*, Vol. 105 No. 38, p. 1.
- Ford, S. (2010), "Productive Ward boosts leadership", *Nursing Times*, Vol. 106 No. 7, p. 2.
- Foster, S., Gordon, P. and McSherry, W. (2009), "Rolling out Productive Ward foundation modules across a hospital trust", *Nursing Times*, Vol. 105 Nos 30-31, pp. 28-30.
- Gebhart, F. (2010), "Lean management generates substantial pharmacy savings", *Drug Topics*, Vol. 154 No. 10, p. 43.
- Glasgow, J.M., Scott-Caziewell, J.R. and Kaboli, P.J. (2010), "Guiding inpatient quality improvement: a systematic review of Lean and Six Sigma", *The Joint Commission Journal on Quality and Patient Safety*, Vol. 36 No. 12, pp. 533-540.
- Graban, M. (2012), *Lean Hospitals; Improving Quality, Patient Safety, and Employee Engagement*, 2nd ed., CRC Press, New York, NY.
- Graban, M. and Swartz, J.E. (2012), "Change for health", *Management Services*, Vol. 56 No. 2, pp. 35-39.
- Grant, P. (2008), "The productive ward round: a critical analysis of organisational change", *International Journal of Clinical Leadership*, Vol. 16 No. 4, pp. 193-201.
- Gray, J. (2008), "Nurses' ideas get results", *Nursing Standard*, Vol. 22 No. 6, p. 1.
- Gribben, B., McCance, T. and Slater, P. (2009), *Belfast Health and Social Care Trust, Productive Ward-Releasing Time to Care Evaluation Report*, BHSC, Belfast.
- Grunden, N. (2009), "Lean at the front line: all hands on deck", *Frontiers of Health Services Management*, Vol. 26 No. 1, pp. 33-37.
- Harrison, K. (2009), "Lean management improves patient care", *Radiation Therapist*, Vol. 18 No. 1, p. 2.
- Hasle, P., Bojesen, A., Jensen, P.L. and Bramming, P. (2012), "Lean and the working environment: a review of the literature", *International Journal of Operation & Production Management*, Vol. 32 No. 7, pp. 829-849.
- HCM (2010), "ED decreases 4-hour wait times to 9 minutes", *Hospital Case Management: The Monthly Update on Hospital-Based Care Planning and Critical Paths*, Vol. 18 No. 3, p. 46.
- Health Quality Council (2009), *Releasing Time to Care in Saskatchewan: Promising Signs That Program Engages*, Health Quality Council, Saskatchewan.
- Health Quality Council (HCQ) (2011), *Releasing Time to Care: The Productive Ward Long-term Care Pilot Project Report*, Health Quality Council, Saskatoon.
- Holden, R.J. (2011), "Lean thinking in emergency departments: a critical review", *Annals of Emergency Medicine*, Vol. 57 No. 3, pp. 265-278.

Appendix A: Peer Reviewed Publications from this study to date

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- HPN (2007), "OR Department uses LEAN to cut unneeded inventory and saves money", *Healthcare Purchasing News*, Vol. 31 No. 11, p. 68.
- Hydes, T., Hansi, N. and Trebble, T.M. (2012), "Lean thinking transformation of the unsedated upper gastrointestinal endoscopy pathway improves efficiency and is associated with high levels of patient satisfaction", *BMJ Quality & Safety*, Vol. 21 No. 1, pp. 63-69.
- Jimmerson, C., Weber, D. and Sobek, D.K. II (2005), "Reducing waste and errors: piloting lean principles at intermountain healthcare", *Joint Commission Journal on Quality & Patient Safety*, Vol. 31 No. 5, pp. 249-257.
- Joosten, T., Bongers, I. and Janssen, R. (2009), "Application of lean thinking to health care: issues and observations", *International Journal for Quality in Health Care*, Vol. 21 No. 5, pp. 341-347.
- Kaplan, G. (2008), "Lean and mean", *Healthcare Informatics*, Vol. 25 No. 6, pp. 40-45.
- Kaplan, G. (2010), "Toyota situation is no reason to abandon Lean, say experts", *Healthcare Benchmarks and Quality Improvement*, Vol. 17 No. 6, pp. 73-84.
- Kay, J. (2007), "Vantage point", *Nursing Management*, Vol. 14 No. 4, p. 8.
- Kendall-Raynor, P. (2010), "Wards urged to adopt successful productive ward scheme quickly", *Nursing Standard*, Vol. 25 Nos 15-17, p. 8.
- Khan, N. and Channing, D. (2007), "Improving access to lab services through the implementation of lean principles", *Clinical Leadership and Management Review*, Vol. 21 No. 5, pp. E1-E7.
- Kim, C.S. (2009), "Creating value in health care: the case for lean thinking", *The Journal of Clinical Outcomes Management*, Vol. 16 No. 12, pp. 557-562.
- Kim, C.S., Spahlinger, D.A., Kin, J.M. and Billi, J.E. (2006), "Lean health care: what can hospitals learn from a world-class automaker?", *Journal of Hospital Medicine*, Vol. 1 No. 3, pp. 191-199.
- Kim, C.S., Spahlinger, D.A., Kin, J.M., Coffey, R.J. and Billi, J.E. (2009), "Implementation of lean thinking: one health systems journey", *The Joint Commission Journal on Quality and Patient Safety*, Vol. 35 No. 8, pp. 406-413.
- Kotter, J.R. (2007), "Leading change – why transformation efforts fail", *Harvard Business Review*, Vol. 85 No. 1, pp. 96-103.
- Langley, A. and Denis, J.L. (2011), "Beyond evidence: the micropolitics of improvement", *BMJ Quality & Safety*, Vol. 20 No. S1, pp. i43-i46.
- Lee, T.H. (2010), "Turning doctors into leaders", *Harvard Business Review*, Vol. 88 No. 4, pp. 50-58.
- Lennard, C. (2012a), "How the productive ward scheme gives staff more time to care", *Mental Health Practice*, Vol. 15 No. 5, pp. 30-33.
- Lennard, C. (2012b), "Productive Ward initiative promotes better communication between mental health teams and ensures timely discharge for patients", *Journal of Psychiatric and Mental Health Nursing*, doi: 10.1111/jpm.12020.
- Lipley, N. (2009), "Productive wards hailed for transforming care", *Nursing Management*, Vol. 16 No. 4, p. 4.
- McIntosh, B. and Cookson, G. (2012), "Lean management in the NHS: fad or panacea", *British Journal of Healthcare Management*, Vol. 18 No. 3, pp. 130-135.
- Management Services (2011), "Improving healthcare quality at scale and pace", *Management Services Journal*, Vol. 55 No. 4, pp. 16-17.
- Mann, D. (2009), "The missing link: lean leadership", *Frontiers of Health Services Management*, Vol. 26 No. 1, pp. 15-26.
- Manos, A. (2006), "Make healthcare lean", *American Society for Quality*, Vol. 39 No. 7, pp. 24-30.

Appendix A: Peer Reviewed Publications from this study to date

-
- Mazur, L., McCreery, J. and Rothenberg, L. (2012), "Facilitating lean learning and behaviors in hospitals during the early stages of lean implementation", *Engineering Management Journal*, Vol. 24 No. 1, pp. 11-22.
- Mazzocato, P., Savage, C., Brommels, M., Aronsson, H. and Thor, J. (2010), "Lean thinking in healthcare: a realist review of the literature", *Quality & Safety In Health Care*, Vol. 19 No. 5, pp. 376-382.
- Mazzocato, P., Holden, R.J., Brommels, M., Aronsson, H., Bäckman, U., Elg, M. and Thor, J. (2012), "How does lean work in emergency care? A case study of a lean-inspired intervention at the Astrid Lindgren Children's hospital, Stockholm, Sweden", *BMC Health Services Research*, Vol. 12 No. 28, pp. 1-13.
- Miller, D. (2005), *Going Lean in Healthcare*, Institute for Healthcare Improvement, Cambridge, MA.
- Morrow, E., Robert, G., Maben, J. and Griffiths, P. (2012), "Implementing large-scale quality improvement: lessons from the productive ward: releasing time to care", *International Journal Of Health Care Quality Assurance*, Vol. 25 No. 4, pp. 237-253.
- Mumvuri, M. and Pithouse, A. (2010), "Implementing and evaluating the productive ward initiative in a mental health trust", *Nursing Times*, Vol. 106 No. 41, pp. 15-18.
- Murrell, K.L., Offerman, S.R. and Kauffman, M.B. (2011), "Applying lean: implementation of a rapid triage and treatment system", *The Western Journal of Emergency Medicine*, Vol. 12 No. 2, pp. 184-191.
- National Nursing Research Unit (2011), "Implementing and sustaining change in the contemporary NHS: lessons from the productive ward", *Policy Plus Evidence, Issues and Evidence in Healthcare*, Vol. 1 No. 29, pp. 1-2.
- NHS Institute (2011), *Rapid Impact Assessment of the Productive Ward: Releasing Time to Care*, NHS Institute, Warwick.
- NHS Institute and NNRU (2010a), *Improving Healthcare Quality at Scale and Pace, Lessons for the Productive Ward: Releasing Time to Care Programme*, NHS Institute, Warwick.
- NHS Institute and NNRU (2010b), *The Productive Ward: Releasing Time to Care Learning and Impact Review*, NHS Institute, Warwick.
- NHS Scotland (2008), *NHS Scotland, Releasing Time to Care Evaluation*, NHS Scotland, Edinburgh.
- Nimtz-Rusch, K. and Thompson, J. (2008), "Nursing and Six Sigma: a perfect match for quality and safety improvement", *CHART Journal of Illinois Nursing*, Vol. 106 No. 3, pp. 10-13.
- Nolan, A. (2007), "Productive ward: making time to improve patient care", *Health Services Journal*, 10 December, available at: www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care/293099.article (accessed 19 April 2013).
- Nursing Management (2008), "Productive ward scheme rolled out", *Nursing Management*, Vol. 15 No. 3, p. 5.
- Nursing Standard (2012), "Full roll-out for productive wards by 2013", *Nursing Standard*, Vol. 26 No. 19, pp. 7.
- O'Brien, Y. and Boat, P. (2009), "Getting 'lean' the grassroots way", *Nursing Management*, Vol. 40 No. 9, pp. 28-33.
- O'Neill, S., Jones, T., Bennett, D. and Lewis, M. (2011), "Nursing works: the application of lean thinking to nursing processes", *Journal of Nursing Administration*, Vol. 41 No. 12, pp. 546-552.
- Papadopoulos, T., Radnor, Z. and Merali, Y. (2011), "The role of actor associations in understanding the implementation of Lean thinking in healthcare", *International Journal of Operations & Production Management*, Vol. 31 No. 2, pp. 167-191.

Appendix A: Peer Reviewed Publications from this study to date

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- Patterson, P. (2009), "Getting the staff's buy-in for Lean", *OR Manager*, Vol. 25 No. 5, pp. 13-15.
- Pedersen, E.R.G. and Huniche, M. (2011), "Determinants of lean success and failure in the Danish public sector", *International Journal of Public Sector Management*, Vol. 24 No. 5, pp. 403-420.
- Pinto, J.K. and Slevin, D.P. (1989), "Critical success factors in R-AND-D projects", *Research-Technology Management*, Vol. 32 No. 1, pp. 31-35.
- Pokinska, B. (2010), "The current state of lean implementation in health care: literature review", *Quality Management in Health Care*, Vol. 19 No. 4, pp. 319-329.
- Poole, K., Hinton, J. and Kraebber, K. (2010), "The gradual leaning of health systems", *Industrial Engineer: IE*, Vol. 42 No. 4, pp. 50-55.
- QIPP-NHS Evidence (2009), "The productive ward – quality and productivity example", available at: www.evidence.nhs.uk/document?ci=http%3A%2F%2Farms.evidence.nhs.uk%2Fresources%2FQIPP%2F29542&q=productive%20ward&ReturnUrl=%2Fsearch%3Fq%3Dproductive%2Bward (accessed 2 June 2012).
- Radnor, Z. (2011), "Implementing lean in health care: making the link between the approach, readiness and sustainability", *International Journal of Industrial Engineering and Management*, Vol. 2 No. 1, pp. 1-12.
- Radnor, Z. and Boaden, R. (2008), "Editorial: lean in public services – Panacea or paradox?", *Public Money & Management*, Vol. 28 No. 1, pp. 3-7.
- Radnor, Z. and Walley, P. (2008), "Learning to walk before we try to run: adapting lean for the public sector", *Public Money & Management*, Vol. 28 No. 1, pp. 13-20.
- Radnor, Z.J., Holweg, M. and Waring, J. (2012), "Lean in healthcare: the unfulfilled promise?", *Social Science & Medicine*, Vol. 74 No. 3, pp. 364-371.
- Robert, G. (2011), "Progress of the productive ward", *Nursing Times*, Vol. 107 No. 7, pp. 18-19.
- Robert, G., Morrow, E., Maben, J., Griffiths, P. and Callard, L. (2011), "The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the productive ward in England", *Journal of Clinical Nursing*, Vol. 20 Nos 7-8, pp. 1196-1207.
- Roberts, S. and Singh, S. (2009), "Implementing lean in primary care", *British Journal of Healthcare Management*, Vol. 15 No. 8, pp. 380-386.
- Rooke, J., Kosekela, L. and Kagiolou, M. (2012), "Lean health care: the success of a toolkit depends also on the people who use the tools", *Annals of Emergency Medicine*, Vol. 60 No. 3, pp. 395-396.
- Ross, J. and Stevenson, L. (2011), "A first-class production", *Midwives*, Vol. 14 No. 3, pp. 28-29.
- Shepherd, S. (2008), "This is a phenomenon", *Health Service Journal*, available at: www.hsj.co.uk/resource-centre/this-is-a-phenomenon/1888168.article (accessed 14 January 2013).
- Shepherd, S. (2009), "This is a phenomenon", *Nursing Times*, Vol. 105 No. 9, pp. 4-6.
- Sherman, J. (2006), "Achieving REAL results with Six Sigma", *Healthcare Executive*, Vol. 21 No. 1, pp. 9-14.
- Smith, J. and Rudd, C. (2010), "Implementing the productive ward management programme", *Nursing Standard*, Vol. 24 No. 31, pp. 45-48.
- SRNA (2010), "Releasing Time to Care programme is gaining momentum", *SRNA Newsbulletin*, Vol. 12 No. 2, pp. 23.
- Staines, R. (2008), "Productive Ward will drive up NHS quality", *Nursing Times*, Vol. 104 No. 46, p. 5.
- Steed, A. (2012), "An exploration of the leadership attributes and methods associated with successful lean system deployments in acute care hospitals", *Quality Management in Health Care*, Vol. 21 No. 1, pp. 48-58.

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- Stonemetz, J., Pham, J.C., Necochea, A.J., McGready, M., Hody, R.E. and Martinez, E.A. (2011), "Reduction of regulated medical waste using lean sigma results in financial gains for hospital", *Anesthesiology Clinics*, Vol. 29 No. 1, pp. 145-152.
- Svedahl, S. (2009), "Releasing time to care", *SRNA Newsbulletin*, Vol. 11 No. 4, p. 5.
- Tata, R.M. and Jones, G.D. (2011), "Six Sigma culture as a management principle", *Transfusion*, Vol. 51 No. 7, pp. 1604-1608.
- Taylor, J. (2006), "Productive ward. Stand by your bed", *The Health Service Journal*, Vol. 116 No. 6029, pp. 26-27.
- Toussaint, J. (2009), "Why are we still underperforming?", *Frontiers of Health Services Management*, Vol. 26 No. 1, pp. 27-32.
- Towne, J. (2010), "Lean transformations", *Health Facilities Management*, Vol. 23 No. 10, pp. 51-54.
- Vats, A., Goin, K.H., Villarreal, M.C., Yilmaz, T., Fortenberry, J.D. and Keskinocak, P. (2012), "The impact of a lean rounding process in a pediatric intensive care unit", *Critical Care Medicine*, Vol. 40 No. 2, pp. 608-615.
- van Vliet, E.J., Sermeus, W., van Gaalen, C.M., Sol, J.C. and Vissers, J.M. (2010), "Efficacy and efficiency of a lean cataract pathway: a comparative study", *Quality & Safety In Health Care*, Vol. 19 No. 6, pp. 1-6.
- Ward, L. and Parish, K. (2009), "Putting it into practice", *Nursing Times*, Vol. 105 No. 9, pp. 10-11.
- Waring, J.J. and Bishop, S. (2010), "Lean healthcare: rhetoric, ritual and resistance", *Social Science & Medicine (1982)*, Vol. 71 No. 7, pp. 1332-1340.
- Wilson, G. (2009), "Implementation of releasing time to care – the productive ward", *Journal of Nursing Management*, Vol. 17 No. 5, pp. 647-654.
- Wojtys, E.M., Schley, L., Overgaard, K.A. and Agbabian, J. (2009), "Applying lean techniques to improve the patient scheduling process", *Journal for Healthcare Quality: Official Publication of the National Association for Healthcare Quality*, Vol. 31 No. 3, pp. 10-16.
- Womack, J.P. and Jones, D.T. (1998), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Touchstone, London.
- Womack, J.P., Jones, D.T. and Roos, D. (1990), *The Machine that Changed the World: Based on the Massachusetts Institute of Technology 5-Million Dollar 5-Year Study on the Future of the Automobile*, Rawson Associates, New York, NY.

About the authors



Mark White, MBS, MSc, Dip HE, RGN, RM, Interim Director, NMPDU, Kilkenny, HSE SouthMark trained as a Nurse and Midwife in London in the late 1980s and early 1990s. Working predominantly in the specialty of Neonatal Intensive Care he graduated from the London Guildhall University with a Master of Science in care, policy and management. He held a Joint Manager/Lecturer appointment with the Paediatric Intensive Care & Neonatal Intensive Care Units in the Children's Hospital in Lewisham and the Department of Nursing and Midwifery at the City University prior to his return to Ireland in 1998. Working at the Coombe Womens Hospital and Wexford General Hospital, he then joined the Nursing and Midwifery Planning and Development Unit in 2002 where he has worked on various nursing and midwifery workforce planning-related projects. Graduating from DCU with a Masters in Business Science in HR strategies in 2005, he took up his current post as an Interim Director of the NMPDU in 2009. He is currently working on national projects that include the National Epilepsy Clinical Care Programme, the National Nursing Recruitment Project and the national roll-out of the "Productive Ward" initiative. He is currently registered for a nursing PhD in the Waterford Institute of Technology. Mark Michael White is the corresponding author and can be contacted at: whiteser@eircom.net

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Professor John Wells is the Head of the Department of Nursing at the Waterford Institute of Technology. After graduating in 1982 from the University of Manchester with a degree in history he was a research assistant at the National Army Museum, London, on the "Barracks Project". In 1984 he decided to train as a Psychiatric Nurses at St George's Hospital School of Nursing. On completion of his training he held a number of clinical and management posts in acute adult psychiatry, before embarking on an academic career first at the Maudsley Hospital and then, in 1993, at the Department of Nursing Studies, King's College London, where he became known for his work on health care rationing and street level bureaucracy in community mental health teams, which formed the subject of his doctoral thesis. In 1998 he moved to Waterford and in 2005 was appointed as the Head of the Department of Nursing at Waterford Institute of Technology, and continues to conduct research a range of policy and mental health-related matters, most recently concluding an EU-funded study on the management of work-related stress. He is a Visiting Professor in the mental health and social integration at the University of Lincoln; he is a Member of the Productive Series National Advisory Group for the HSE; sits on the editorial board of the *International Journal of Leadership in Public Services* and is a Grants Advisor for the Division of Humanities and Social Sciences, Swiss National Science Foundation. Most recently, he chaired the national panel of judges for nursing for the Undergraduate Awards of Ireland and Northern Ireland.

Professor Tony Butterworth was appointed as an Acting Chair of the NHS Institute for Innovation and Improvement following Dame Yve Buckland's departure in December 2011. Professor Butterworth holds the position of Emeritus Professor of Health Care Workforce Innovation at the University of Lincoln. He is a Registered General and Mental Health Nurse and has had an extensive career in higher education. He was a Professor, Dean and Pro Vice-Chancellor at the University of Manchester and most recently he was the WDC Chief Executive in the NHS East Midlands. As well as his work with the NHS Institute, Professor Butterworth is also Chair of the Foundation for Nursing Studies, Trustee to the charity Dementia UK and a Visiting Professor to the University of Maribor in Slovenia and the University of Western Sydney, Australia.

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Effects and impacts of Productive Ward from a nursing perspective

Mark White and Michelle Waldron

Nursing has a long track record of improving the standards and quality of care using systematic methods of work. Some of the highest quality efficiency methods and reporting emanated from our first improvement champion, Florence Nightingale (McDonald, 2010). Over the last few years, nurses globally have experienced first-hand the increasing pace, emphasis and prioritisation of quality improvement (QI) in health care. We are now working in a healthcare model that no longer just wants to 'do more with less'. We are working in a system that demands low-cost, continually improving and high-quality care (Ferlie and Shortell, 2001).

Despite nursing's best efforts at QI, reports from the UK and the rest of Europe show that the profession is falling short of some very basic standards, nationally agreed performance targets and patient expectations (Francis, 2013; Keogh, 2013; Organisation for Economic Co-operation and Development (OECD), 2013). This is becoming a global nursing issue. Reports from the USA since 2006 have consistently highlighted that healthcare quality and access are suboptimal, especially for minority and low-income groups (Clancy et al, 2013).

One of the many solutions offered by nursing to improve quality, safety and efficiency has been the development, introduction and testing of new systems and methods of working. These methods and systems present themselves in many guises and nursing has embraced, engaged and implemented most of them without question (Brackett et al, 2013). Lean healthcare, Transforming Care at the Bedside, Clinical Microsystems and the Productive Ward: Releasing Time to Care (PW) have received prominent attention particularly recently.

The PW programme (a Lean-based approach), is probably the most prominent healthcare example of Lean in the UK (Waring and Bishop, 2010) and was designed to make use of Lean improvement techniques, the intrinsic motivators of social movement theory and the frontline engagement theories of large-scale change in a healthcare environment (NHS Institute for Innovation and Improvement (NHS Institute) and National Nursing Research Unit (NNRU), 2010a).

Background

The PW programme is a relatively new QI initiative aimed specifically at nurses. It is best described as a ward-based QI programme created to help teams redesign and streamline the way they work on the ward, releasing more time to care for patients. The improvement methods empower nurses to make changes to improve the safety, quality and delivery

Abstract

The Productive Ward: Releasing time to care (PW) initiative is predominantly a nurse-led quality improvement (QI) offering, designed to streamline ward work processes and clinical environments in an attempt to 'release time to care'. It has been implemented widely in the UK, recently attracting international interest. This paper systematically reviews the literature relating to the PW initiative, highlights and ranks the reported effects and impacts from a nursing perspective. Nine themes emerged from our content analysis. This paper examines the three most reported themes—empowerment, leadership and engagement—exploring how they may influence the opportunities for implementing and sustaining the initiative. This study brings some experience, learning and insight from the PW initiative to those currently involved in implementation. It also highlights some elements of change not being delivered by PW. The comprehensive list of reported impacts and effects, from a nursing perspective, adds value to senior nurses attempting to cultivate a culture of QI.

Key words: Productive Ward ■ Releasing time to care ■ Lean healthcare ■ Quality improvement ■ Implementation ■ Qualitative literature review

of care. It was designed and developed by the UK's NHS Institute in 2005 and aims to:

- Increase the proportion of time nurses spend in direct patient care
- Improve experience for staff and patients
- Make structural changes to the use of ward spaces to improve efficiency in terms of time, effort and money. (NHS Institute and NNRU, 2010a).

The PW programme was developed collaboratively between nurse leaders and industry specialists to translate the improvement principles of Lean manufacturing to clinical settings and help nurses examine previously neglected workflow issues (NHS Institute and NNRU, 2010a). The overall design brief of the programme was to improve and increase the efficiency of NHS working practices and,

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Table 1. Databases included in multisearch

■ Academic Search Complete	■ ISI Web of Knowledge
■ ABI/Inform Global	■ Library catalogue
■ Business Source Premier	■ Medline
■ Blackwell Synergy	■ Nexis
■ Cambridge Journals Online	■ Nurimedia Journals
■ CINAHL	■ Ovid Journals
■ Directory of open access	■ Ovid Nursing
■ Cochrane Library	■ Psycinfo
■ Emerald Management Xtra	■ Psyc Articles
■ ERIC	■ Science Direct
■ Google Scholar	■ Sage
■ Google	■ UK & Ireland Reference centre
■ InformaWorld	■ Wiley Online Library

therefore, to create more time for staff to devote to patient care (Foley and Cox, 2013). The programme also uses elements of change management theory, social movement theory and transformational leadership theory to energise, mobilise and encourage the improvement and change efforts of frontline nursing staff (Bate et al, 2004; Bevan, 2009). Some of the pre-launch intrinsic marketing appeal to nurses included the publishing of NHS Institute research that identified that nurses working in acute care settings only spent around 40% of their shift on direct patient care (Robert, 2011). This marketing strategy and the creation of 'desire' for productivity among nurses has been the focus of some criticism (Rudge, 2013).

Four pilot sites worked with the NHS Institute in 2006 to test and refine the programme. After the formal launch at the Royal College of Nursing Conference in 2007, early phase implementation sites ('Learning Partner sites') began rolling out the programme later that year. National rollout in the NHS commenced in 2008. It received a good deal of political and media attention and was reported to have the backing of the UK Health Secretary (Nursing Management, 2008) and the UK Prime Minister at the time (Nursing Standard, 2012).

The initiative has had positive nursing and healthcare media coverage (Taylor, 2006; Kay, 2007; Nolan, 2007; Castledine, 2008; Blakemore, 2009a; Bloodworth, 2009; Kendall-Raynor, 2010; Smith and Rudd, 2010; Davis and Adams, 2012) and promising evaluations (NHS Scotland, 2008; Gribben et al, 2009; NHS Institute and NNRI, 2010a; 2010b; Avis, 2011; Foley and Cox, 2013) with reports of efficiency and productivity (NHS Institute, 2009; 2011; Foley and Cox, 2013). The initiative has had international uptake (Clews, 2011) and early implementation both within Europe and abroad in North America and the southern hemisphere (Avis, 2009; Edmunds, 2010; Haylock, 2010; Davidson, 2011; van den Broek et al, 2013; White et al, 2013).

The NHS Institute effectively stopped operating on 31 March 2013 and transferred its many roles and functions to the NHS' new improvement body, NHS Improving Quality (NHSIQ). The PW programme has survived this rigorous change-and-merge process and continues to be supported in the UK by various consultancy-based 'partners' and a licensed e-learning package. The worldwide element of NHS Institute and PW is being reformed by NHSIQ and a new worldwide

operation is expected later in 2014. Continuing to maintain momentum and the legacy of PW will not be an easy task (Carlisle, 2013). This paper reviews the PW literature from a nursing perspective and examines the impact that this initiative has had for nursing to date. We explore the implications for leadership and the challenges of implementing and sustaining this QI initiative going forward.

Method

The aim of this systematic review was to analyse the publications related to the implementation of the PW programme from a nursing perspective and identify the common elements of benefit and impact that it is reported to have on nurses who participate. To narrow the focus of benefit and impact/effect, the content analysis was ranked by a number of publications.

Design

A comprehensive, systematic review of the literature relating to PW or elements of its implementation was examined. The four explicit systematic review procedures outlined by Bryman (2012) were adopted:

- Defining the scope and purpose of the review
- Seeking out studies which are relevant to the scope and purpose of the review
- Appraisal of the studies captured in step two
- Analysis of each study/paper and a synthesis of the results.

Search methods

The review was limited to published material from January 2006 to June 2013 and covers the design period during which the PW was in research and development. A restriction to English papers was included. A number of electronic and web-based databases were used in the search and were accessed via a 'multisearch platform' (Table 1). The databases included the main nursing, healthcare, business and industrial genres. CINAHL subject searching was incorporated in the search. The initial key search terms used were: Productive Ward, Productive Series, Releasing Time to Care, and Quality Improvement initiative. In addition, a secondary search was performed using the term 'nursing'. The 'AND' Boolean facility was used to focus and refine the search.

Inclusion/exclusion criteria

In an effort to summarise and identify some of the key 'nursing perspective' components from the large haul of published literature, some basic standards were used to establish inclusion criteria. To be included in the review, all papers were required to meet the following criteria:

- Identified in the title or abstract as reporting on a Productive Ward- or a Productive Series-type project/initiative
- Focused in a healthcare organisation or environment and from a nursing perspective
- A basic description or overview of the research/study/project/initiative was provided
- Offered results/improvements/case-study examples or reports.

Healthcare organisations and environments were defined to include any activity associated with nursing and the care and management of patients/clients. In an attempt to include

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as many aspects and elements of PW implementation/experience as possible, papers, reports and articles were accepted from a variety of sources and included peer-reviewed papers, professional journals, health-related publications and the healthcare media.

However, the authors clearly separated the scholarly peer-reviewed papers from the grey literature in their review. There are some risks associated with including papers that include opinion pieces, interpretational reports or news items in a literature review and caution must be taken when assessing and including documents for authenticity, credibility and representativeness (Scott, 1990).

This comprehensive search retrieved a total in excess of 3100 related references from the 'PW' search theme and 1809 from the 'Releasing Time to Care' search theme. After selection criteria were implemented, 528 potential references were screened for relevance. Once duplicate and non-relevant citations were removed and further scrutiny employed in relation to appropriate PW subject matter, this yielded 90 articles for consideration. A further search through the reference lists of the relevant publications and using Google and Google Scholar yielded 6 additional references. The final result was 96 relevant and appropriate papers.

For the purposes of organising the review, the papers were divided up into three simple categories. These included Peer-reviewed publications (e.g. original research, systematic review or case study), evaluations or reports (e.g. a published evaluation or report of implementation or experience) and grey literature (e.g. professional journal articles, general reviews/discussions, case studies, editorials/opinions/letters). A breakdown of these articles is given in Table 2.

Table 2. Breakdown of peer-reviewed papers and evaluations/reports

Peer-reviewed	Evaluations/report
1. Grant, 2008	1. NHS Scotland, 2008
2. Allsopp et al, 2009	2. Avis, 2009
3. Blakemore, 2009b	3. NHS Institute, 2009
4. Bloodworth, 2009	4. Gribben et al, 2009
5. Foster et al, 2009	5. Morrow et al, 2010
6. Wilson, 2009	6. NHS Institute and NNRI, 2010a
7. Coutts, 2010	7. NHS Institute and NNRI, 2010b
8. Smith and Rudd, 2010	8. NHS Institute and NNRI, 2010c
9. Armitage and Hingham, 2011	9. Avis, 2011
10. Bloodworth, 2011	10. Health Quality Council (HQC), 2011
11. Burston et al, 2011	11. NHS Institute for Innovation and Improvement, 2011
12. Kemp and Merchant, 2011	12. NHS Institute, 2012
13. Robert, 2011	13. Foley and Cox, 2013
14. Robert et al, 2011	
15. Davis and Adams, 2012	
16. Lennard, 2012	
17. Morrow et al, 2012	
18. Rudge, 2013	
19. Van den Broek et al, 2013	
20. White et al, 2013	
21. Wright and McSherry, 2013	

- Publications within criteria retrieved: 528 papers
 - Once duplicate and non-relevant citations removed: 418 papers
 - Screened for thematic relevance: 109 papers
 - Nursing perspective/report cited: 96 papers
 - Peer reviewed: 21 papers; evaluations/reports: 13; grey literature including professional journals/editorials: 62 papers
- *The remaining 62 papers were mainly news reports, cover stories and updates from professional journals and newsletters

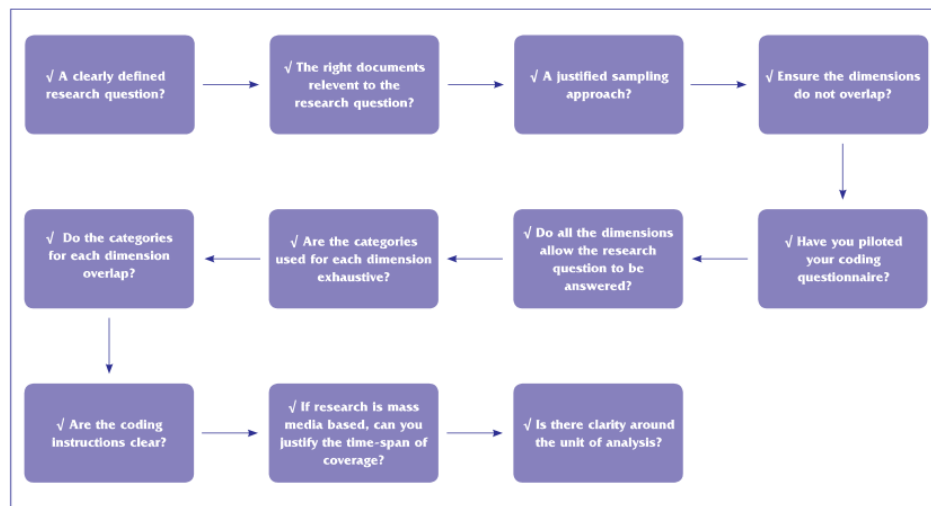


Figure 1. Brymans (2012) Content Analysis Checklist (adapted)

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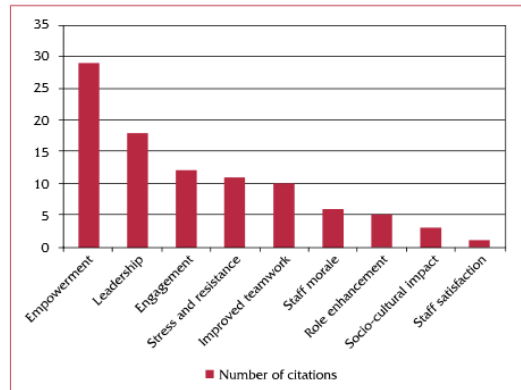


Figure 2. Reported effects/impacts

Analysis

The 96 reviewed articles were then subjected to a systematic qualitative content analysis as outlined by Bryman (2012) using a slightly modified version of his recommended 'content analysis checklist' (Figure 1). All papers were examined for items relating to, containing or reporting the nurse's perspective or experience. The authors identified and used content from 46 PW papers that met these criteria. Each

paper was then examined in further detail and coded in terms of the reported perspective, impact or experience. The aim in using this approach was to let the categories or themes of employee experience/impact, cited in the selected literature, emerge from the text.

Ranking

Because some papers contained multiple categories, subjects and themes, it was decided to employ a counting/frequency table of the categories as they were uncovered during analysis. This was explored further by examining the occurrence of keywords or characteristics within the context of the nurse's or nursing team's reported experience or impact, and within the category or theme. The categories were then ranked by number of papers (Table 3; Figure 2).

Results

At the time of reporting, 96 published papers met the inclusion criteria and were identified to be in the required 90-month period from 2006 until mid-2013. Categorisation of the literature identifies that the majority of the PW literature is 'grey literature' at 64.5%. Peer-reviewed papers represent 21.9% and evaluations and reports represent 15.6% of all publications (Figure 3).

Common effects and impacts reported

The authors' findings are organised by the common effects and impacts identified in the literature. This review has identified that the most commonly reported effect and impact themes include: empowerment (in 29 papers);

Table 3. Ranking of citations/categories		
Productive Ward: Releasing Time to Care Literature		
1.	Empowerment	Allsopp (2009), Anthony (2008), Beasley (2009), Bevan (2009), Blakemore (2009a; b), Bloodworth (2011), Farrell and Casey (2011), Foley and Cox (2013), Ford (2009), Foster et al (2009), Gray (2008), Gribben et al (2009), Health Quality Council (HQC) (2011), Lennard (2012), Liple (2009), Management Services (2011), Morrow et al (2012), Mumvuri and Pithouse (2010), NHS Institute (2009), Staines (2008), Smith and Rudd (2010), Shepherd (2008), Taylor (2009), Van den Broek et al (2013), Ward and Parish (2009), White et al (2013), Wilson (2009), Wright and McSherry (2013)
2.	Leadership	Bevan (2009), Blakemore (2009a), Coutts (2010), Davis and Adams (2012), Eason (2008), Foley and Cox (2013), Ford (2010), Grant (2008), HQC (2011), Management Services (2011), Morrow et al (2012), Robert et al (2011), NHS Institute and NNRU (2010a; 2010b); Shepherd (2008), Shepherd (2009), White et al (2013), Wright and McSherry (2013)
3.	Engagement	Avis (2009), Foley and Cox (2013), Grant (2008), Liple (2009), Management Services (2011), NHS Institute and NNRU (2010b); Shepherd (2008), Saskatchewan Registered Nurses Association (2010), Svedahl (2009), Van den Broek et al (2013), White et al (2013), Wright and McSherry (2013)
4.	Stress and resistance	Armitage and Hingham (2011), Coutts (2010), Davis and Adams (2012), Foley and Cox (2013), Gribben et al (2009), HQC (2011), Morrow et al (2010), Mumvuri and Pithouse (2010), NHS Institute and NNRU (2010a), Ross and Stevenson (2011); Van den Broek et al (2013) Wright and McSherry (2013)
5.	Improved teamwork	Foley and Cox (2013), Ford (2009), Ford (2010), Avis (2009), Lennard (2012), Morrow et al (2012), NHS Institute (2009), NHS Institute and NNRU Unit (2010a), Robert et al (2011), Smith and Rudd (2010), Wilson (2009)
6.	Staff morale	Blakemore (2009b), HQC (2011), NNRU (2011); NHS Institute and NNRU (2010a; 2010b), NHS Scotland (2008), Smith and Rudd (2010)
7.	Role enhancement	Bevan (2009), Davis and Adams (2012), Farrell and Casey (2011), Foley and Cox (2013), Taylor (2009)
8.	Socio-cultural impact	Gribben et al (2009), Morrow et al (2012), Ward and Parish (2009)
9.	Staff satisfaction	NHS Institute and NNRU (2010a)

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leadership (in 18 papers); engagement (in 12 papers); stress and resistance (in 11 papers); and teamwork (in 10 papers). Although ranked by their category or theme, the authors feel it is important not to over-emphasise or give exclusive attention to any particular reported impact or theme. It is probably much more practical to examine the themes in a cluster or grouping as the literature reviewed included many different approaches to improvement tools, methodologies and models of implementation. Each report or paper cited in the literature may also contain many contextual factors. As outlined in *Table 1*, the papers reviewed are an eclectic mix of peer-reviewed articles, professional journals, reports and editorials and, as such, are not a reliable source of evidence. The authors also acknowledge from the literature that PW as a QI initiative is a complex social intervention, which integrates multiple variations and components (Ovretveit, 2011). However, the occurrence of effect and impact throughout the PW literature merits some exploration and may add additional insight for implementation. The authors have therefore clustered the top three themes of impact/effect reported by nurses—empowerment, leadership and engagement—for discussion.

Discussion

Empowerment

The empowerment effect and impact reported by nurses in the PW literature is not surprising as it is a stated component of the programme (NHS Institute and NNRU, 2010a). The bottom-up philosophy of Lean is generally cited as the most empowering factor. There are also descriptions within the literature of group ownership improvement projects and frontline staff having a say (Lipley 2009) have empowered participating nurses (Lennard, 2012; Foley and Cox, 2013). Having control and increased involvement in improvement work and change is cited as empowering (Bloodworth, 2011). Doing the job in a more efficient way, while directly helping patients, has also been reported as an empowering factor of PW (Anthony, 2009; Blakemore, 2009a).

Using the key performance metrics and measuring or monitoring the improvement element of PW was found to empower participants (Foley and Cox, 2013). However, the selection method of performance metrics, how they are chosen and managed (so that they originate and are owned by frontline nurses), is a vital empowering element of PW (Morrow et al, 2012; van den Broek et al, 2013). Challenging changes to the way work is organised (Blakemore, 2009b; Wilson, 2009; Smith and Rudd, 2010), bringing about changes to work processes (Lennard, 2012); being encouraged to solve one's own problems (Gray, 2008; Foster et al, 2009; Health Quality Council (HQC), 2011) and challenging the traditional hierarchies (Management Services, 2011) and mindsets (Ward and Parish, 2009) have all reportedly impacted on the empowerment of frontline nursing staff.

Empowerment reported as a key output of PW is most probably attributable to its use of Lean methods. Lean improvement methods have been well recognised for harnessing employees' eagerness to realise their own ideas, as opposed to imposed top-down process improvements (Graban, 2012).

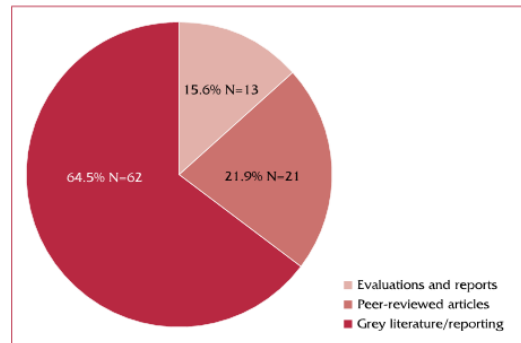


Figure 3. Productive Ward publications 2006-2013 by category

Leadership

The impact and effect that PW has on leadership appears to be no different than any of those characterised in many other major transformational change models and initiatives (Pinto and Slevin, 1989; Kotter, 2007) or other QI efforts (Walmsley and Miller, 2007; Steed, 2012; The Kings Fund, 2012). There are, however, three key areas of leadership which are reported to contribute to the success of PW, and they recur in several of the papers.

The first is the impact and effect that top-level, executive or CEO leadership sponsorship and involvement has on the successful implementation of PW. Coutts (2010), Bloodworth (2009; 2011) and Wilson (2009) outline the requirement for PW to have strong corporate leadership support, visits to the ward and time to talk through the improvements with nursing staff. Corporate or CEO involvement is also reported to have an impact on the scale and pace of 'spreading' the PW initiative (NHS Institute and NNRU, 2010b). We believe that this 'top-level' or 'corporate' requirement for involvement is attributable to the PW initiative's use of transformational leadership and Lean methods. PW is essentially a transformational effort and in order to be successful it requires the sense of urgency, coalitions, corporate vision and communication that can only come from the top (Kotter, 2007). Having leadership visibility and 'visible leaders of Lean' are described as essential elements of success in other Lean healthcare efforts (Holden et al, 2011; Graban, 2012; Steed, 2012).

The second key impact and effect on PW success is the role that nurse leadership plays in facilitating nurses to undertake the improvement work of the PW initiative. This has been described as the 'how', 'if' and 'when' nursing staff can be enabled to carry out PW improvement activities (NHS Institute and NNRU, 2010a). Van den Broek et al (2013) reported that finding the time to undertake PW project activities required project leaders to motivate, energise and enthuse constantly. They reported the real challenges of getting the nursing team to undertake improvement activities during times of holiday and staff shortage. This facilitative

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leadership output, described and reported throughout the PW literature, has also been outlined in many Lean healthcare efforts. Grunden (2009) and Toussaint (2009), for example, report the major impact of Lean healthcare in terms of its move away from leadership control and command towards arming frontline workers with the tools to improve; away from being 'bosses' and into the space of being 'coaches and mentors'. Mann (2009) describes 'Lean leadership' as a distinct type of leadership with the emphasis on putting the appropriate, enabling structures in place that allow frontline workers to problem-solve and innovate.

The third area of impact on nursing leadership reported in the PW literature is in the growth and development element that has been experienced by the many nurses who became involved in the initiative. PW has been described as a leadership development programme for nurses (Shepherd, 2009; Ford, 2010), a method of leadership for nurse leaders (Shepherd, 2008) and an opportunity for the organisation to grow its leadership capacity (NHS Institute and NNRU, 2010b). Morrow et al (2012) reported in their study that PW was helping to build leadership skills at ward level by introducing new theory and work methods. The Health Quality Council (HQC) (2011) in Saskatchewan, Canada reports that by working through the PW project, some natural leaders have emerged who have helped spread, engage and get 'buy-in' for the initiative. Foley and Cox (2013) outline how PW has improved the problem-solving and assertiveness skill sets of the nurses involved, enhancing their CVs and putting them in a better position for promotion.

Finally, the most commonly reported facilitating factor for successful implementation of PW is project leadership (Robert et al, 2011).

Engagement

The PW literature reports nurses identifying the following areas of engagement:

Involvement and participation are the most frequently mentioned enabling and engaging aspects of PW (Lipley, 2009; NHS Institute and NNRU, 2010a; 2010b). The PW module activities, participation in Lean sessions, the practical solutions, process-mapping and redesign makes employees more likely to further participate and accept the changes created by the project (Avis, 2009; NHS Institute and NNRU, 2010a; 2010b; Lennard, 2012; Morrow et al, 2012).

PW module activities also appear to impact on the nursing team's engagement with the whole initiative. The HQC (2011) report outlines how the PW project both engaged and motivated the team and the residents. By bringing 'the board to the ward' (Wilson, 2009), PW has engaged nurse management with the frontline nursing teams (Foley and Cox, 2013). The authors of the current review believe that this is in some way connected to being actively involved with the work of improvement. Fine et al (2009) describe how improvement initiatives have engaged all frontline workers (including the physicians) through involvement in the improvement processes. Nimitz-Rusch and Thompson (2008) and O'Neill et al (2011) have described how involvement in 'process-improvement activities' have impacted on the engagement of nursing staff in the overall QI project. The

relationship and impact between engagement and successful QI initiatives such as PW have recently been highlighted (Brandrud et al, 2011; Dixon-Woods et al, 2012) and merit further exploration.

Conclusion

This review of the literature has highlighted and ranked the reported effects and impact that the PW initiative has had from a nursing perspective. Although there are many differences in the way that the PW has been implemented (e.g. in terms of context, tools used, training resources), from a nursing perspective there are some effects and impacts which are commonly reported. These perspectives, reported by nurses involved in PW and highlighted in this review, can assist those responsible for rolling out the PW initiative (or, one could argue, any QI initiative) in terms of planning, organising and implementation. The top three effects and impacts reported by nurses and described in this paper—empowerment, leadership and engagement—can also be described and explored in terms of the role they play in the implementation of PW.

Successful implementation or transformation of any healthcare environment using QI initiatives or methods for improvement requires the complete engagement and empowerment of the healthcare professional groups and employees (Brandrud et al, 2011; Dixon-Woods et al, 2012). PW has predominantly been marketed and implemented as a nursing QI initiative, and could do more to engage or empower other health professionals who are transient members of the ward team. This almost total nursing focus has received some criticism in this respect (Grant, 2008; Rudge, 2013), and has done little to secure the systemic change or the intra-professional engagement that is required for sustained quality improvement (Ferlie and Shortell, 2001). Engagement and empowerment alone are unlikely to attract the intra-professional buy-in that PW needs to drive and sustain grand-scale change and improvement. The political support behind this initiative in the UK will not continue indefinitely and the role that nursing leadership plays as an enabler for attracting/involving all health professionals while developing and sustaining quality improvements such as PW is crucial. In order to attract other healthcare professional groups into QI initiatives, nurse leaders and other professional leaders involved in QI must embrace a new breed of leadership and practice, one that focuses on patient outcomes and performance measurement as the key motivators of improvement (Lee, 2010).

This review provides some insight into the reported perspectives of nurses involved with PW, identifying and exploring the most cited reports of impact and effect, from the nursing perspective, in an attempt to inform those senior nurse leaders involved in the uptake, implementation and spread of PW. The hope is that this should provide potential areas to be maximised during QI implementation.

Recommendations

From a practice perspective, this review has also identified some elements in the literature that PW will most probably not deliver. Despite the PW marketing claims of improved

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PRODUCTIVE WARD

staff satisfaction, reports in this literature review do not provide credence to this claim. One particular PW module encourages periodic measures of staff satisfaction as one method of gauging momentum and improvement. It is therefore surprising that no associated staff satisfaction surveys have been published and this is an area of implementation practice that would benefit from evaluation. The low number of reports in relation to the socio-cultural effects ('the way things are done around here') may well be a result of the over-reliance on 'Lean tools' and 'quick wins' (Radnor and Walley, 2008), where QI is viewed as a tick-box exercise and not a long-term organisational strategy. Nurses in practice have a pivotal role in developing and shaping the socio-culture aspects of their wards and work environments. Embracing, implementing and practising the techniques and the beliefs of quality improvement are only one part of the picture.

A strategic, long-term, organisational plan and vision for PW, including where it sits in the overall organisational QI agenda will do a lot to dismiss any scepticism that appetite for PW is dwindling (Wright and McSherry, 2013) or that it is just another management project or fad. A long-term commitment from senior managers to PW would serve to reinforce the message that QI is part of the way 'we do things around here', an integral element of what nurses do.

Conflict of interest: none.

Allsopp P, Faruqi J, Gascoigne L, Ternynson R (2009) Productive Ward 2: practical advice to facilitators implementing the programme. *Nurs Times*, **105**(25): 19-21

Armitage S (2008) The 'Productive Ward' comes to maternity services. *Midwives* **11**(6): 34-5

Armitage C, Hinglam P (2011) The Productive Ward: encouraging teambuilding and innovation. *Nurs Manag (Harlow)* **18**(1): 28-31

Avis K (2009) *Releasing Time to Care in Saskatchewan: promising signs that programme engages clinicians*. Health Quality Council, Saskatoon SK

Avis K (2011) *Looking Back Thinking Forward: insight and recommendations from health region leadership on creating a culture of continuous performance in Saskatchewan*. Health Quality Council, Saskatoon SK

Bate P, Robert G, Bevan, H (2004) The next phase of healthcare improvement: what can we learn from social movements? *Qual Saf Health Care* **13**(1): 62-6

Bealey C (2009) The productive series will allow staff to revolutionise the NHS. *Nurs Times* **105**(9): suppl 3

Bevan H (2009) The six lessons for successful implementation. *Nurs Times* **105**(9): suppl 7

Blakemore S (2009a) Streamlining and efficiency bring benefits to the wards. *Mental Health Practice* **12**(8): 8-9

Blakemore S (2009b) How productive wards can improve patient care. *Nurs Manag (Harlow)* **16**(5): 14-18

Bloodworth K (2009) Productive Ward. 1: Implementing the initiative across a large university teaching hospital. *Nurs Times* **105**(24): 22-5

Bloodworth K (2011) The productive ward and the productive operating theatre. *J Proper Pract* **21**(5): 97-103

Brackett T, Comer L, Whitchell R (2013) Do lean practices lead to more time at the bedside? *J Healthc Qual* **35**(2): 7-14. doi: 10.1111/j.1945-1474.2011.00169.x. Epub 2011

Brandrud AS, Schreiner A, Hjordahl P, Helljesen GS, Nyen B, Nelson EC (2011) Three success factors for continual improvement in healthcare: an analysis of the reports of improvement team members. *BMJ Quality & Safety*, **20**(3): 251-9. doi: 10.1136/bmjqs.2009.038604

Bryman A (2012) *Social Research Methods*. 4th edn. Oxford University Press, New York

Burton S, Chaboyer W, Wallis M, Stanfield J (2011) A discussion of approaches to transforming care: contemporary strategies to improve patient safety. *J Adv Nurs* **67**(11): 2488-95

Carlisle D (2013) Our nurse-led approach to productivity must live on. *Nurs Stand* **27**(30): 14-15

Cattelline G (2008) Increasing the time nurses spend on patient care. *Bv J Nurs* **17**(11): 801

Clancy C, Munier W, Brady J et al for Agency for Healthcare Research & Quality (2013) *2012 National Healthcare Quality & Disparities Report*. AHRQ Publications, Rockville, MD

Cless, G. (2011) Productive ward goes global. *Nursing times.net*, 3 May 2011. <http://www.nursingtimes.net/whats-new-in-nursing/acute-care/productive-ward-goes-global/5027919.article> (accessed: 8 April 2014).

KEY POINTS

- Productive Ward (PW) continues to be reported as the most prominent healthcare quality improvement (QI) programme in the UK with growing international adoption
- Positive reports of its effect and impact continue to be reported its evaluations, the growing peer-reviewed literature and grey literature
- Empowerment, leadership and engagement of ward-based teams are the most reported effect and impact and should receive particular attention during implementation so that its full-potential can be maximised
- There is a paucity of reports or data confirming any socio-cultural impact and sustained PW activity. This element of PW implementation requires immediate attention if the QI achievements are to be maintained and the QI culture within nursing is to flourish

Coutts J (2010) Releasing time to care. *Healthc Q* **13**(2): 21-3

Davidson S (2011) Update: releasing time to care. *Oregon Nurse* (Spring - February): 10

Davis J, Adams J (2012) The 'Releasing Time to Care - the Productive Ward' programme: participants' perspectives'. *J Nurs Manag* **20**(3): 354-60. doi: 10.1111/j.1365-2834.2011.01266.x. epub 2011 Nov 2

Dixon-Woods M, McNicol S, Martin G (2012) Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. *BMJ Qual Saf* **21**(10): 876-84

Eason S (2008) Releasing time to care. *Primary Health Care* **18**(9): 18-19

Edmunds G (2010) 'Implementation of the Productive Ward Project in a Tertiary Hospital'. Presentation at *American Nurses Credentialing Center; Magnet Conference*. October 2010, Florida, Orlando

Farrell M, Casey M (2011) Productive ward project: Saving our most valuable asset: time. *World of Irish Nursing & Midwifery* **19**(9): 36-7

Ferlie EP, Shortell SM (2001) Improving the quality of health care in the United Kingdom and the United States: a framework for change. *Milbank Q* **79**(2): 281-315

Fine BA, Golden B, Hannam R, Morra D (2009) Leading Lean: a Canadian healthcare leader's guide. *Healthc Q* **12**(5): 32-41

Foley B, Cox A (2013) *Work organisation and innovation: Case study: Nottingham University Hospitals' NHS Trust*. UK. European Foundation for the Improvement of Living and Working Conditions. <http://www.eurofound.europa.eu/publications/htmlfiles/ef127215.htm> (accessed 8 April 2014)

Ford S (2009) Productive theatre pilot improves care and boosts morale. *Nurs Times* **105**(38): 4

Ford S (2010) Productive Ward boosts leadership. *Nurs Times* **106**(7): 2

Foster S, Gordon P, McSherry W (2009) Rolling out Productive Ward foundation modules across a hospital trust. *Nurs Times* **105**(30-31): 28-30

Francis R (2013) *Report of the Mid Staffordshire NHS Trust Public Inquiry*. TSO, London

Graban M (2012) *Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement*. 2nd edn. CRC Press, New York

Grant P (2008) 'The productive ward round': a critical analysis of organisational change. *International Journal of Clinical Leadership* **16**(4): 193-201

Gray J (2008) Nurses' ideas get results. *Nurs Standard* **22**(36): 1

Gribben B, McCance I, Slater P (2009) *Belfast Health and Social Care Trust, Productive Ward-Releasing Time to Care Evaluation Report*. BHSCT, Belfast

Grundens N (2009) Lean at the front line: all hands on deck. *Front Health Serv Manag* **26**(1): 33-7

Haylock J (2010) Improving NZ's productivity. *Chartered Accountants Journal* **89**(9): 57

Health Quality Council (2011) *Releasing Time to Care: The Productive Ward Long-term Care Pilot Project Report*. HQC, Saskatoon SK

Holden RJ (2011) Lean Thinking in emergency departments: a critical review. *Ann Emerg Med* **57**(3): 265-278. doi: 10.1016/j.annemergmed.2010.08.001. Epub 2010 Oct 29

Key J (2007) Vantage point. *Nurs Manag (Harlow)* **14**(4): 8

Kepp P, Merchant S (2011) How to turn innovations into everyday practice. *Mental Health Practice* **15**(2): 20-4

Kendall-Raynor P (2010) Wards urged to adopt successful productive ward scheme quickly. *Nurs Stand* **25**(15-17): 8

Keogh B (2013) *Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report*. NHS England/Department of Health, London

Kotter JR (2007) Leading change - Why transformation efforts fail. *Harvard Business Review* **85**(1): 96

Lee TH (2010) Turning doctors into leaders. *Harv Bus Rev* **88**(4): 50-8

Lennard C (2012) How the Productive Ward scheme gives staff more time to care: implementation of a work efficiency initiative in an acute mental health adult ward is improving nurses' welfare while providing a more effective

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- service to clients. *Mental Health Practice* **15**(5): 30-5
- Lipley N (2009) Productive Wards hailed for transforming care. *Nurs Manag (Harlow)* **16**(4): 4
- Management Services (2011) Improving healthcare quality at scale and pace. *Management Services* **55**(4): 16-19
- Mann D (2009) The missing link: Lean leadership. *Front Health Serv Manage* **26**(1): 15-20
- McDonald E (2010) *Florence Nightingale: At First Hand*. Continuum International Publishing, London
- Morrow E, Robert G, Maben J, Griffiths P (2010) *Facilitating the Spread of the Productive Ward*. National Nursing Research Unit, Kings College Hospital, London
- Morrow E, Robert G, Maben J, Griffiths P (2012) Implementing large-scale quality improvement: lessons from The Productive Ward. *Releasing Time to Care. Int J Health Care Qual Assur* **25**(4): 237-53
- Munwiri M, Pithouse A (2010) Implementing and evaluating the Productive Ward initiative in a mental health trust. *Nursing Times* **106**(4): 15-18
- National Nursing Research Unit (2011) Implementing and sustaining change in the contemporary NHS: lessons from the Productive Ward. *Policy+ issue 29*. <http://tinyurl.com/nkral9o> (accessed 8 April 2014)
- NHS Institute for Innovation and Improvement (2009) *The Productive Ward. Quality and Productivity example for NHS Evidence*. <http://tinyurl.com/6d3m7y> (accessed 8 April 2014)
- NHS Institute for Innovation and Improvement (2011) *Rapid Impact Assessment of the Productive Ward: Releasing Time to Care*. NHS Institute, Warwick
- NHS Institute for Innovation and Improvement (2012) *Putting Patients First: The Productive Series*. NHS Institute for Innovation and Improvement, Coventry
- NHS Institute for Innovation and Improvement and National Nursing Research Unit (2010a) *Improving Healthcare Quality at Scale and Pace: Lessons for the Productive Ward: Releasing Time to Care Programme*. NHS Institute, Warwick
- NHS Institute for Innovation and Improvement and National Nursing Research Unit (2010b) *The Productive Ward: Releasing Time to Care Learning and Impact Review*. NHS Institute, Warwick
- NHS Institute for Innovation and Improvement and National Nursing Research Unit (2010c) *Top Tips for Spreading the Productive Ward within NHS Trusts*. NHS Institute, Warwick
- NHS Scotland (2008) *NHS Scotland, Releasing Time to Care Evaluation*. NHS Scotland, Edinburgh
- Nimitz-Rusch K, and Thompson J (2008) Nursing and Six Sigma: a perfect match for quality and safety improvement. *Journal of Illinois Nursing* **105**(3): 10-3
- Nolan A (2007) Productive ward-making time to improve patient care. *Health Services Journal*. 10 December. <http://www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care/293099.article> (accessed 8 April 2014)
- Nursing Management (2008) Productive ward scheme rolled out. *Nurs Manag (Harlow)* **15**(3): 5
- Nursing Standard (2012) Full roll-out for productive wards by 2013. *Nurs Stand* **26**(9): 7
- O'Neill S, Jones T, Bennett D, Lewis M (2011) Nursing works: the application of lean thinking to nursing processes. *J Nurs Adm* **41**(12): 546-52
- Organisation for Economic Co-operation and Development (2013) *OECD Reviews of Health Care Quality: Denmark 2013. Raising Standards*. OECD Publishing, Paris
- Ovretveit J (2011) Understanding the conditions for improvement: research to discover which context influences affect improvement success. *BMJ Qual Saf* **20**(supplement 1): i18-i23 doi: 10.1136/bmjqs.2010.048955
- Pinto JK, Slevin DP (1989) Critical success factors in R&D projects. *Research Technology Management* **32**(1): 31-5
- Radnor Z, Wailey P (2008) Learning to walk before we try to run: Adapting Lean for the public sector. *Public Money & Management* **28**(1): 13-20
- Robert G (2011) Progress of the Productive Ward. *Nursing Times* **107**(7): 18-19
- Robert G, Morrow E, Maben J, Griffiths P, Callard L (2011) The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England. *J Clin Nurs* **20**(7-8): 1196-207. doi: 10.1111/j.1365-2702.2010.03480.x
- Ross J, Stevenson I (2011) A first-class production. *Mishmish* **14**(3): 28-9
- Rudge T (2013) Desiring productivity: nary a wasted moment, never a missed step. *Nursing Philosophy* **14**(3): 201-211 doi: 10.1111/nup.12019
- Scott J (1990) *A Matter of Record: Documentary Sources in Social Research*. Polity, Cambridge
- Shepherd S (2008) 'This is a Phenomenon'. *Health Service Journal*, 6th November <http://www.hsj.co.uk/resource-centre/this-is-a-phenomenon/1888168.article> (accessed 8 April 2014)
- Shepherd S (2009) 'This is a phenomenon'. *Nurs Times* **105**(9): suppl 4-6
- Smith J, Rudd C (2010) Implementing the productive ward management programme. *Nurs Stand* **24**(31): 45-8
- Saskatchewan Registered Nurses Association (2010) 'RELEASING TIME TO CARE program is gaining momentum'. *SRNA Newshulletin* **12**(2): 23
- Staines R (2008) Productive Ward will drive up NHS quality. *Nurs Times* **104**(46): 5
- Steed A (2012) An exploration of the leadership attributes and methods associated with successful lean system deployments in acute care hospitals. *Qual Manag Health Care*. **21**(1): 48-58. doi: 10.1097/QMH.0b013e318241825c
- Svedahl S (2009) 'Releasing time to care'. *SRNA Newshulletin* **11**(4): 5
- Taylor J (2006) Productive ward. Stand by your bed. *Health Serv J* **116**(6029): 26-7
- Taylor J (2009) Putting into practice. *Nurs Times* **105**(9): suppl 2: 14
- The Kings Fund (2012) *Leadership and Engagement for Improvement in the NHS: Together we can*. The Kings Fund, London
- Toussaint J (2009) Why are we still underperforming? *Front Health Serv Manage* **26**(1): 27-32
- Van den Broek J, Boshuier P, Pauwe J (2013) Multiple institutional logics in health care: 'Productive Ward Releasing Time to Care'. *Public Management Review*, published online first 18 April 2013. DOI:10.1080/14719037.2013.770059
- Walmsley J, Miller K (2007) Building capacity for quality improvement through leadership development: lessons from the Health Foundation's leadership programme. *The International Journal of Leadership in Public Services* **3**(2): 4-17
- Ward L, Parish K (2009) Putting it into practice. *Nurs Times* **105**(9): suppl 10-11
- Waring JJ, Bishop S (2010) Lean healthcare: rhetoric, ritual and resistance. *Soc Sci Med* **71**(7): 1332-40 doi: 10.1016/j.socscimed.2010.06.028
- White M, Wells JSG, Butterworth T (2013) 'The Productive Ward: Releasing Time to Care'TM - What we can learn from the literature for implementation'. *J Nurs Manag* 18 June epub ahead of print. doi: 10.1111/jonm.12069
- Wilson G (2009) Implementation of releasing time to care - the productive ward. *J Nurs Manag* **17**(5): 647-54 doi: 10.1111/j.1365-2834.2009.01026.x
- Wright S, McSherry W (2013) A systematic literature review of 'Releasing Time to Care: The Productive Ward'. *J Clin Nurs* **22**(9-10): 1361-71 doi: 10.1111/jocn.12074

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Journal of Nursing Management, 2014, 22, 914–923

The Productive Ward: Releasing Time to Care™ – What we can learn from the literature for implementation

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The Productive Ward: Releasing Time to Care™ – What we can learn from the literature for implementation

Aim This paper reviews the Productive Ward: Releasing Time to Care™ literature, identifying and discussing the key characteristics that may contribute to successful implementation.

Background It is 5 years since the official UK launch of the Productive Ward, and the Republic of Ireland commenced a phased, national implementation programme in 2011. Thus it is timely to reflect on the implementation lessons learned to date and described in the literature.

Evaluation Using taxonomic mapping, this paper evaluates the current state of the literature that pertains to Productive Ward implementation experience; success factors; reports, and assessments.

Key issues Seven common contextual characteristics were identified: robust and engaging communication; enabling and empowering roles; appropriate training; project planning and management; leadership; corporate/management engagement and support; and financial and human resource commitment.

Conclusion The key characteristics identified have a direct impact on the implementation of the Productive Ward. The interplay between these key characteristics and how this interplay influences successful implementation of the Productive Ward warrants further research.

Implications for nursing management Acknowledging and embracing the seven characteristics during implementation will positively improve the progress and success of the initiatives implementation.

Keywords: implementation, improvement, lean health care, Productive Ward, quality, releasing time to care

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Background

Health care organisations throughout the world are focusing their efforts on quality, cost and improvement. While focus in the past has been purely on cost,

more emphasis is being directed towards Quality, Outcomes and Improvement. The Productive Ward: Releasing Time to Care™ (The Productive Ward) programme, is a relatively new initiative in nursing terms. It is best described as a ward-based ‘improvement’

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The Productive Ward: Releasing Time to Care

programme created to help ward-based teams redesign and streamline the way that they work, freeing more time to care for patients and empowering nurses to improve the safety, quality and delivery of care. It was designed and developed by the UK's National Health Service Institute for Innovation and Improvement (NHSI) in 2005 and it aims to: increase the proportion of time nurses spend in direct patient care; improve experience for staff and for patients; and make structural changes to the use of ward spaces to improve efficiency in terms of time, effort and money (National Health Service Institute for Innovation and Improvement and National Nursing Research Unit 2010a).

After early testing by the UK NHSI in 2006, the Productive Ward was formally launched in the UK by the Chief Nursing Officer for England, Dame Christine Beasley, at the Royal College of Nursing Conference in 2007. Early-phase implementation sites, also called 'Learning Partner sites', were recruited by the NHSI later in 2007 and widespread NHS implementation commenced in 2008. It has been positively reviewed and reported in the nursing and health-care press (Taylor 2006, Kay 2007, Nolan 2007, Castle-dine 2008, Blakemore 2009, Bloodworth 2009, Kendal-Raynor 2010, Smith & Rudd 2010, Davis & Adams 2012), well evaluated (NHSI & NNRU 2010a, 2010c, Avis 2009, Gribben *et al.* 2009, NHS Scotland 2008) and its implementation is proven to produce significant savings in productivity and efficiency (QIPP-NHS Evidence 2009, NHSI 2011). It has recently been adopted by nurses in Ireland, the Netherlands, Denmark, Australia, New Zealand, Canada and the USA (Oregon). This paper will therefore identify and discuss what can contribute to successful implementation of the Productive Ward through an examination of the literature.

There was early interest in the Productive Ward initiative in Ireland (Farrell & Casey 2011), but the Health Service Executive (HSE) and Ireland did not commence the planning of a phased implementation of the initiative until late 2010. The HSE's Office of the Nursing and Midwifery Services Director established a national advisory group to oversee a phased implementation of the Productive Ward. First-phase sites were recruited during 2011. Implementation is co-ordinated by geographically based 'Area Co-ordinators' who support up to four sites with its execution. Seventeen organisations from across the country were selected in 2011 using the predetermined criteria to assess organisational readiness for implementation (NHSI & NNRU 2010b).

The NHSI offers the Productive Ward in the form of a self-directed improvement programme. The programme comprises 13 modules which provide tools and guidance that help nurses make the required changes to their ward environment and work processes. All modules and specific project role guidance are included in the Productive Ward box-set that is provided under licence from the NHSI. Twenty-one wards in Ireland commenced the NHSI's Productive Ward module implementation in December 2011 and commenced working through the three foundation modules in early 2012. A second phase of interested sites were recruited at the end of 2012. As it is now 5 years since its official UK launch, it is both timely and prudent to reflect on the practical implementation lessons learned in this period that are described in the literature from which Ireland and others might learn.

Literature review – method

The purpose of this literature review was to identify key elements of implementation experienced during the introduction of the Productive Ward which are cited in the literature and could inform plans and strategies for its further implementation in Ireland. This commenced with an initial search of CINAHL, Academic Search Complete, ISI Web of Knowledge, Ovid Nursing, Ovid Journals, ABI/INFORM Global, PsycINFO, ScienceDirect, Wiley, Emerald Fulltext Management Xtra and Medline (January 2006 until June 2012). Key search terms used were: 'Productive Ward', 'Productive Series' and 'Releasing Time to Care'. Papers that reported on multiple or eclectic initiatives (such as lean and transforming care at the bedside) were excluded. Further deselection was also carried out on articles reporting on the Productive Operating Theatre (tPOT).

The search retrieved a total of 318 references from the 'Productive Ward' search theme and 210 from the 'Releasing Time to Care' search theme. Once duplicate and non-relevant citations were removed, 109 potential references were screened for relevance and yielded 74 articles for consideration. A further search through the reference lists of the relevant publications yielded six additional references. A secondary trawl was undertaken with the same search criteria using 'Google' and 'Google Scholar' to include possible grey literature and related news items if appropriate. This search yielded a further 10 references, leaving a total of 90 potentially relevant papers and articles. We introduced further criteria for inclusion/removal with

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specific reference to: 'implementation/challenges/lessons learned'. The final result yielded 53 relevant articles (see summary in Table 1):

The 53 relevant articles were then subjected to an ethnographic content analysis (Bryman 2012), allowing categories and key issues to emerge from the literature. The categories and related key issues were then arranged into a taxonomic map that highlighted all of the findings for reporting (Hart 2010).

This process identified seven common contextual characteristics (key issues) of implementation in the literature, and these are represented in Figure 1. These implementation characteristics have been previously identified to some degree in the change and implementation literature (Pinto & Slevin 1989, Ferlie & Shortell 2001, Kotter 2007); however, their presence in the Productive Ward literature suggests that they do not appear to have been fully utilized in the Productive Ward implementation to date. The seven key contextual characteristics are described below.

A robust, engaging communication strategy

Having developed or developing a robust communication strategy around the Productive Ward project is reported as a key success factor throughout the literature. Morrow *et al.* (2012) identified communication as a key facilitator that was expressed in a survey of policymakers, senior managers and health-care practitioners involved in implementation. NHSI & NNRU (2010b) report, a further NNRU (2011) report and commentary in the Management Services Journal (2011) all describe communication as one of the main ingredients for the spread of the Productive Ward. Keeping language simple, while engaging staff was an

early implementation message reported by Shepard (2009), suggested by Robert (2011) and echoed in the evaluation report by Gribben *et al.* (2009). Attempting to ensure that everyone understands the project is identified as an on-going challenge by Svedahl (2009) and is described in more detail by the Health Quality Council's (HQC) (2011) long-term care pilot project report.

Davis and Adams (2012) and the Saskatchewan Registered Nurses Association (SRNA) (2010) report on the large measure of success achieved by valuing communication during implementation of the Productive Ward initiative. Bevan (2009) encourages the use of nurse 'identity groups' to make communication more effective. 'Releasing Time to Care' leads in Saskatchewan found the opposite to be true, especially when allaying the fears that arise from change, and recommended talking one-on-one as a strategy that minimized the potential for resistance to implementation (Avis 2009). Coutts (2010) outlined the need for a robust and intense information campaign to counter the negative job-cut rumours that accompany improvement initiatives such as 'Releasing Time to Care'. Similar convincing communication challenges in relation to change and the Productive Ward have been described by Armitage and Higham (2011) and Blakemore (2009).

It is apparent from the literature that developing communication strategies which deliver key messages at both the macro and micro levels are important. Ensuring that the strategy tailors the message to corporate and senior management audiences, but also pays particular attention to the front-line, engaging the entire ward team, patients and relatives, will have a positive impact on the smooth implementation of the Productive Ward. The

Table 1
Search Results

Peer reviewed papers

Fifteen were peer-reviewed articles from academic/professional journals. (Allsopp *et al.* 2009, Blakemore 2009, Bloodworth 2009, Foster 2009, Wilson 2009, Coutts 2010, Mumvuri & Pithouse 2010, Smith & Fudd 2010, Armitage & Higham 2011, Bloodworth 2011, Morrow *et al.* 2012, Robert 2011, Robert *et al.* 2011, Davis & Adams 2012, Lennard 2012)

Three had identifiable research aims and a transparent research methodology. (Robert *et al.* 2011, Davis & Adams 2012, Morrow *et al.* 2012)

Two of these authors were members of prior research and evaluation teams who were commissioned by the NHSI (Robert *et al.* 2011, Morrow *et al.* 2012)

Evaluations & reports

Nine were Health Service Evaluation Reports. (NHS Scotland 2008, Avis 2009, Gribben *et al.* 2009, Morrow *et al.* 2010, NHSI & NNRU 2010a, NHSI & NNRU 2010b, NHSI & NNRU 2010c, NHSI 2011, NNRU 2011)

Five of these reports were commissioned by the NHSI to the National Nursine Research unit. (Morrow *et al.* 2010, NHSI & NNRU 2010a, 2010b, 2010c, NNRU 2011)

Grey literature

The remaining 29 papers were mainly news reports, cover stories and updates from professional journals and Newsletters.

Appendix A: Peer Reviewed Publications from this study to date

The Productive Ward: Releasing Time to Care

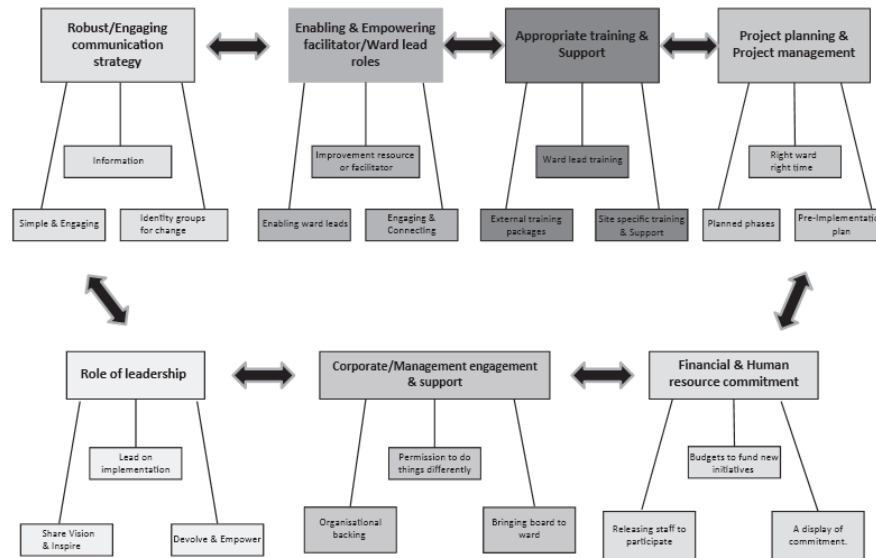


Figure 1
Key contextual characteristics of Productive Ward implementation.

impact that seamless macro/micro communication strategies have on the success of the programme, and to what degree, warrants further scrutiny and reporting.

Enabling and empowering facilitator/ward lead roles

The importance of having an improvement resource to facilitate and support the ward and project leads has been identified and reported since early implementation (Nolan 2007, NHS Scotland 2008). Allsopp *et al.* (2009) views the role of facilitator as being key to the understanding and use of improvement techniques and the underpinning of the principles of the Productive Ward. This view is also reflected in the 'Top Tips' for spreading the Productive Ward within NHS Trusts' (NHSI & NNRU 2010b). Gribben *et al.* (2009) describes the advantages of using ward leads that are skilled and experienced with practice development techniques and how these capture interest and engagement.

Facilitator roles have also enabled the transformation of staff ideas into actions (NHSI 2011). Smith and Rudd (2010) outline the requirement for ward

leads to be enabling, supportive and involving. They describe the many elements of change encountered while implementing the Productive Ward and how encouraging the involvement of all staff influenced the sustained changes that took place. Staines (2008) reports that involvement and support helps nurses to help themselves when it comes to implementing improvements and describes the initiative as a 'bottom-up supported change'. Ward and Parish (2009) also comment on the empowerment aspect of this facilitated change and how it can challenge the mindset and culture of top-down change processes.

Facilitating ideas from front-line staff into improvement actions was one of the key lessons learned in the Saskatchewan long-term pilot project report (Health Quality Council 2011). Discussing the determinants of 'spread' and the lessons learned from their extensive Productive Ward case study report, Morrow *et al.* (2010) identify programme leads as a vital role in encouraging staff at different levels in generating energy behind both the programme and the organisation. They also outline the relatively short nature of these seconded positions and the challenge of encouraging ward staff to work autonomously and take

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ownership of the initiative. This challenge and risk is echoed further by Avis (2011) who notes the loss of momentum or project halting when 'Releasing Time to Care' champions leave or burn out. The Courts (2010), NHSI & NNRU (2010c) report provides operational guidance for the spread and adoption of the Productive Ward to improvement leaders and facilitators. These actions include: connecting with wider social and political agendas; understanding the needs and characteristics of the sites; engaging with these sites and individual champions, and supporting sites to examine their organisational context.

The key messages for implementation appear to be in the availability of the right people in the right roles, who adopt a facilitative, empowering and encouraging style of project management. Ensuring that ward staff connect with the initiative and make it their own is an aspect of implementation that is highlighted as crucial to success. The professional background, project and improvement experience, credibility and competence of the facilitator and ward lead will all have an impact on how the Productive Ward will be accepted, adopted and spread. The extent to which these role characteristics affect each Productive Ward site's implementation and the amount of engagement that these roles can generate deserves further investigation and reporting.

Appropriate training

A key finding for implementation reported in the NHS Scotland (2008) Releasing Time to Care evaluation has been the need for training and support at ward and executive team levels. Similar findings from Gribben *et al.* (2009) in the Belfast Health and Social Care Trust evaluation include a requirement for internal and external training and support. The advantages of engaging with training and support packages from the NHSI is reported by NHSI & NNRU (2010a) as being generally positive, providing guidance and encouraging progress. Training and support in this report described multiple modes of delivery: NHSI facilitation, study days, conferences, module implementation training, tailored support, self-support networks and web-based support. Most notable findings are in relation to how many organisations had to tailor training and support because of the challenges of staff release and attendance, and the positive aspects attached to peer-support and networks where learning and ideas about implementation could be shared.

Allsopp *et al.* (2009) outline the tailored support programmes developed for ward leads in Nottingham

University Hospital, which included action learning skills, improvement technique training and support workshops. Leadership training was also provided to some ward leads to enable them to implement, communicate and manage change.

In a review of the 'Releasing Time to Care' project in Saskatchewan, Avis (2011) reports on the leadership and management assumptions that are made of ward leaders, who implement 'Releasing Time to Care', and comments on the little preparation and training for this new 'change' role. Avis (2011) also refers to the importance of networking and sharing experiences for participants of 'Releasing Time to Care', and recommends sharing improvement stories that highlight the positive impact that quality improvement work has on patients, families and health-care employees. She describes how this was viewed as being important in maintaining momentum and focus in the Saskatchewan project.

The ability to fund facilitated training, study days and networking is described as a key facilitating factor by Morrow *et al.* (2012) and reported in *Nursing Management* (2011) as a method for overcoming scepticism with the project. Pilot sites in the long-term care pilot project (Health Quality Council 2011) found it extremely challenging to implement without having the training or experience with continuous improvement.

Although the Productive Ward initiative is designed and intended to be a self-directed programme, there is some evidence from reports in the literature, that this model of information transfer, support and reassurance is not what participants engaged in the Productive Ward want or require. Tailored training and support packages that are specific to each site appear to offer options in relation to project momentum, engagement, re-enforcement and encouragement that the mode of self-direction apparently cannot. The types of training and support packages that may maximize engagement and energy for this initiative is an area in the literature where reporting is weak and would benefit further exploration. Training and support is a high-cost element of this initiative and opportunities to examine models, modes and their impact should be a priority.

Project planning and management

Choosing the 'right' ward as a Productive Ward is a key feature for implementation outlined by the NHSI & NNRU (2010a). They describe this in terms of 'going where the energy is' and selecting wards that

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The Productive Ward: Releasing Time to Care

want to work with the Productive Ward. Wilson (2009) reports on how most trusts in the East of England have asked their wards to apply to become Productive Wards, describing how the process of application and selection has assured motivation and readiness for change at the outset.

The importance of project planning and project management for the Productive Ward initiative is well described and detailed by Allsopp *et al.* (2009). Standardized communication, standardized resources, agreed time-lines, named responsibilities, agreed measures and project monitoring are all ingredients outlined in their preparation and planning. Bloodworth (2009) also emphasizes the need for effective project management to allow for reading, reflecting and preparation. Pre-implementation time and planning are prerequisite requirements according to Coutts (2010) who describes the time needed to create and entrench support from all. Clear goals, feasibility and stages of implementation are some of Robert's (2011) checklist items that encourage the spread of Productive Ward.

One of Armitage and Higham's (2011) learning points with implementation is the need for careful project management as interest in the project naturally reaches 'highs and lows'. Allowing for these changes in the level of interest with the project and accepting them enabled their Productive Ward initiative to continue.

Farrell and Casey (2011) report the advantages of using the module planner incorporated within the project leader guide contained in the Productive Ward box-set. Structured meetings and goal setting enabled them to ensure targets were achieved. The step-by-step guides provided in the NHSI box-sets also appear to have helped the pre-implementation/preparation planning in Saskatchewan (Avis 2009). This report documents and provides details of a concise implementation strategy adopted following the pilot phase that includes naming responsibilities, naming champions, proposed timelines and reporting structures.

Robert *et al.* (2011) like the NHSI & NNRU (2010a) report, describe the local approaches to implementation planning taken in five case-study sites, with most sites describing a phased or staged implementation plan or strategy. Managing the expectations of all levels of stakeholders in relation to time-scales of implementation is discussed by Morrow *et al.* (2012). They report that the expectations of pace and scale of progress in the NHS is dependent on the perspective of the stakeholder. Issues of variations in perceived progress and outcomes will have a direct impact on project reporting and benchmarking of objectives.

Having a robust project or implementation plan appears to provide structure, direction and momentum to the implementation of the productive initiative. While grand-scale or organisational plans and strategies are important, local ward-based plans should also be encouraged. They facilitate participants to articulate their anxieties in relation to any changes and allows for open and honest discussions in relation to workloads and staff requirements. As the initiative is now emerging as a process of continuous improvement it is important not to emphasize an actual end-of-project-date and instead describe periods of evaluation, reflection and improvement cycles. The literature does not comprehensively define the ingredients of robust project management processes for the implementation of Productive Ward. More research is required into the extent to which it depends, interacts, interplays and enhances the other key contextual issues.

Role of leadership

The NHSI & NNRU (2010a, 2010b) reports outline the requirement for clear leadership during implementation of the Productive Ward. The need for an overall leader to take charge of implementation is described in the reports as being one of the significant factors for success. Bloodworth (2011), with experience in an organisation that has implemented the Productive Ward across 92 wards, highlights leadership and commitment from the top of the organisation as one of the essential ingredients for success. This point is well made in the form of a recommendation in the NHS Scotland (2008) 'Releasing Time to Care Evaluation'. The absence of strong leadership from senior management has caused problems during implementation in Saskatchewan, manifesting itself in slow funding responses and irregular visits from senior managers to implementation sites (Coutts 2010).

Armitage and Higham (2011) view the role of leadership at ward level as one of the biggest influences on how well the Productive Ward is introduced. They outline how the timing of introducing the initiative was crucial. They describe starting their project with the backdrop of previous project learning and an assessment of readiness for change. They note the need for nurse leaders to share vision, inspire, empower and energize others in an attempt to ensure that ideas that are generated from the ward and not the Manager. Ford (2010) provides a headline: 'Productive Ward boosts Leadership' in response to findings in the NHSI & NNRU (2010a) report that

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Productive Ward improved staff skills and ward level leadership. Details from some of the NHSI & NNRU (2010a) case study sites suggest that the Productive Ward provided practical leadership skills for all participants as it had allowed participants the opportunity to lead and manage modules or aspects of change and had unleashed talent at many levels of the organisation.

Blakemore (2009) reports on progress from 'Productive Mental Health Ward' sites and quotes an NHSI facilitator who attributes the success of the initiative to its devolution of power, concluding that Productive Ward is empowering nurses to become 'fantastic leaders'. Morrow *et al.* (2010) also identify that in order for a programme to be spread and sustained, skills in communicating vision, goals and skills in encouraging others to lead and to manage are required. These skills are essentially leadership skills.

The literature clearly outlines and collectively agrees the many ways in which the role of leadership interacts with the implementation of the Productive Ward at all levels of the organisation. However leadership at ward level is considered to have the biggest impact. The subtle leadership decisions in relation to how and when the initiative is introduced, marketed, communicated, articulated, energized and maintained all appear to influence the success of the Productive Ward.

Corporate/management engagement and support

Giving people the time, permission and explicit support to do things differently was part of some key advice reported during early implementation (Clarke-Jones 2007). This sense of 'permission' is noted in results from the survey from Morrow *et al.* (2012) of frontline staff who had personal experience of Productive Ward implementation. These health-care staff valued the opportunity that Productive Ward gave them, to turn a critically reflective eye on their work practices and to make suggestions for change. The Productive Ward depends on engagement, support, energy and talent of everyone at every level (Bevan 2009). This wide and high level of support is also reported as one of the key ingredients for success in the Saskatchewan implementation (Saskatchewan Registered Nurses Association 2010). It is well-described as a critical success factor and 'top tip' in the NHSI & NNRU reports (2010a, 2010b). Their case studies demonstrate the requirement to match participant's Productive Ward ambitions with a supportive organisational context in order to achieve progress. Organisational energy for Productive Ward is determined by levels of

visible executive support (NNRU 2011). The authors outline that it is staff energy that drives the Productive Ward. They further describe how this can only happen when staff feel that they are backed by organisational energy and have time and support to participate in meaningful ways.

Mumvuri and Pithouse (2010) describe how they used senior managers to participate in ward audits in an attempt to involve the senior team in the project and bridge the 'board to ward gap'. Wilson (2009) suggests that all board members need to visit the participating wards, listen to staff and patient stories and try and understand the 'Releasing Time to Care' concepts. She describes engagement with 'Releasing Time to Care' as an opportunity to create a powerful pathway between the ward and the board.

The Health Quality Council (2011) pilot report in long-term facilities outlined management support as vital to the success of 'Releasing Time to Care'. The chief executive officer (CEO) and senior leadership were able to remove many of the barriers during implementation. Robert (2011) encourages the use of the executive team and existing structures to ensure a strong sense of governance for the spread of the project. Bloodworth (2011) views the need for senior executive commitment as being essential because initiatives such as Productive Ward are about changing the organisation and not just tinkering with systems and making small improvements. Without organisational engagement and support Productive Ward sites run the risk of running out of energy, losing momentum and spread, and creating 'islands of improvement' NHSI & NNRU (2010c).

It would be prudent to have corporate/management engagement and support for any improvement or change initiative. However the Productive Ward literature is collectively consistent in identifying visible, active involvement compared with distant boardroom or management approval. Encouraging and maintaining corporate/management engagement and involvement over the longer term of the Productive Ward initiative may well prove challenging as the initiative competes with other emerging projects and priorities. Morrow *et al.* (2012) identify the main limitation of their study in terms of their data being sourced from people and hospitals that had engaged and committed to the Productive Ward. There is an absence in reporting from sites where there has been little or no corporate or management engagement and support. There are many lessons to be learned by comparing success or degree of success with the amount and level of engagement and support at senior levels.

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Financial and human resource commitment

Although promises of substantial financial support (£50M) were offered at the start of the Productive Ward initiative in the UK (Nursing Times 2008), there is an indication from some NHS sites that they have not received any financial support at all NHSI & NNRU (2010a). Securing financial resources to devote to this initiative in other countries has also proved challenging (Avis 2009, Gribben *et al.* 2009). An under-estimation of exactly what the initiative entails, the improvements required and no finish or end-point may not have helped.

Having dedicated financial support is reported as very important for implementation (Gribben *et al.* 2009, NHSI & NNRU 2010a, 2010b, Morrow *et al.* 2012), as start-up, equipment purchase and environmental changes all require budgetary resources. Reporting on the organisational determinants of spread of the initiative, Morrow *et al.* (2010) and the NHSI & NNRU (2010a) highlight how momentum of implementation can decline when funding dries up. They also suggest that this can be further compounded if 'late starters' to the project do not get the same levels of support with resourcing as early implementers. Robert *et al.* (2011) describe sufficient resource provision as being a 'key organisational factor' for implementation, especially in relation to the provision of backfill and staff-replacement for staff time spent on the project. Morrow *et al.* (2012) highlight funding for the implementation as being a key facilitator for implementation, with senior managers in their survey describing the available resources as invaluable. This point is well reflected in the NHSI & NNRU (2010a) top 10 tips for spreading the Productive Ward within NHS Trusts.

Challenges in relation to the human resource implications for implementing Productive Ward are well documented (Health Service Journal 2007, Gribben *et al.* 2009, Svedahl 2009, Dean 2010, Mumvuri & Pichouse 2010, NHSI & NNRU (2010a), Robert *et al.* 2011, Morrow *et al.* 2012). Many of the sites that have been evaluated found the module content and process improvement activity time consuming (Gribben *et al.* 2009) and exceeding the time allocated to them (NHS Scotland 2008). Early reports of essential elements for implementation, including time for staff, were highlighted during initial test phases (Health Service Journal 2007, Nursing Standard 2008). Further reports in the literature highlight staffing pressures having impacts on commitment (Kendal-Raynor 2010), understanding the purpose of the initiative (Svedahl 2009) and the overall success of the initiative (Dean 2010).

Sites involved in the NHSI & NNRU (2010a) evaluation reported clinical workload, bed shortages, sick-leave, increased winter activity and shortage of temporary/relief staff as barriers to progressing with some of the Productive Ward activities. Morrow *et al.* (2012) identified staffing shortages and the requirement to balance clinical demands as being key challenges to programme implementation.

It is evident in the literature that securing one-off resources for implementation of the Productive Ward will not sustain the initiative. It is slowly emerging that the initiative is a long-term project and, as such, requires long-term, recurring resourcing. It is important that organisations understand this financial and human resource implication and secure a long-term financial commitment before commencement.

Conclusions

Owing to the large volume of reports, research papers and grey literature that have been published about the Productive Ward and its implementation, the main challenge of this literature review was narrowing the many key messages and recommendations into practical themes that senior nurse leaders could use when planning for implementation of the Productive Ward. The literature published to date reveals that there are many styles, approaches, factors and key issues that are critical for successful implementation. NHSI & NNRU (2010a, 2010b, 2010c) reports use the dissemination, diffusion, adoption, spread, assimilation and sustained change theories to highlight critical success factors for the adoption and spread of the Productive Ward. Although this approach is extremely useful, by extensively searching the current literature we have shown there are some other subtle aspects of practical implementation and recommendation advice, namely, the role of appropriate training and robust project planning, which will have an impact on the start-up and successful implementation of the Productive Ward in countries such as Ireland, which are just commencing the Productive Ward journey. We have found that it is possible to map the reported aspects of practical experience and implementation recommendations into seven areas for consideration before, during and at regular intervals into implementation of the Productive Ward (Table 2).

The findings of this review concur with our experience in Ireland to date. There are key factors that influence the implementation of the Productive Ward:

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Table 2
Key aspects and components for implementation

Key aspect for Implementation	Components		
A robust and engaging communication strategy	Plenty of information	Simple and engaging	Identifies groups for change
Enabling and empowering roles	Access to an improvement resource or facilitator	An enabling ward Lead	Project team who engage/connect
Project planning and management	Choose the right ward at the right time	Pre- implementation planning	Phased implementation
Role of leadership	Someone to lead implementation	Share the vision and inspire	Devolves and empowers
Corporate/Management engagement and support	Permission to do things differently	Organisational Buy- in and Backing	Brings the Board differently to the Ward
A financial and human resource commitment	Budgets to fund new initiatives	Releasing staff to participate	Sends message of organisational commitment
Appropriate training and support	Ward Lead has 'tools' for the job	Tailored, site- specific training	External facilitation

- A robust and engaging communication strategy.
- A project team that enables and empowers others.
- An agreed project plan.
- Involved leadership.
- Corporate/management engagement and support.
- Financial and human resource commitment.
- Appropriate training and support.

These key factors are interdependent and rely on each other to some degree. Our advice is to ensure that these factors are considered during planning and implementation. Many of these characteristics have been described in other change/implementation models (Pinto & Slevin 1989, Ferlie & Shortell 2001 Kotter 2007) but not necessarily all together. When viewed collectively and contextually they do not neatly fit into any particular change or implementation model. In this context the synergy of these seven characteristics appear to be a particular issue for the implementation of the Productive Ward, despite the fact that some of these characteristics have been identified in other studies. How some of these key factors interact, interplay and depend on each other warrants further investigation. It is possible to claim that there may well be other factors that influence the successful implementation of the Productive Ward initiative and these will only emerge as implementation continues in the UK, Ireland and other countries who are adopting it. There are also many lessons to be learned by investigating and reporting on sites that do not have successful implementation stories (Pressman & Wildavsky 1973).

Ethical approval

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References

- Allsopp P., Faruqi J., Gasgoigne L. & Tennyson R. (2009) Productive Ward 2: practical advice to facilitators implementing the programme. *Nursing Times* 105 (25), 18–21.
- Armitage C. & Higham P. (2011) The Productive Ward: encouraging teambuilding and innovation. *Nursing Management* 18 (1), 28–31.
- Avis K. (2009) *Releasing Time to Care in Saskatchewan: Promising Signs that Programme Engages Clinicians*. Health Quality Council, Saskatchewan.
- Avis K. (2011) *Looking Back Thinking Forward: Insight and Recommendations from Health Region Leadership on Creating a Culture of Continuous Performance Improvement in Saskatchewan*. Health Quality Council, Saskatoon, SK.
- Bevan H. (2009) The six lessons of successful implementation. *Nursing Times Supplement* 105 (9), 14.
- Blakemore S. (2009) Streamlining and efficiency bring benefits to the wards. *Mental Health Practice* 12 (8), 8–9.
- Bloodworth K. (2009) Productive Ward 1: implementing the initiative across a large university teaching hospital. *Nursing Times* 105 (24), 22–25.
- Bloodworth K. (2011) The Productive Ward and the productive operating theatre. *Journal of Perioperative Practice* 21 (3), 97–103.
- Bryman A. (2012) *Social Research Methods*. Oxford University Press, New York, NY.
- Castledine G. (2008) Increasing the time nurses spend on patient care. *British Journal of Nursing* 17 (11), p801.
- Clarke-Jones J. (2007) Productive Ward: the way forward. *Health Services Journal* 117 (6052), suppl 18–19.
- Courts J. (2010) Releasing time to care. *Healthcare Quarterly*, 12 (2), 21–23.
- Davis J. & Adams J. (2012) The 'Releasing Time to Care – Productive Ward' programme: participants' perspective. *Journal of Nursing Management* 20, 354–360.

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The Productive Ward: Releasing Time to Care

- Dean E. (2010) Productive Ward scheme will be evaluated to prove nurses' worth. *Nursing Standard* 24 (25), 11.
- Farrell M. & Casey M. (2011) Productive Ward project: saving our most valuable asset, time. *World of Irish Nursing* 19 (9), 36–37.
- Ferlie E.B. & Shortell S.M. (2001) Improving the quality of health care in the united kingdom and the united states: a framework for change. *Milbank Quarterly* 79 (2), 281–315.
- Ford S. (2010) Productive Ward boosts leadership. *Nursing Times* 106 (7), 2.
- Foster S. (2009) Rolling out Productive Ward foundation modules across a hospital trust. *Nursing Times* 105 (30), 28–30.
- Gribben B., McCance T. & Slater P. (2009) *Belfast Health and Social Care Trust, Productive Ward – Releasing Time to Care Evaluation Report*. BHSC, Belfast.
- Hart C. (2010) *Doing a Literature review*. Sage Publications, London.
- Health Quality Council (2011) *Releasing Time to Care: The Productive Ward, Long-term care pilot project report*. Health Quality Council, Saskatoon, SK.
- Health Service Journal (2007) Productive Ward Programme extends its reach. *Health Services Journal*. Available at: <http://www.hsj.co.uk/resource-centre/productive-ward-programme-extends-its-reach/> 166696.article, accessed 2 June 2012.
- Kay J. (2007) Vantage Point. *Nursing Management* 14 (4), 8.
- Kendal-Raynor P. (2010) Wards urged to adopt successful Productive Ward scheme quickly. *Nursing Standard* 25 (1), 5–17.
- Kotter J. (2007) Leading Change: why transformational efforts fail. *Harvard Business Review* 85 (1), 96–103.
- Lennard C. (2012) How the Productive Ward scheme gives staff more time to care. *Mental Health Practice* 15 (5), 30–33.
- Management Services Journal (2011) Improving healthcare at scale and Pace. *Management Services Journal Winter* 55 (4), 16–19.
- Morrow E., Robert G., Maben J. & Griffiths P. (2010) *National Nursing Research Unit, Facilitating the Spread of the Productive Ward, Summary Report (420)*. National Nursing Research Unit, London.
- Morrow E., Robert G., Maben J. & Griffiths P. (2012) Implementing large-scale quality improvement – lessons from the Productive Ward: Releasing Time to Care. *International Journal of Health Care Quality Assurance*, 25 (4), 237–253.
- Mumvuri M. & Pithouse A. (2010) Implementing and evaluating the Productive Ward Initiative in a mental health trust. *Nursing Times* 106 (41), 14–16.
- National Nursing Research Unit [NNRU] (2011) Implementing and Sustaining Change in the Contemporary NHS: Lessons from the Productive Ward. Policy Plus Evidence, Issues and Evidence in Healthcare. Available at: <http://kcl.ac.uk/schools/nursing/nrru/policy>, accessed 3 June 2012.
- NHS Institute for Innovation and Improvement [NHSI] (2011) *Rapid Impact Assessment of The Productive Ward*. Releasing time to care NHS Institute, Warwick.
- NHS Institute for Innovation and Improvement & National Nursing Research Unit [NHSI & NNRU] (2010a) *The Productive Ward: Releasing Time to Care Learning and Impact Review*. NHS Institute, Warwick.
- NHS Institute for Innovation and Improvement & National Nursing Research Unit [NHSI & NNRU] (2010b) *Top Tips for Spreading The Productive Ward within NHS Trusts*. NHS Institute, Warwick.
- NHS Institute for Innovation and Improvement & National Nursing Research Unit [NHSI & NNRU] (2010c) *Improving Healthcare Quality at Scale and Pace Lessons for the Productive Ward: Releasing Time to Care Programme*. NHS Institute, Warwick.
- NHS Scotland (2008) *NHS Scotland, Releasing Time to Care Evaluation*. NHS Scotland, Edinburgh.
- Nolan A. (2007) Productive Ward: making time to improve patient care. *Health Service Journal*. [online]. Available at: <http://www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care>, accessed on 2 June 2012.
- Nursing Management (2011) Research emphasises efficacy of Productive Ward Programme. *Nursing Management* 17 (9), 5.
- Nursing Standard (2008) Productive Ward scheme gets results. *Nursing Standard* 22 (21), 9.
- Nursing Times (2008) Productive Ward Plan must be funded. *Nursing Times* 104 (19), 1.
- Pinto J.K. & Slevin D.P. (1989) Critical success factors in R&D projects. *Research Technology Management* 32 (1), 31–35.
- Pressman J.L. & Wildavsky A.B. (1973) Implementation: How Great Expectations in Washington are Dashed in Oakland; Or, Why It's Amazing that Federal Programs Work at All, This Being a Saga of the Economic Development Administration as Told by Two Sympathetic Observers Who Seek to Build Morals on a Foundation. University of California Press, Berkeley, CA.
- QIPP–NHS Evidence (2009) The Productive Ward. Quality and Productivity Example. Available at: <http://www.evidence.nhs.uk/qualityandproductivity>, accessed 2 June 2012.
- Robert G. (2011) Progress of the Productive Ward. *Nursing Times* 107 (7), 18–19.
- Robert G., Morrow E., Maben J., Griffiths P. & Callard L. (2011) The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England. *Journal of Clinical Nursing* 20, 1196–1207.
- Saskatchewan Registered Nurses Association (2010) Releasing Time to Care programme is gaining momentum. *SRNA Newsbulletin* 12 (2), 23.
- Shepard S. (2009) 'This is a Phenomenon'. *Nursing Times Supplement* 105 (9), 4–6.
- Smith J. & Rudd C. (2010) Implementing the Productive Ward Management Programme. *Nursing Standard* 24 (31), 45–48.
- Staines R. (2008) Productive Ward will drive up NHS quality. *Nursing Times* 104 (46), 5.
- Svedahl S. (2009) Releasing Time to Care. *SRNA Newsbulletin* 11 (4), 5.
- Taylor J. (2006) The Productive Ward: stand by your bed. *Health Services Journal* 116 (6029), 26–27.
- Ward L. & Parish K. (2009) Putting into Practice. *Nursing Times Supplement* 105 (9), 10–11.
- Wilson G. (2009) Implementation of releasing time to care – the Productive Ward. *Journal of Nursing Management*, 17 (5), 647–654.

DISCURSIVE PAPER

The transition of a large-scale quality improvement initiative: a bibliometric analysis of the Productive Ward: Releasing Time to Care Programme

Mark White, John SG Wells and Tony Butterworth

Aims and objectives. To examine the literature related to a large-scale quality improvement initiative, the 'Productive Ward: Releasing Time to Care', providing a bibliometric profile that tracks the level of interest and scale of roll-out and adoption, discussing the implications for sustainability.

Background. Productive Ward: Releasing Time to Care (aka Productive Ward) is probably one of the most ambitious quality improvement efforts engaged by the UK-NHS. Politically and financially supported, its main driver was the NHS Institute for Innovation and Improvement. The NHS institute closed in early 2013 leaving a void of resources, knowledge and expertise. UK roll-out of the initiative is well established and has arguably peaked. International interest in the initiative however continues to develop.

Methods. A comprehensive literature review was undertaken to identify the literature related to the Productive Ward and its implementation (January 2006–June 2013). A bibliometric analysis examined/reviewed the trends and identified/measured interest, spread and uptake.

Results. Overall distribution patterns identify a declining trend of interest, with reduced numbers of grey literature and evaluation publications. However, detailed examination of the data shows no reduction in peer-reviewed outputs. There is some evidence that international uptake of the initiative continues to generate publications and create interest.

Conclusions. Sustaining this initiative in the UK will require re-energising, a new focus and financing. The transition period created by the closure of its creator may well contribute to further reduced levels of interest and publication outputs in the UK. However, international implementation, evaluation and associated publications could serve to attract professional/academic interest in this well-established, positively reported, quality improvement initiative.

Relevance to clinical practice. This paper provides nurses and ward teams involved in quality improvement programmes with a detailed, current-state, examination and analysis of the Productive Ward literature, highlighting the bibliometric patterns of this large-scale, international, quality improvement programme. It serves to disseminate updated publication information to those in clinical practice who are involved in Productive Ward or a similar quality improvement initiative.

What does this paper contribute to the wider global clinical community?

- Disseminates detailed analysis and publication trends from an international nurse-led QI initiative.
- Identifies the decline in the nursing and healthcare media in relation to PW, indicating that interest in the initiative in the UK has most probably peaked.
- Highlights the requirements for successful QI efforts to have continuous long-term, political, professional and financial backing.

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Discursive paper

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Key words: health service research, implementation, lean healthcare, multidisciplinary care team, Productive Ward, quality improvement, Releasing Time to Care

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Aim

This paper aims to:

- Explore the current state of literature in relation to the Productive Ward: Releasing Time to Care Programme (PW) and describe the development and publishing interest of this quality improvement (QI) initiative.
- Examine the findings to identify the pattern of publications and reports over a period of time in an attempt to map the general uptake, interest and spread of this initiative through a bibliometric analysis.
- Discuss and the impact that this may have for the clinical teams currently involved in this initiative, those considering uptake and those who are examining the implementation of this or a similar QI initiative.

- Increase the proportion of time nurses spend in direct patient care.
- Improve the experiences of staff and patients.
- Make structural changes to the use of ward spaces to improve efficiency in terms of time effort and money (NHS Institute & NNRU 2010b).

The initiative was originally sponsored and endorsed by the chief nursing officer in the UK who identified with many of the frustrations experienced by front-line staff, who are dedicated to the care of patients, but who are prevented from spending time with them because of inefficient or outdated work practices. Multiple systems, increased paperwork, lengthy handovers, missing equipment and interruptions were all identified as key areas that could be streamlined and improved, significantly increasing the amount of time available for patient care.

Soon after it was launched in 2006, it was hailed as a 'phenomenon' in terms of its impact on improvements for nurses and patients (Shepherd 2008). However, it has recently been reported that appetite for this initiative is dwindling (Wright & McSherry 2013).

The NHSI offers the PW in the form of a self-directed, improvement toolkit. The programme comprises 13 modules which provide tools and guidance that help nurses take proven, systematic, inclusive approaches that will improve their ward environment and work processes. All modules and specific project role guidance are included in the PW box-set that is provided under licence from the NHSI. It is the original offering in a now well-developed suite of adapted improvement toolkits called the 'Productive Series' (Community Hospital, Mental Health Ward, Community Services, Operating Theatre and General Practice), which can be used in most healthcare environments (Wright & McSherry 2013).

The PW programme is designed around the improvement principles of 'Lean Manufacturing' to help nursing staff tackle previously neglected everyday issues (NHS Institute & NNRU 2010b). The Lean principles and tools are used to review and reassess patient and nurse processes to identify and eliminate waste or those activities that add no value for the patient (Wilson 2009). The programme also incorporates social movement theory to appeal to the

Background

Attempts to improve quality in health care can be traced back to the efficiency reporting of military hospitals, first documented by the Romans (Cilliers & Retief 2006). This quest to improve the standards and quality of care has continued throughout history by champions like Florence Nightingale (McDonald 2010), and the American Surgeon Ernest Codman (McIntyre 2012). The requirements to provide efficient, effective and quality care to the highest standards are even greater now than before (Ferlie & Shortell 2001). Successfully introducing initiatives into health care that can improve the quality, standards and patient experience is now part of the way clinicians must work and deliver health care (Darzi 2008). The past two decades have seen the successive rise and fall of a number of concepts, ideas and innovations in healthcare improvement (Walshe 2009). The Productive Ward: Releasing Time to Care programme (PW) is a relatively new quality improvement concept. It has many similarities to the Institute for Healthcare Improvement's (IHI) offering, Transforming Care at the Bedside (TCAB), also designed to promote ward-based change and improvement. PW was designed and developed by the NHS Institute for Innovation and Improvement (NHSI) in 2005 and it aims to:

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intrinsic values of front-line nursing staff (Bate *et al.* 2004). Some of the prelaunch marketing strategies included the publishing of NHSI research which identified that nurses working in acute care settings only spent approximately 40% of their shift on direct patient care (Evans 2007).

The PW programme was conceptualised by the NHSI in partnership with nurse leaders and industry partners in 2005 (Foley & Cox 2013). The work appears to have been triggered by a number of initiatives and strategies merging into one workstream in an attempt to meet the requirements of supporting better direct care processes (NHS Institute & NNRU 2010b). The intention of the programme was to increase the efficiency of NHS working practices and therefore create more time for staff to devote to patient care (Foley & Cox 2013). After early testing with four pilot sites by the NHSI in 2006, the PW was formally launched in the UK by the Chief Nursing Officer for England, Dame Christine Beasley, at the Royal College of Nursing Conference in 2007.

Early-phase implementation sites, also called 'Learning Partner sites', were recruited by the NHSI later in 2007 and widespread NHS implementation commenced in 2008. As a concept of health service improvement, it is entirely unique, in that it is reported to have the backing of the UK Health Secretary (Nursing Management 2008), and the UK Prime Minister at the time (Nursing Standard 2012). It has received positive reviews and reports in the nursing and healthcare press (Taylor 2006, Jenny 2007, Nolan 2007, Castledine 2008, Blakemore 2009a, Bloodworth 2009, Kendall-Raynor 2010, Smith & Rudd 2010, Davis & Adams 2012), positive evaluations (NHS Scotland 2008, Gribben *et al.* 2009, NHS Institute & NNRU 2010a,b, Avis 2011, Foley & Cox 2013) and its implementation is reported to positively impact on cost-savings, productivity and workplace efficiency (QIPP-NHS Evidence 2009, NHS Institute 2011, Foley & Cox 2013). It has been reported that it is receiving international interest (Clews 2011), and there is evidence of adoption in Ireland, the Netherlands, Denmark, Australia, New Zealand, Canada and the USA (Avis 2009, Edmunds 2010, Haylock 2010, Davidson 2011, Farrell & Casey 2011, van den Broek *et al.* 2013).

The NHSI recently became one of the many casualties of the UK government's focus on reducing 'quangos' (quasi-autonomous nongovernmental organisations), and reports of its abolition were confirmed in its 2012 end-of-year reports (NHS Institute 2012a). The NHSI closed its doors on the 31 March 2013 and transferred its many roles, functions and products to a new improvement body, NHS Improving Quality (NHSIQ). The PW continues to be supported in the UK by various consultancy-based 'partners'

and a licensed e-learning package. Continuing to maintain momentum and the legacy of PW will be challenging (Carlisle 2013). The impact of closing the doors of the NHSI may well have unintended consequences on the pace and scale of roll-out and 'spread' of this quality improvement initiative. Efforts to sustain this initiative will most certainly be impacted without the resources, expertise and intellectual capital previously provided by the NHSI.

Design

A bibliometric approach was used to examine and review the PW literature. Bibliometrics is a set of methods used for the quantitative examination of publications (journals, books, grey literature or other digital media) and has become a popular research method among information scientists (Gautier 1998).

Measuring the spread and uptake of PW

One way to analyse and measure the interest, spread and uptake of the PW initiative is through bibliometric statistics. The purpose of using this method is to map the previous and current PW literature, identifying previous and contemporary levels of interest, author trends and outputs. Although it is not a perfect tool (Walshe 2009), and it has its limitations (Nightingale & Marshall 2011), most notably the absence of any type of content analysis, it can be adapted to analyse the quantity, quality and structure of most types of literature. The most popular bibliometric measures used are journal impact factors and their related citation analysis (Gautier 1998). This method has previously been used to measure the dissemination and uptake of other similar quality improvement initiatives over a period of time (Walshe 2009).

This bibliometric study of the PW literature aims to identify the pattern of publications and reports over a period of time in an attempt to map the general uptake, interest and spread of this initiative.

Methods

A comprehensive review of the literature was undertaken to identify research papers, case study reports, evaluations and any 'grey literature' reporting related to the PW or elements of its implementation. The review was limited to published material from January 2006–June 2013 which covers the period during which the PW was being developed and implemented in the UK. Language restrictions were included, which limited the search to texts available in

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English. A number of electronic and web-based databases were used, which were accessed via a 'multisearch platform'. They are represented in Table 1. Key search terms used were 'Productive Ward', 'Productive Series' and 'Releasing Time to Care'. Research, reviews, editorials, letters, professional columns, reports and evaluations were included. Further de-selection was also carried out on material solely reporting other productive series products, for example Productive Operating Theatre (tPOT).

Included papers were further examined and categorised using an electronic database. Analysis was performed identifying authorship and co-authorship/collaborative patterns. Bibliometric measures of authorship and chronology were calculated. A simple collaboration index was used to identify and connect the number of authors involved in multiple research initiatives/collaboratives. Publications were also examined by type and by general subject. This enabled comparison mapping of authorship, research, evaluation and publication trends. For the purpose of this paper, data were categorised into three simple categories: peer-reviewed publications (original research, systematic review or case study), evaluation or report (a published evaluation or report of implementation or experience) and grey literature (professional journal articles, general reviews/discussions, case studies, editorials/opinions/letters).

Results

The search retrieved a total in excess of 3100 references from the 'PW' search theme and 1800 from the 'Releasing Time to Care' search theme. Once duplicate and nonrelevant citations were removed, 528 potential references were screened for relevance and selected based on their appropriate PW subject matter, and this yielded 90 articles for consideration. A further search through the reference lists of the relevant publications and using 'Google' and 'Google Scholar' yielded six additional references.

At the time of reporting, 96 published papers met the selection criteria (see Table 2) and were identified to be in the 90-month criteria period from 2006 until mid-2013 (a mean of just over 12 papers per annum). Categorisation of the literature identifies that the majority of the PW literature is 'grey literature' at 64.5%. Peer-reviewed papers

Table 2 Search results

Peer-reviewed papers
Twenty-one were peer-reviewed articles from academic/professional journals. (Grant 2008, Allsopp <i>et al.</i> 2009, Blakemore 2009b, Bloodworth 2009, Foster <i>et al.</i> 2009, Wilson 2009, Coutts 2010, Smith & Rudd 2010, Armitage & Hingham 2011, Bloodworth 2011b, Burston <i>et al.</i> 2011, Kemp & Merchant 2011, Robert 2011, Robert <i>et al.</i> 2011, Davis & Adams 2012, Lennard 2012, Morrow <i>et al.</i> 2012, Rudge 2013, van den Broek <i>et al.</i> 2013, White <i>et al.</i> 2013, Wright & McSherry 2013)
Evaluations and reports
Thirteen were Health Service Evaluation Reports. (NHS Scotland 2008, Avis 2009, Gribben <i>et al.</i> 2009, QIPP-NHS Evidence 2009, Morrow <i>et al.</i> 2010, NHSI & NNRU 2010b,a,c, Avis 2011, HQC 2011, NHSI 2011, 2012b, Foley & Cox 2013)
Four of these reports were commissioned by the NHSI to the National Nursing Research Unit (NNRU). (Morrow <i>et al.</i> 2010, NHSI & NNRU 2010a,b,c)
Grey literature
The remaining 62 papers were mainly news reports, cover stories and updates from professional journals and newsletters

represent 21.9% of all publications, and evaluations, 15.6% (Please see Table 1 and Fig. 1).

Figure 2 shows the distribution of the PW literature over the 90-month period from 2006–2013. The rise in the numbers of publications peaked in 2009 with a gradual general reduction in publications observed since. Declining trends of popularity with quality initiatives, such as PW, have been noted previously (Walshe 2009).

Further examination of the chronological trends and publication types shows that the reduction in peer-reviewed, scholarly literature is not following the same distribution trends. Peer-reviewed publications appear to trend mild rise and falls in numbers annually with four publications to date in mid-2013 and showing no real pattern or sign of reductions to date (please see Fig. 3). This may be in some part due to the way that ideas get shared between healthcare professionals and academics (Greenhalgh *et al.* 2004), either as a result of the fragmentation of healthcare improvement initiatives and healthcare academic learning partners (Perla *et al.* 2013) or just the result of publication timelines in many peer-reviewed publishing houses.

Table 1 Databases included in 'Multisearch'

Academic Search Complete	ABI/Inform Global	Blackwell Synergy	Business Source Premier
Cambridge Journals Online	Cinahl	Cochrane Library	Directory of open access
Emerald Management Xtra	ERIC	Google	Google Scholar
InformaWorld	ISI Web of Knowledge	Library Catalogue	Medline
Nexis	Nurimedia Journals	Ovid Nursing	Ovid Journals

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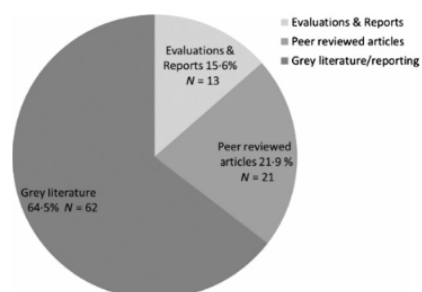


Figure 1 Productive Ward publications by type, 2006–2013.

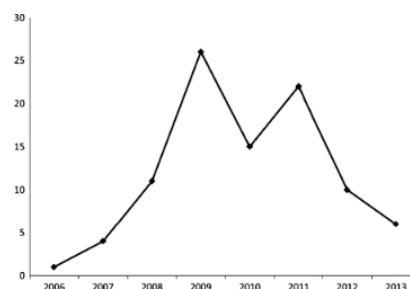


Figure 2 Productive Ward publications per annum, (n = 96).

Just under half (47.6%) of the peer-reviewed papers were of sole authorship, and the majority of authors only wrote one paper (Table 3). In terms of prolificacy, no author has produced more than two peer-reviewed papers. In terms of collaborations, there only appears to be evidence of two authors (Robert and Morrow) in the peer-reviewed literature who have also collaborated on a number of national evaluations. In relation to the types of peer-reviewed publications, only one third (33%) of the peer-reviewed publications presented the results of original research ($n = 7$) or outlined any methodology (Table 3). The majority of papers contained anecdotal reports of

implementation, improvements or commentary. Whilst this literature serves as a guide for interest, demand and reports of successful implementation, it provides no empirical offering to the paucity of evidence required to gauge success and impact.

In terms of papers from disciplines, all but three (14%) (Grant 2008, Coutts 2010, van den Broek *et al.* 2013) emanate from authors who were from the nursing discipline and these were also published in nursing journals. This may in part be due to how the 'PW' has been marketed predominantly at nursing and how nurses have accepted and positively received the initiative (Davis & Adams 2012).

Table 3 Author status for Productive Ward peer-reviewed and evaluation publications

Name	Sole author	First author	Co-author contribution	Original research/method	Anecdotal report-update-commentary	Evaluation/report contribution
Grant	1	–	–	–	1	–
Allsopp	–	1	–	–	1	–
Blakemore	1	–	–	–	1	–
Bloodworth	2	–	–	–	2	–
Foster	–	1	–	–	1	–
Wilson	1	–	–	–	1	–
Coutts	1	–	–	–	1	–
Smith	–	1	–	–	1	–
Armitage	–	1	–	–	1	–
Burston	–	1	–	1	–	–
Kemp	–	1	–	–	1	–
Robert	1	1	1	1	–	4
Davis	–	1	–	1	–	–
Lennard	1	–	–	–	1	–
Morrow	–	1	2	1	–	4
Rudge	1	–	–	–	1	–
Van den Broek	1	–	–	1	–	–
White	–	1	–	1	–	–
Wright	–	1	–	1	–	–

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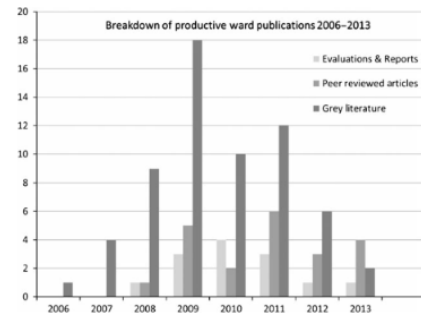


Figure 3 Breakdown of Productive Ward publications by type, 2006-2013.

Although this initiative has now had international implementation (Clews 2011), the majority (76%, $n = 16$) of peer-reviewed publications originate from UK authors. Three of the non-UK papers (Burston *et al.* 2011, van den Broek *et al.* 2013, Rudge 2013) are theory-based papers and are not directly related to the roll-out of this initiative or its implementation.

Discussion

The analysis of publication numbers over the lifespan of the PW initiative demonstrates both the initial, rapid growth and a gradual reduction trend for this initiative. General interest and paper productivity appear to have peaked between 2009-2011. The constant process by which quality improvement ideas come in and out of fashion is a phenomenon that has been described previously (Walshe 2009). Public services, including health care, are constantly on the lookout for the latest quality improvement panacea (Radnor & Boaden 2008). This may provide some explanation for the reduced interest and publications in relation to this initiative, as healthcare organisations scan the environment for the next quality improvement initiative or 'pseudoinnovation' (Walshe 2009).

The high-level political support (Kinnair 2012, Nursing Standard 2012), and financial backing (Wilson 2009) that the PW has received in the UK should be considered as an important success factor for this initiative, as evidence of the promised change and improvements are yet to be materialised. However, as political priorities change in the UK, and the global economic climate continues to recede, the trajectory of general interest by publication would appear to mirror the political and financial attention that

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the PW has received during the same time period. Without these political and financial 'drivers', large-scale quality improvement initiatives, such as PW, are challenged to succeed (Langley & Denis 2011, Perla *et al.* 2013).

The low numbers of international contributions to the literature raises questions about the scale and intensity of global roll-out and merits some further scrutiny in relation to actual numbers of countries and uptake. The success of this initiative in the UK, and the reports, commentary, publishing and marketing attention it has received, is most probably the main reason for initial international interest and participation in this initiative. With the closure of the NHSI and the future of its worldwide section still uncertain, the momentum to make this initiative a truly global phenomenon may well already be lost.

It could be argued that the international literature is playing 'catch-up', and the trends of the UK peer-reviewed contributions will be observed in the coming years as the initiative spreads globally. However, the volume of international grey literature is much less than expected and does not appear to be following the UK bibliometric trends observed in the early stages of UK implementation. It could yet be discovered that the PW initiative is not as successful in other countries and health care systems as it was reported to be in the UK. We have been led to believe that the initiative is flexible and adaptable, and the PW box-set has all the solutions contained within. However, the translation and impact of quality improvement programmes across multiple healthcare settings is already reported to vary immensely (Shojania *et al.* 2004, Dixon-Woods *et al.* 2011). The important issues of condition and context (Ovretveit 2011) for the international spread, adoption and success of this initiative have not yet been explored, tested or described in any detail.

Although there is some evidence of collaborative publishing activity (Morrow/Robert), this can be partially attributed to the employment of both authors/researchers within the same department, which, in this instance, was the National Nursing Research Unit (NNRU). The NNRU were commissioned by the NHSI in 2008/2009 to undertake the evaluation of the PW in the UK.

The fact that peer-reviewed publications do not appear to have a declining bibliometric trend is a positive sign that this initiative whilst continuing to be rolled out is still attracting both academic and practitioner interest. With large-scale evaluations expected from both Canada (Saskatchewan) and the Republic of Ireland in 2014, there is an opportunity to provide robust evidence of impact, which may well stimulate clinicians and practitioners involved to contribute to the growing numbers of publications. It has been noted previously that insufficient data and competing

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demands in health care have impeded the adoption, spread and impact of this initiative (Morrow *et al.* 2012, van den Broek *et al.* 2013, Wright & McSherry 2013). The large-scale evaluations in the UK have provided researchers with fertile data and the experience of implementation to publish. There is some evidence of crossover and collaboration between the researchers involved in these UK evaluations and their publications. The opportunities to evaluate and publish in academic or professional publications may also present themselves in other jurisdictions, and there are promising signs of this in Ireland (White *et al.* 2013).

The low number of authors producing empirical papers around the PW creates the impression that this quality improvement initiative may indeed be a passing 'fad' or fashion and any 'low-hanging fruit' may already have been harvested (Radnor & Walley 2008). Papers emanating from an author based in a PW 'whole hospital site' (Bloodworth 2009, 2010, 2011a,b) have not been updated, further published or reported in recent years. The two authors who have written or collaborated on more than two papers are well-established researchers from the NNRU and appear to have already moved onto other interests (Morrow *et al.* 2013).

Managing scepticism and engaging clinical staff has proven challenging in other quality improvement initiatives (Gollop *et al.* 2004, Davies *et al.* 2007). It has been argued that the 'desire' to be 'productive' can easily be interrupted. Nurses who have been previously captured by the panacea of being 'productive' and 'releasing time to care' may simply have escaped the captivity and control of that dream-like desire, and are just refusing to engage with the dance of efficiency (Rudge 2013).

Conclusion

This paper has highlighted a general reduction in overall publication productivity with the initiative PW. Coupled with the closure of its creator and main driver, the NHSI, the future of the PW initiative is most certainly in transition. Other key drivers for this initiative in the UK, the political and financial support it has had up until recently, also appear to be in decline and show signs of fading. With implementation continuing at pace in other countries such as Canada and Ireland, the expertise and competency in relation to delivering this quality improvement initiative may leave the UK altogether. Evaluations to date in the UK have yet to show any real hard evidence of sustained quality improvement or real financial savings, and time and interest appear to be running out.

If this initiative is to be sustained, and is not to join the growing list of failed quality improvement and lean-type initiatives in health care (Walshe 2009, Radnor & Osborne 2012, Radnor *et al.* 2012), it will require urgent political, professional and financial assistance. It looks unlikely to get any of this in the UK, and the lifeline for this initiative appears to lie within two veins:

First, the international implementation of this initiative is still in its early phases, and the impact and evaluation of PW in other jurisdictions is one of the keys to its survival. Robust evidence of positive impact on the quality of the patient experience, employee well-being and dramatic financial savings is what is required from the adopting countries. This robust evaluation evidence will provide credibility, which has been lacking in the literature to date, to the marketing 'improvement' claims made when this initiative was first launched. This should create enough international political and professional positive affirmations to sustain the initiative and continually generate publishing interest.

Second, as the numbers of good empirical-based studies continue to emerge (and there is no evidence of any reductions in the peer-reviewed publications), general interest and discussion can be maintained. Good research in this subject area will stimulate further research interests and publications. It has been highlighted in this paper that there has been a real paucity of theoretical, empirical and experimental research with this initiative. Regular academic and professional contributions can only serve to promote, market and raise the profile of the initiative and the many elements of quality improvement that it has been reported to deliver.

Relevance to clinical practice

This paper provides nurses and ward teams with a detailed examination and analysis of the PW literature, highlighting the bibliometric patterns of this large-scale, international, quality improvement programme. It serves to inform the many ward teams in clinical practice who have either invested in PW or are about to embark on a quality improvement journey. Evaluation reports of PW to date have been generally positive, with some evidence suggesting the programme has positively empowered and engaged the ward teams who have implemented it. If this initiative, and the reported positive outcomes are to be sustained by the nurses and ward teams who have invested time, energy and effort into it, it will require the continued backing and support from the professional, political and organisational leaders from where it emanated. Without this continued top-level support, there is a risk that all quality improvement initiatives will be viewed sceptically by the nurses and ward

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teams in clinical practice who inevitably implement them, jeopardising any future roll-out or new site recruitment for PW.

Disclosure

The authors have confirmed that all authors meet the ICMJE criteria for authorship credit (www.icmje.org/ethical_1author.html), as follows: (1) substantial contributions to conception and design of, or acquisition of data or analysis and interpretation of data, (2) drafting the article

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or revising it critically for important intellectual content, and (3) final approval of the version to be published.

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Conflict of interest

None.

References

- Allsopp P, Faruqi J, Gascoigne L & Tennyson R (2009) Productive Ward 2: practical advice to facilitators implementing the programme. *Nursing Times* 105, 19–21.
- Armitage C & Hingham P (2011) The Productive Ward: encouraging teambuilding and innovation. *Nursing Management* 18, 28–31.
- Avis K (2009) *Releasing Time to Care in Saskatchewan: Promising Signs that Programme Engages Clinicians*. Health Quality Council, Saskatoon, SK.
- Avis K (2011) *Looking Back Thinking forward; Insight and Recommendations from Health Region Leadership on Creating a Culture of Continuous Performance in Saskatchewan*. Health Quality Council, Saskatoon, SK.
- Bate P, Robert G & Bevan H (2004) The next phase of healthcare improvement: what can we learn from social movements? *Quality & Safety in Health Care* 13, 62–66.
- Blakemore S (2009a) How productive wards can improve patient care. *Nursing Management* 16, 14–18.
- Blakemore S (2009b) Streamlining and efficiency bring benefits to the wards. *Mental Health Practice* 12, 8–9.
- Bloodworth K (2009) Productive Ward. 1: implementing the initiative across a large university teaching hospital. *Nursing Times* 105, 22–25.
- Bloodworth K (2010) Pointers for greater efficiency. *Nursing Standard* 24, 64–65.
- Bloodworth K (2011a) Figuring out best practice: Kerry Bloodworth urges nurses to take control, as the cuts begin to bite, by delivering good care while making savings. *Nursing Management* 17, 11–12.
- Bloodworth K (2011b) The Productive Ward and the productive operating theatre. *Journal of Perioperative Practice* 21, 97–103.
- van den Broek J, Boselie P & Paauwe J (2013) Multiple institutional logics in health care: Productive Ward: 'Releasing Time to Care'. *Public Management Review* 16, 1–20.
- Burston S, Chaboyer W, Wallis M & Stanfield J (2011) A discussion of approaches to transforming care: contemporary strategies to improve patient safety. *Journal of Advanced Nursing* 67, 2488–2495.
- Carlisle D (2013) Our nurse-led approach to productivity must live on. *Nursing Standard* 27, 14–15.
- Castledine G (2008) Increasing the time nurses spend on patient care. *British Journal of Nursing (Mark Allen Publishing)* 17, 801.
- Cilliers L & Retief FP (2006) Medical practice in Graeco-roman antiquity. *Curatioris* 29, 34–40.
- Clews G (2011) Productive Ward goes global. In *Nursing Times.net*; 3 May 2011. Available at: <http://www.nursingtimes.net/whats-new-in-nursing/acute-care/productive-ward-goes-global/5027919.article> (accessed 01 March 2013).
- Coutts J (2010) Releasing Time to Care. *Healthcare Quarterly* 13, 21–23.
- Darzi A (2008) *High Quality Care for All: NHS Next Stage Review Final Report* (Health Do ed.). Crown Publications, London.
- Davidson S (2011) *Update: Releasing Time to Care*. In Oregon Nurse 2011, 16 October. Available at: www.oregonlive.com/politics/index.ssf/2011/10/oregon_nurses_use_british_tech.html (accessed 01 March 2013).
- Davies H, Powell A & Rushmer R (2007) Why don't clinicians engage with quality improvement? *Journal of Health Services Research & Policy* 12, 129–130.
- Davis J & Adams J (2012) The 'Releasing Time to Care – the Productive Ward' programme: participants' perspectives. *Journal of Nursing Management* 20, 354–360.
- Dixon-Woods M, Bosk CL, Aveling EL, Goeschel CA & Pronovost PJ (2011) Explaining Michigan: developing an ex post theory of a quality improvement program. *The Milbank Quarterly* 89, 167–205.
- Edmunds G (2010) *Implementation of the Productive Ward Project in a Tertiary Hospital* [Abstract]. In American Nurses Credentialing Center; Magnet Conference. ANCC, unknown.
- Evans R (2007) Releasing Time to Care; Productive Ward. *Nursing Times (Supplement)* 103, 6–9.
- Farrell M & Casey M (2011) Productive Ward project: saving our most valuable asset, time. *World of Irish Nursing & Midwifery* 19, 36–37.
- Ferlie EB & Shortell SM (2001) Improving the quality of health care in the United Kingdom and the United States: a framework for change. *The Milbank Quarterly* 79, 281–315.
- Foley B & Cox A (2013) *Work Organisation and Innovation: Case Study*:

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- Nottingham University Hospitals NHS Trust, UK. European Foundation for the Improvement of Living and Working Conditions, Dublin.
- Foster S, Gordon P & McSherry W (2009) Rolling out Productive Ward foundation modules across a hospital trust. *Nursing Times* 105, 28–30.
- Gautier E (1998) *Bibliometric Analysis of Scientific and Technological Research: A User's Guide to the Methodology*. Observatoire des Sciences et des Technologies, Montreal, QC.
- Gollop R, Whitby E, Buchanan D & Ketley D (2004) Influencing sceptical staff to become supporters of service improvement: a qualitative study of doctors' and managers' views. *Quality and Safety in Health Care* 13, 108–114.
- Grant P (2008) 'The Productive Ward round': a critical analysis of organisational change. *The International Journal of Clinical Leadership* 16, 193–201.
- Greenhalgh T, Robert G, Bate P, Kyriakidou O & Peacock R (2004) *How to Spread Good Ideas: A Systematic Review of the Literature on Diffusion, Dissemination and Sustainability of Innovations in Health Service Delivery and Organisation*. NHS NCCSDO, London.
- Gribben B, McCance T & Slater P (2009) *Belfast Health and Social Care Trust, Productive Ward – Releasing Time to Care Evaluation Report*. BHSC, Belfast.
- Haylock J (2010) Improving NZ's productivity. *Chartered Accountants Journal* 89, 57.
- Health Quality Council (2011) *Releasing Time to Care: The Productive Ward Long-term Care Pilot Project Report*. Health Quality Council, Saskatoon, SK.
- Jenny K (2007) Vantage point. *Nursing Management* 14, 8.
- Kemp P & Merchant S (2011) How to turn innovations into everyday practice. *Mental Health Practice* 15, 20–24.
- Kendall-Raynor P (2010) Wards urged to adopt successful Productive Ward scheme quickly. *Nursing Standard* 25, 8.
- Kinnair D (2012) A good row focuses the mind. *Nursing Management* 18, 3.
- Langley A & Denis JL (2011) Beyond evidence: the micropolitics of improvement. *British Medical Journal Quality & Safety* 20, 143–146.
- Lennard C (2012) How the Productive Ward scheme gives staff more time to care: implementation of a work efficiency initiative in an acute mental health adult ward is improving nurses' welfare while providing a more effective service to clients. *Mental Health Practice* 15, 30–34.
- McDonald L (2010) *Florence Nightingale: At First Hand*. Continuum International Publishing, London.
- McIntyre RC (2012) Improving quality improvement: presidential address. *The American Journal of Surgery* 204, 815–825.
- Morrow E, Robert G, Maben J & Griffiths P (2010) *Facilitating the Spread of the Productive Ward*. National Nursing Research Unit, Kings College Hospital, London, UK.
- Morrow E, Robert G, Maben J & Griffiths P (2012) Implementing large-scale quality improvement: lessons from the Productive Ward: Releasing Time to Care. *International Journal of Health Care Quality Assurance* 25, 237–253.
- Morrow E, Cotterell P, Robert G, Grocott P & Ross F (2013) Mechanisms can help to use patients' experiences of chronic disease in research and practice: an interpretive synthesis. *Journal of Clinical Epidemiology* 66, 856–864.
- NHS Institute (2011) *Rapid Impact Assessment of the Productive Ward: Releasing Time to Care*. NHS Institute, Warwick.
- NHS Institute (2012a) *Annual Report and Accounts of the NHS Institute for Innovation and Improvement*. The Stationary Office, London.
- NHS Institute (2012b) *Putting Patients First: The Productive Series*. NHS Institute for Innovation and Improvement, Coventry.
- NHS Institute & NNRU (2010a) *Improving Healthcare Quality at Scale and Pace, Lessons for the Productive Ward: Releasing Time to Care Programme*. NHS Institute, Warwick.
- NHS Institute & NNRU (2010b) *The Productive Ward: Releasing Time to Care Learning and Impact Review*. NHS Institute, Warwick.
- NHS Institute & NNRU (2010c) *Top Tips for Spreading the Productive Ward within NHS Trusts*. NHS Institute, Warwick.
- NHS Scotland (2008) *NHS Scotland, Releasing Time to Care Evaluation*. NHS Scotland, Edinburgh.
- Nightingale JM & Marshall G (2011) Citation analysis as a measure of article quality, journal influence and individual researcher performance. *Radiography* 18, 60.
- Nolan A (2007) Productive Ward: making time to improve patient care. In *The Health Services Journal*, 10 December 2007. Available at: <http://www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care/293099.article> (accessed 02 June 2013).
- Nursing Management (2008) Productive Ward scheme rolled out. *Nursing Management* 15, 5.
- Nursing Standard (2012) Full roll-out for productive wards by 2013. *Nursing Standard* 26, 7.
- Ovretveit J (2011) Understanding the conditions for improvement: research to discover which context influences affect improvement success. *British Medical Journal Quality & Safety* 20, 118–123.
- Perla RJ, Bradbury E & Gunther-Murphy C (2013) Large-scale improvement initiatives in healthcare: a scan of the literature. *Journal for Healthcare Quality* 35, 30–40.
- QIPP-NHS Evidence (2009) *The Productive Ward – Quality and Productivity Example*. Available at: <http://www.evidence.nhs.uk/document?ci=http%3A%2F%2Farms.evidence.nhs.uk%2Fresources%2FQIPP%2F29542&cq=productive%20ward&cReturnUrl=%2Fsearch%3Fq%3Dproductive%2Bward> (accessed 2 June 2013).
- Radnor Z & Boaden R (2008) Editorial: lean in public services – panacea or paradox? *Public Money & Management* 28, 3–7.
- Radnor Z & Osborne SP (2012) Lean: a failed theory for public services? *Public Management Review* 15, 265–287.
- Radnor Z & Walley P (2008) Learning to walk before we try to run: adapting lean for the public sector. *Public Money & Management* 28, 13–20.

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Discursive paper

- Radnor ZJ, Holweg M & Waring J (2012) Lean in healthcare: the unfilled promise? *Social Science & Medicine* 74, 364–371.
- Robert G (2011) Progress of the Productive Ward. *Nursing Times* 107, 18–19.
- Robert G, Morrow E, Maben J, Griffiths P & Callard L (2011) The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England. *Journal of Clinical Nursing* 20, 1196–1207.
- Rudge T (2013) Desiring productivity: nary a wasted moment, never a missed step. *Nursing Philosophy* 14, 201–211.
- Shepherd S (2008) This is a phenomenon. *The Health Service Journal*, 6th

- November 2008. Available at: <http://www.hsj.co.uk/resource-centre/this-is-a-phenomenon/1888168.article> (accessed 01 May 2013).
- Shojania KG, McDonald KM, Wachter RM & Owens DK (2004) *Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies*. Agency for Healthcare Research and Quality, Rockville, MD.
- Smith J & Rudd C (2010) Implementing the Productive Ward management programme. *Nursing Standard* 24, 45–48.
- Taylor J (2006) Productive Ward. Stand by your bed. *The Health Service Journal* 116, 26–27.
- Walshe K (2009) Pseudoinnovation: the development and spread of healthcare

Productive Ward: A bibliometric analysis

- quality improvement methodologies. *International Journal for Quality in Health Care* 21, 153–159.
- White M, Wells JSG & Butterworth T (2013) The Productive Ward: Releasing Time to Care™ – what we can learn from the literature for implementation. *Journal of Nursing Management*, DOI: 10.1111/jonm.12069.
- Wilson G (2009) Implementation of Releasing Time to Care – the Productive Ward. *Journal of Nursing Management* 17, 647–654.
- Wright S & McSherry W (2013) A systematic literature review of Releasing Time to Care: the Productive Ward. *Journal of Clinical Nursing* 22, 1361–1371.

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The impact of a large-scale quality improvement programme on work engagement: Preliminary results from a national cross-sectional-survey of the 'Productive Ward'



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ABSTRACT

Background: Quality improvement (QI) Programmes, like the Productive Ward: Releasing-time-to-care initiative, aim to 'engage' and 'empower' ward teams to actively participate, innovate and lead quality improvement at the front line. However, little is known about the relationship and impact that QI work has on the 'engagement' of the clinical teams who participate and vice-versa.

Objective: This paper explores and examines the impact of a large-scale QI programme, the Productive Ward, on the 'work engagement' of the nurses and ward teams involved.

Design/methods: Using the Utrecht Work Engagement Scale (UWES), we surveyed, measured and analysed work engagement in a representative test group of hospital-based ward teams who had recently commenced the latest phase of the national 'Productive Ward' initiative in Ireland and compared them to a control group of similar size and matched (as far as is possible) on variables such as ward size, employment grade and clinical specialty area.

Results: 338 individual datasets were recorded, $n = 180$ (53.6%) from the Productive Ward group, and $n = 158$ (46.4%) from the control group; the overall response rate was 67%, and did not differ significantly between the Productive Ward and control groups. The work engagement mean score (\pm standard deviation) in the Productive group was $4.33(\pm 0.88)$, and $4.07(\pm 1.06)$ in the control group, representing a modest but statistically significant between-group difference ($p = 0.013$, independent samples t -test). Similarly modest differences were observed in all three dimensions of the work engagement construct. Employment grade and the clinical specialty area were also significantly related to the work engagement score ($p < 0.001$, general linear model) and (for the most part), to its components, with both clerical and nurse manager grades, and the elderly specialist areas, exhibiting substantially higher scores.

Conclusions: The findings demonstrate how QI activities, like those integral to the Productive Ward programme, appear to positively impact on the work engagement (the vigour, absorption and dedication) of ward-based teams. The use and suitability of the UWES as an appropriate measure of 'engagement' in QI interventions was confirmed. The engagement of nurses and front-line clinical teams is a major component of creating, developing and sustaining a culture of improvement.

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What is already known about this topic?

- This UK-designed, nurse-led, quality improvement programme was officially launched in 2007 and is currently being implemented in many countries. It aims to engage and empower ward teams with the information, skills and tools to improve the patient and staff experience whilst 'releasing time to care'.
- Evaluations of the programme have been relatively positive in terms of adoption, spread, ward environment and process change. However there is little evidence confirming the impact on nurses, ward-teams, patients and cost-savings.
- The understanding and measure of work engagement continues to develop as a most relevant topic of interest, especially in nursing. Its relationship with quality improvement, activities and programmes is only starting to emerge.

What this paper adds

- This paper highlights the influential relationship that 'engagement' has on quality improvement activities and outcomes and vice versa.
- This is one of the first studies, using a control group, which demonstrates the positive impact of a national quality improvement programme, the Productive Ward on the 'work engagement' of the ward-teams involved.
- This paper identifies some of the factors, namely the type of ward (clinical speciality area) and employment grade, which appear to interact and effect 'work engagement' in quality improvement programmes like the Productive Ward.

1. Introduction

Over the last decade healthcare professionals across the world have experienced the substantial growth, development and prioritisation of quality improvement (QI) in healthcare. In the public healthcare sector this has manifested itself as 'modernisation' and a rapid shift from a low-cost model of healthcare provision to a new model that embraces low-cost, continuous improvement and high-quality (Mazur et al., 2012).

Recent reports in the UK and Europe however indicate that despite this focus on quality, services are falling short of some very basic standards, nationally agreed performance targets and patient expectations (Francis, 2013; Keogh, 2013; OECD, 2013). Similarly, in the United States, national healthcare disparity reports since 2006 have consistently highlighted that healthcare quality and access are suboptimal, especially for minority and low-income groups (Clancy et al., 2013).

In response to these reports and trends, healthcare organisations worldwide continually introduce and test new systems of work organisation from the world of industry and business in an attempt to improve healthcare quality, patient safety and do more with less resources. These healthcare QI efforts have taken a variety of forms and guises, including lean (Graban, 2012), six-sigma (Charles et al., 2012), total quality management (Qianmei and Chris, 2008) and the 'model for improvement' (Langley et al., 2009). Many

have been modified, adapted, re-packaged and re-labelled for the healthcare setting, creating some confusion, misunderstanding and scepticism amongst the teams who have to implement them (de Souza, 2009, Walshe, 2009). Examples of modified or eclectic QI initiatives recently introduced into healthcare include lean healthcare (de Souza, 2009), lean six-sigma (Glasgow et al., 2010), clinical microsystems (Gobel et al., 2012), transforming care at the bedside (Dearmon et al., 2013), and Productive Ward (Wilson, 2009).

There are some arguments for the nursing profession to be concerned about the effect and impact these new systems of work may have on the nurses and front-line clinical teams who predominantly implement them. They are often very complex social interventions with little robust evidence to suggest that they can maximise effectiveness or avoid failure in healthcare settings. The sociotechnical elements (Joosten et al., 2009), contextual elements (Ovretveit, 2011), and micro-political elements (Langley and Denis, 2011), involved in using these adapted healthcare improvement methodologies have also yet to be fully established and are not entirely understood. The intra-related elements of QI implementation are often more noticeable by their absence in a QI intervention than their presence. Poor attempts at QI implementation and 'dabbling' with the tools and methodologies of QI can negatively impact on employee engagement, enthusiasm and promote a lack of appetite for any improvement effort (Gollop et al., 2004). This may result in nurses and front-line clinical teams questioning the purpose of all QI initiatives and promoting an air of cynicism around QI efforts as if they are just another passing management fad (Morrow et al., 2012; Radnor et al., 2012; Walshe, 2009).

It is well recognised in the business and industry literature that the 'employee contribution' is central to improved business and quality outputs (Bakker et al., 2009, Harter et al., 2002, MacLeod and Clarke, 2010). To be competitive and 'remain in the game', the best performing companies in business and industry have no option but 'engage', not only the body, but the mind and soul of every employee (Ulrich, 1997). Likewise most QI practitioners in healthcare would agree that it is the employees within the team of an organisation, who make a critical difference when it comes to creating innovative ideas, thinking differently and piloting small tests of change (Graban, 2012).

Knowing what we know from the business and industry literature about the correlations and confirmed links between employee engagement/employee contribution and improved quality, performance and outputs (Harter et al., 2002; MacLeod and Clarke, 2009), it is difficult to understand why the learning from business has not yet fully translated or spread into healthcare QI implementation, performance and output (Marshall, 2009). Especially when one considers the reliance and relationship that QI in healthcare has on the solutions, methodologies and tools that have their genesis in that very industry or business base. This could be another example of the very considerable gap that exists between 'what we know', and 'what we do', when it comes to healthcare QI efforts (Shojania and Grimshaw, 2005).

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There is acknowledgement that the engagement of front-line clinical teams is a necessary pre-condition for QI initiatives (Siriwardena, 2009) and improvement (The Kings Fund, 2012). A recent study of 14 quality improvement programme evaluations established that the majority of the key challenges were employee/people contribution-related and that stakeholder engagement was the key enabler for success (Dixon-Woods et al., 2012). Similar findings in relation to stakeholder engagement have also recently been reported for Lean healthcare (Holden et al., 2011; Steed, 2012) and 'Productive Ward' (White et al., 2013).

The concept that employee engagement is different from employee or job satisfaction is well established (Macey and Schneider, 2008; Maslach et al., 2001; Shuck, 2011). Employee satisfaction is distinctly related to satiation; that is the employee's individual appraisal of the many elements of their external work environment. Either the work environment meets certain satisfying characteristics, or it does not.

However, employee engagement relies on activation on the part of the individual employee, a willingness to expend discretionary effort to help the employer/organisation achieve its goal (Hallberg et al., 2006). Central to this concept is the understanding that engagement is the employee's relationship with work itself, or 'work engagement' (Wefald and Downey, 2009). Although the 'engagement' concept continues to develop, and 'employee engagement' and 'work engagement' are used interchangeably, the most accepted academic definition is 'work engagement' which is derived from Schaufeli's original construct and is succinctly defined as: 'a positive fulfilling work-related state of mind characterised by vigour, dedication and absorption' (Schaufeli et al., 2002). Significantly related to work-related attitudes (job satisfaction, job involvement, job behaviour, behaviour intentions and organisational commitment), burnout, workaholicism, well-being, boredom, satisfaction and personality, it is a distinct concept strongly related to job performance (Schaufeli, 2014). The term specifically refers to the relationship of the employee with his or her work, whereas 'employee engagement' may also include elements of the relationship with the organisation or manager (Schaufeli, 2014).

The most widely used measure of work engagement in the academic literature is the Utrecht Work engagement survey (UWES) (Shuck, 2011). The revised seventeen item scale consists of three subscales of vigour (6 items), dedication (5 items) and absorption (6 items). The psychometric properties of the UWES are well described and validated (Schaufeli et al., 2006; Schaufeli et al., 2002; Seppala et al., 2009).

Work engagement and the measure of work engagement are important contemporary healthcare employee performance and organisational management topics (Simpson, 2009a). The use of 'work engagement' as a construct and measure in nursing is becoming well established (Salanova et al., 2011; Simpson, 2009b; Warshawsky et al., 2012). It has been successfully used and correlated in the nursing literature with work experience (Hagedorn Wonder, 2012), self-transcendence

(Palmer et al., 2010), leadership (Wong et al., 2010) empowerment (Laschinger et al., 2006) and patient centred care (Abdelhadi and Drach-Zahavy, 2012).

All healthcare QI efforts require an elevated level of employee activation and effort, a sense that improvement is relevant to the patient/team/organisation and a willingness to succeed (Dixon-Woods et al., 2012). It would therefore follow that any measurement of engagement relating to QI should extend beyond the satisfying characteristics of the work environment or satisfaction with the job, and should focus on something about the individual employee or team member. Some internal characteristics that stimulate and motivate the expenditure of energy and effort, that might be linked in some way to performance and which that are so vital for the successful implementation and outcome of QI.

1.1. Background

Productive Ward is one of the most prominent lean-based healthcare QI initiatives in the UK (Waring and Bishop, 2010), and has received considerable international attention (Clews, 2011). As a model of healthcare QI it is wholly unique, in that it is reported to have full UK government backing (Nursing Management, 2008; Nursing Standard, 2012), and although designed for entire front-line clinical teams, it is reported to be specifically targeted at engaging nurses for its implementation (Rudge, 2013). It was eclectically designed to utilise the best elements of 'Lean' improvement techniques, the intrinsic motivators of social movement theory and the front line engagement theories of large-scale change for QI in a health care environment (NHS Institute and NNRU, 2010b; Robert et al., 2011). UK reports of the initiative have been positive (Gribben et al., 2009; NHS Institute and NNRU, 2010a,b,c; NHS Scotland, 2008), with up to 40% of all NHS hospitals reported to be involved (Robert, 2011). Successful implementation efforts have been reported internationally (Coutts, 2010; Davidson, 2011; van den Broek et al., 2013) adding to a growing body of related peer-reviewed publications and evaluations (White et al., 2014).

Productive Ward was designed and developed by the NHS Institute for Innovation and Improvement (NHSI) in 2005 with 3 main aims:

- To increase the proportion of time nurses spend in direct patient care,
- To improve experience for staff and for patients,
- To make structural changes to the use of ward spaces to improve efficiency in terms of time effort and money (NHS Institute and NNRU, 2010b).

Since its design and testing in 2005, it has been widely reported in the nursing and healthcare media as having had a positive impact on ward environments (Kendall-Raynor, 2010; Taylor, 2006), patient safety and care (Blakemore, 2009a,b; Nolan, 2007) and improvement (Davis and Adams, 2012; Smith and Rudd, 2010). The programme provides tools and leadership methods to engage front line staff in QI at ward level and is reported to

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have influenced: leadership (Davis and Adams, 2012), work-life (Lennard, 2012), empowerment (Mumvuri and Pithouse, 2010; Wilson, 2009), and engagement (Avis, 2009; NHS Institute and NNRU, 2010a).

The initiative has 'spread' internationally and Ireland commenced a national phased implementation with a cohort of 24 wards/departments across 17 hospital sites in December 2011. This present study is based on the second phase of national implementation which commenced at the end of 2012 involving of 9 wards/departments across 7 hospital sites.

2. Methods

2.1. Aims and objectives

The aim of this study was to explore the possible relationship and association of QI activities and the work engagement of ward-teams involved in a national roll-out of the Productive Ward initiative.

The objectives were to:

- Measure work engagement in ward-based teams involved in a phase of a national roll out of Productive Ward.
- Compare these measures against a control group of similar size, from a similar clinical specialty area, who were not involved in a quality improvement programme or activity.
- Examine possible elements of the quality improvement initiative, Productive Ward, which may interact or impact the work engagement of ward-based teams.
- Make recommendations in relation to the use and suitability of work engagement as a measure for assessing how 'engaged' healthcare teams are in quality improvement programmes or interventions.

2.2. Design

The study is a national cross-sectional survey of work engagement in ward-teams (nursing and non-nursing) involved in the 'Productive Ward' QI initiative and a comparable control group.

2.3. Settings

This study involves the inclusion of an entire phase of national productive ward implementation in Ireland. The cohort contains 9 wards/units from 7 hospitals within the public health system across Ireland and includes medical, surgical, rehabilitation and elderly clinical specialty environments. A national matched (as far as possible) control group were recruited to this study from within the same public health system for comparison.

2.4. Inclusion criteria

All core ward-team members involved in direct and indirect patient care and who were assigned to the ward/unit during the start of the Productive Ward initiative were eligible and invited to participate. This included all

nurses/nurse managers, care assistants/attendants, household/domestic and clerical/administration staff.

A control group were identified and matched to the study group based on: similar size, similar specialty, organisational and ethical approval to participate. Similar criteria were applied for the recruitment of participants on the control wards/units.

Survey packs containing information sheets outlining the study's purpose, anonymity, and instructions were included with surveys and stamped addressed envelopes prior to distribution to the entire ward-team in both the Productive Ward and control group.

2.5. Description of the sample

A stratified sample of 253 ward-team members from the 9 wards/units involved in the QI initiative, Productive Ward (the total eligible population of a national phase of Productive Ward implementation) were identified through the 'project lead' in each Productive Ward and surveyed in early 2013; approximately 12 weeks into the implementation of the QI programme, and compared to a matched (approximate fit) control group. Although Productive Ward is predominantly a nurse-led initiative, all core members of the ward-team involved in direct and indirect patient care were surveyed as we believe ward-base QI interventions of this nature impact on the entire ward-team.

The stratification characteristics of the control group, a purposive sample were: consent to participate in the study, non-participation in a QI initiative, similar ward and sample size ($n = 249$), number of wards/units ($n = 9$) and judged to be a similar ward specialty/environment or match. Non-respondents were sent a postal reminder after 4 weeks.

The Productive Ward and control sample contained ward/units from a range of clinical specialty areas in both acute and non-acute clinical care environments. Both samples consisted mainly of female registered nurses aged between 25 and 44. A descriptive breakdown of participants and the clinical specialty of the wards/units are provided in the results section in Table 1 and Fig. 1.

2.6. Measures

The 17 item Utrecht Work Engagement Scale questionnaire (UWES-17), a 3-dimensional model of vigour, dedication and absorption (Schaufeli et al., 2002), was used to measure the total levels of engagement. Vigour is measured with six items, dedication with five items and absorption with six items. Each item is scored on a seven point rating scale from 0 (never) to 7 (every day).

The UWES was chosen because it is the most commonly agreed dimension (Bargagliotti, 2012), has consistently been reported as having acceptable psychometric properties with satisfactory construct validity and reliability (Seppala et al., 2009; Storm and Rothmann, 2003), across multiple professions and occupations (Nerstad et al., 2010; Palmer et al., 2010), in many international settings (Schaufeli et al., 2006). It has also been recognised as the most established and widely accepted definition and

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Table 1
Descriptive breakdown of participants.

	Productive Ward group	%	Control group	%	Total	%
No. surveyed	253	100%	249	100%	502	100%
No. respondents	180	71%	158	63%	338	67.3%
Female	172	95%	145	93%	319	94.4%
Male	8	5%	13	7%	19	5.6%
*Age						
18–24	6	3.4%	6	3.8%	12	3.6%
25–44	101	56.7%	93	58.9%	194	57.4%
45–65	71	39.9%	59	37.3%	130	38.5%
Nurse managers	11	6%	18	11.5%	29	8.6%
Staff nurses	112	62%	111	70%	223	66%
Clerical/admin	9	5%	3	2%	12	3.5%
Healthcare support	45	25%	24	15%	69	20.4%
Household	3	2%	2	1.5%	5	1.5%

* Only 336 Ages returned/reported.

measure of work engagement in both the academic literature and nursing literature (Simpson, 2009a,b; Wong et al., 2010), recognising and measuring both cognitive and affective components (Freene and Tiernan, 2009).

2.7. Statistical analysis

Data were analysed using the commercial software SPSS (version 21). Frequency and descriptive statistics were generated for each of the variables contained in the questionnaire. Statistical analyses performed included:

- Standard reliability analysis of the questionnaire items, in order to confirm suitability of the UWES-17 scales in both a QI and Irish setting;
- Comparison of UWES scores (total work engagement score (WE) and individual constructs) in Productive Ward and control groups, using independent sample t-tests;
- Investigation of relationships between WE scores and other variables, using t-tests or contingency table analysis, as appropriate, and
- Analysis (using general linear models) of WE scores in Productive Ward and control groups, controlling for confounding variables identified in (c).

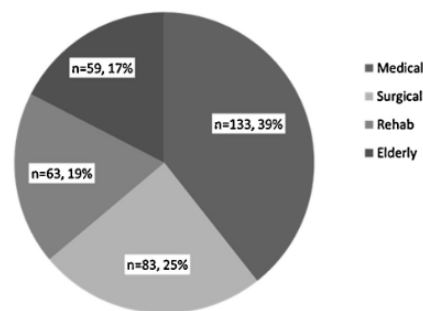


Fig. 1. Distribution of respondents by ward/unit clinical specialty.

2.8. Ethics

Ethics approval for participation in the study was sought and granted in each participating organisation. All participants agreed voluntarily to participate in the study after receiving detailed information and explanation of the research/evaluation aims and reassurances that the data would be anonymised and only used for research/evaluation purposes.

3. Results

The questionnaire was answered by a total of 338 team members (overall response rate of 67%). Response rates did not differ significantly ($p = 0.07$) between the Productive Ward group ($n = 180$, 53.6%), and the control group ($n = 158$, 46.4%).

3.1. Reliability analysis of the UWES scale

A principal axis factor analysis was conducted on the 17 items with oblique rotation (direct oblimin). The Kaiser–Meyer–Olkin (KMO) measure verified the sampling adequacy for the analysis (KMO = 0.93). Measures of eigenvalues confirmed acceptable values for three factors and concurs with other studies using the UWES (Schaufeli et al., 2006; Seppala et al., 2009; Storm and Rothmann, 2003). The overall 3-item measure of engagement in this sample had satisfactory internal reliability (Cronbach's alpha $\alpha = 0.91$). The individual constructs, vigour (Cronbach's alpha $\alpha = 0.77$), dedication (Cronbach's alpha $\alpha = 0.83$) and absorption (Cronbach's alpha $\alpha = 0.78$) also returned acceptable coefficients when compared to the accepted standard of $\alpha > 0.70$ (Bryman and Bell, 2011).

3.2. Comparison of WE scores in the Productive Ward and control groups

Respondents were asked to indicate their levels of engagement on the 17 items contained in the UWES. Analysis of total mean scores from the Productive Ward and the control group showed positively skewed levels of 'engagement' (both group means were > 4). However, the

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total mean 'engagement' (WE) score for the Productive Ward group was higher (4.34) than the control group (4.07). An independent *t*-test verified the statistical significance of WE scores at $p = 0.013$. Each of the three dimensions was examined and the WE mean scores remained significantly higher for the Productive Ward group when compared to the control group (see Table 2).

These significant results (for total WE score and its components) were all replicated using the non-parametric Mann-Whitney *U* test.

3.3. Relationship of WE scores and other variables

Of four study variables (gender, age, employment grade and clinical specialty area), just two were analysed in relation to WE scores. The sample was overwhelmingly female, so we omitted the gender variable from this part of the analysis. We omitted age also because (a) Productive Ward and control groups were similar with respect to age ($p = 0.88$, chi-square test for contingency tables) and (b) age was related to employment grade.

Using a multivariate general linear model, with WE score, and its three components, as dependent variables, and grade and specialty as between-subjects factors, we found highly significant effects of both these factors on all mean engagement scores (with the single exception that dedication score was not significantly related to employment grade).

3.4. Comparison of WE scores in Productive and control groups, controlling for effects of other variables

We added the group factor (Productive Ward, control) to the general linear model containing grade and clinical specialty area. Because of confounding variables (grade and clinical specialty area are related to WE score but also to group - Productive Ward/control), it is difficult to unravel the separate effects of grade, specialty and group on WE scores. However, *p*-values for the group factor in these models ranged from a significant $p = 0.015$ for the effect of group on dedication score, to a marginal $p = 0.062$ for the effect of group on total engagement score. In all cases, the WE scores were higher for the Productive Ward subjects than for the controls (see Table 3).

Table 2
Means, standard deviations, and *p* values.

Total sample N = 338			
	Productive Ward group	Control group mean	<i>p</i> value
N=	180	158	-
Total mean	4.34	4.076	0.013
SD±	0.87	1.06	
Vigour	4.03	3.73	0.012
SD±	0.99	1.2	
Absorption	4.22	3.90	0.015
SD±	1.06	1.18	
Dedication	4.68	4.29	0.002
SD±	0.96	1.25	

Table 3
Comparisons of WE mean scores by other variables.

Total sample N = 338			
		Productive Ward group	Control group
Clinical specialty of ward/unit	N=	180	158
	Medical	4.16	3.95
	SD±	0.99	1.29
	N	n = 60	n = 73
	Surgical	4.30	4.05
	SD±	0.92	0.73
	N	n = 46	n = 37
	Rehab	4.20	4.16
	SD±	0.80	0.81
	N	n = 33	n = 30
	Elderly	4.75	4.486
	SD±	0.53	0.88
N	n = 41	n = 18	
Employment grade	Nurse manager	4.94	4.30
	SD±	0.68	0.74
	N	n = 11	n = 18
	Staff nurse	4.18	4.02
	SD±	0.87	1.08
	N	n = 112	n = 111
	Clerical admin	4.90	5.10
	SD±	0.95	0.33
	N	n = 9	n = 3
	Care assistant	4.49	4.00
	SD±	0.81	1.19
	N	n = 45	n = 24
Household	4.29	4.60	
SD±	0.42	0.25	
N	n = 3	n = 2	

Two conclusions seem warranted, based on these results from the general linear model, and from examination of Fig. 2: firstly, clinical specialty area affects total WE score and, secondly, within each specialty, membership of the Productive group is associated with (modestly) higher WE scores.

Similarly, from the above results and from Fig. 3, we conclude that employment grade affects WE score, and that, within employment grade, WE scores are, mostly, higher in the Productive group than in the controls.

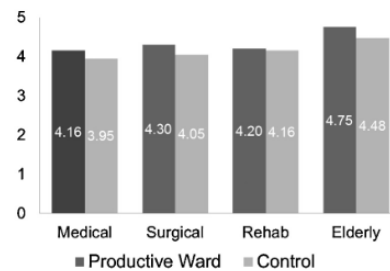


Fig. 2. UWES score by clinical specialty.

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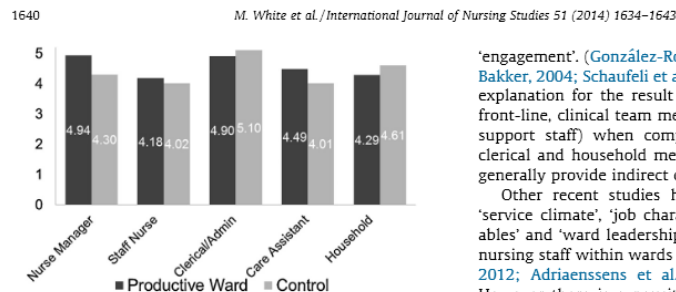


Fig. 3. UWES score by employment grade.

4. Discussion

Work Engagement is an important construct of happiness and well-being at work and has been strongly associated with employee turnover (Schaufeli and Bakker, 2004; Simpson, 2009b), business outcomes (Harter et al., 2002; MacLeod and Clarke, 2009), financial returns (Bakker et al., 2009), patient safety and mortality (Bargagliotti, 2012), and healthcare quality outcomes (Simpson, 2010, 2009a). Successful quality improvement efforts require both engaged employees and the associated impacts and innovations. Engaging and leading front-line clinical teams is an essential element of creating, developing and sustaining a culture of improvement (Brandrud et al., 2011; Graban, 2012).

Engagement as a key performance measure for QI initiative impact provides a novel, robust, humanistic perspective and could form one element of measure for a 'small test of change'. The findings and analysis of this national study confirm the appropriateness and stability of using the UWES for measuring work engagement in healthcare teams involved in QI implementation activities across a range of healthcare environments.

The purpose of this study was to explore the possible relationship and association of QI activities on work engagement. The findings of this national study demonstrate that quality improvement activities, like those associated with Productive Ward, appear to impact on the WE scores of the ward teams that participate. Higher mean WE scores were found across an array of acute and non-acute clinical settings involved in implementing the Productive Ward QI initiative. To our knowledge these quantitative findings of 'engagement' with QI activity have not been reported before.

The moderately higher mean WE scores from the non-nursing, clerical/administration and household (indirect care) team members in both Productive Ward and control groups was a surprising element of the findings. We believe that the differences may be due in-part to the higher-levels of stress and emotional demands experienced by 'front-line' healthcare occupations, like nursing (Adriaenssens et al., 2011; Aiken et al., 2002; Schaufeli and Janczur, 1994), which has been shown to make this group susceptible to 'burnout'. 'Burnout' has been well recognised and described as the antithesis or opposite-pole of

'engagement'. (González-Romá et al., 2006; Schaufeli and Bakker, 2004; Schaufeli et al., 2002) This could offer some explanation for the result of lower mean WE scores in front-line, clinical team members (nurses and healthcare support staff) when compared to the administration/clerical and household members of the ward team who generally provide indirect care.

Other recent studies have observed the impact of 'service climate', 'job characteristics/organisational variables' and 'ward leadership' on the work engagement of nursing staff within wards (Abdelhadi and Drach-Zahavy, 2012; Adriaenssens et al., 2011; Wong et al., 2010). However there is a paucity of literature examining the impact on the work engagement of multidisciplinary ward teams, especially during the implementation of initiatives like the Productive Ward which are specifically designed to improve the ward and clinical environment.

Although the sample size of the clerical/administration and household group is too small (total $n = 17$) to make any robust, detailed statistical analysis and conclusion, the higher WE scores amongst these grades within the control group requires further exploration. We believe that the answer may lie in the fact that QI activities, and in particular the Productive Ward initiative, challenge and redesign the many nursing processes and activity flows in the wards and departments where it is implemented. This will inevitably lead to nurses and care attendants 'shedding' non-value added activities and non-clinical tasks in an attempt to increase and improve 'time at the bedside'. The resulting non-value added activities and the non-clinical tasks that were shed must be 'picked-up' and performed by another element of the ward team. We hypothesise that this additional work burden in Productive Ward sites, is then allocated to the non-clinical members of the healthcare team resulting in them feeling less valued, 'less-engaged' or socially isolated in the QI process (Bartunek, 2011), thus manifesting in lower WE scores and becoming a possible, undesired consequence of the improvement intervention. These hypotheses require further exploration and will form the next stage of the national, on-going evaluation of this phase of Productive Ward implementation in Ireland.

Although the WE mean scores from 'clinical specialty' areas were found to have an effect, the elevated mean scores in the non-acute elderly care settings in both the Productive Ward and control group raises an interesting but not surprising finding. Organisation and team commitment to QI systems and processes in various hospital settings/sectors have been reported previously (Alexander et al., 2007), highlighting reduced patient turnover, profitability, organisational slack, care focus, activity pressures and person-centeredness as key enablers that support and nurture QI and QI activity in the non-acute sector. The provision of non-acute elderly care in Ireland has been heavily regulated and monitored in terms of standardised quality outcomes by the Health Information Quality Authority (HIQA) since 2006. This has resulted in a 'flurry' of QI initiatives in the non-acute elderly sector in Ireland, as healthcare teams strive to meet the patient-centred demands of both marketplace competition and statutory regulation. We feel that teams working within

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this setting have therefore fully immersed themselves in a culture and environment of quality improvement, which, when coupled with a less stressful, less pressured non-acute environment, may manifest itself in higher WE scores in this group. This has been observed previously between higher stressed wards/departments within an acute setting (Adriaenssens et al., 2011). However this hypothesis between acute and non-acute settings requires further exploration and development.

The finding of higher mean WE scores amongst the nurse manager grades in the Productive Ward study group affirm the relationships, previously cited in other studies (The Kings Fund, 2012), that link QI efforts and Lean-type methods to leadership (Lucas and Buckley, 2009; Mann, 2009; Steed, 2012). The elevated WE scores in the Management grades observed in this study most certainly align with recent reviews of the Productive Ward literature, where the initiative is reported to nurture certain leadership traits (empowerment, advocacy, teamwork, motivation) in both project and ward managers who implement it (Davis and Adams, 2012; White et al., 2013; Wright and McSherry, 2013).

4.1. Limitations

One limitation of this study is the use of non-probability quota sampling for recruiting our control group. Whilst the characteristics of size and clinical context of the control group generally reflect that of the Productive Ward group, and are in essence a purposive sample, the matching exercise, no matter how rigorous could never be truly representative. Access to a randomised control group would of course be 'gold standard' for a QI study of this nature but realistically would be extremely challenging from a number of perspectives. We did, however, control (using general linear models) for variables, such as specialty and employment grade, which differed between intervention and control group, and which were also related to the WE outcome measures. Because of the study design, a second limitation of this study relates to generalisation. All findings in this study can only be viewed through the lens in which they were studied, teams involved in implementing the QI initiative Productive Ward in Ireland. However, the generalizability and transferability of learning from all QI initiatives requires careful assessment when trying to broaden, spread or replicate QI efforts as a result of the many organisational, contextual and social challenges involved (Langley and Denis, 2011; Ovreteit and Gustafson, 2002).

The possibility of positive report bias from respondents, who had received recent Productive Ward module training and then became actively engaged in a new exciting QI programme can also not be overlooked.

Although these limitations must be considered, the findings of this study do identify WE as of teams involved in QI. We anticipate a further 12-month follow-up survey and analysis, and we hope to identify, at that point, any possible bias related to QI workshops or training.

5. Conclusion

As many challenges to successfully implement and evaluate QI initiatives do exist, it is important to understand the role that QI programmes or interventions should play in the 'engagement' of the clinical ward-based teams who are generally charged with implementing. Likewise it is important to highlight the reciprocal value that 'engagement' brings to creating an improvement workforce (Berwick, 2003), that has a positive, fulfilling, innovative, work-related state of mind. Nothing ever happens in QI for one particular reason or cause (Ovreteit, 2011). It is usually a combination of many factors (mostly human) that influence implementation and the degree of success. The findings of this study are therefore timely in that they offer a different perspective and understanding of work engagement as one of the many conditions that influences improvement (and vice versa). Engagement is emerging as a key component of QI implementation (Dixon-Woods et al., 2012), particularly when trying to introduce or cultivate a culture of improvement (Berwick, 2008). This study indicates that QI programmes, like the Productive Ward, may positively impact on the 'engagement' (the vigour, absorption and dedication) of those ward team members who implement it.

Future use of this measure within QI implementation and QI research will determine its value and ability to accurately measure, reflect, and report the extent that nurses and ward-based teams contribute and positively participate in QI activities and help understand the factors that influence and engage them. There is little scientific evidence regarding the optimum levels of engagement required for optimal QI implementation, impact and sustained improvement. It may also assist senior nurse leaders and QI practitioners in adopting and adapting different training and communication strategies/policies/practices for engaging different grades of staff and different clinical specialty environments in QI activities. How work engagement interacts and interplays with the other key elements of QI work merits further investigation. We believe from our experience of Productive Ward implementation to date, that work engagement may also have a direct relationship with the level and the success of QI activities and the resulting innovations and improvements. We believe that QI activity and work engagement may have an inter-related dependency on each other and our intention is to carry out a longitudinal study that will examine that relationship.

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Ethical approval: Ethics approval for all phases of this study were obtained firstly from Waterford Institute of Technology and then in each participating Productive Ward and corresponding control site, via the overseeing regional ethics committee. Information about this study was circulated to all prospective participants explaining how to engage with the study or decline.

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References

- Abdelhadi, N., Drach-Zahavy, A., 2012. Promoting patient care: work engagement as a mediator between ward service climate and patient-centred care. *Journal of Advanced Nursing* 68 (6) 1276–1287.
- Adriaenssens, J., De Gucht, V., Van Der Doef, M., Maes, S., 2011. Exploring the burden of emergency care: predictors of stress-health outcomes in emergency nurses. *Journal of Advanced Nursing* 67 (6) 1317–1328.
- Aiken, L.H., Clarke, S.P., Sloan, D.M., Sochalski, J., Silber, J.H., 2002. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA* 288 (16) 1987–1993.
- Alexander, J.A., Weiner, B.J., Shortell, S.M., Baker, L.C., 2007. Does quality improvement implementation affect hospital quality of care? *Hospital Topics* 85 (2) 3–12.
- Avis, K., 2009. Releasing Time to Care in Saskatchewan: Promising Signs that Programme Engages Clinicians. Health Quality Council, Saskatoon, SK.
- Bakker, A.B., Demerouti, E., Xanthopoulou, D., Schaufeli, W.B., 2009. Work engagement and financial returns: a diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology* 82 (1) 183–200.
- Bargagliotti, A.L., 2012. Work engagement in nursing: a concept analysis. *Journal of Advanced Nursing* 68 (6) 1414–1428.
- Bartunek, J.M., 2011. Intergroup relationships and quality improvement in healthcare. *BMJ Quality & Safety* 20, 162–166.
- Berwick, D.M., 2003. Improvement, trust, and the healthcare workforce. *Quality & Safety in Health Care* 12 (6) 448–452.
- Berwick, D.M., 2008. The science of improvement. *JAMA: Journal of the American Medical Association* 299 (10) 1182–1184.
- Blakemore, S., 2009a. How productive wards can improve patient care. *Nursing Management - UK* 16 (5) 14–18.
- Blakemore, S., 2009b. Streamlining and efficiency bring benefits to the wards. *Mental Health Practice* 12 (8) 8–9.
- Brandrud, A.S., Schreiner, A., Hjordahl, P., Helljesen, G.S., Nyen, B., Nelson, E.C., 2011. Three success factors for continual improvement in healthcare: an analysis of the reports of improvement team members. *BMJ Quality & Safety* 20 (3) 251–259.
- Bryman, A., Bell, E., 2011. *Business Research Methods*. Oxford University Press, New York, NY.
- Charles III, R.G., Kathleen, L.M., Sriranjita, S., 2012. Contrasting continuous quality improvement, Six Sigma, and lean management for enhanced outcomes in US hospitals. *American Journal of Business* 27 (2) 133–153.
- Ciancy, C., Munier, W., Brady, J., Moy, E., Chaves, K., Freeman, W., Bonnet, D., 2013. 2012 National Healthcare Quality & Disparities Report. AHRQ Publications, Rockville, Washington, DC.
- Clews, G., 2011. In: Productive Ward Goes Global. *Nursing Times.net*, p. 1.
- Coutts, J., 2010. Releasing time to care. *Healthcare Quarterly* 13 (2) 21–23.
- Davidson, S., 2011. In: Update: Releasing Time to Care. Oregon Nurse, Oregon, p. 1.
- Davis, J., Adams, J., 2012. The 'Releasing Time to Care - the Productive Ward' programme: participants' perspectives. *Journal of Nursing Management* 20 (3) 354–360.
- de Souza, L.B., 2009. Trends and approaches in lean healthcare. *Leadership in Health Services* 22 (2) 121–139.
- Dearmon, V., Rousset, L., Buckner, E.B., Mulekar, M., Pomrenke, B., Salas, S., Mosley, A., Brown, S., Brown, A.N.N., 2013. Transforming care at the bedside (TCAB): enhancing direct care and value-added care. *Journal of Nursing Management* 21 (4) 668–678.
- Dixon-Woods, M., McNicol, S., Martin, G., 2012. Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. *BMJ Quality & Safety* 21 (10) 876–884.
- Francis, R., 2013. Report of the Mid Staffordshire NHS Trust Public Enquiry. The Stationary Office, London.
- Freney, Y.M., Tierman, J., 2009. Exploration of the facilitators of and barriers to work engagement in nursing. *International Journal of Nursing Studies* 46 (12) 1557–1565.
- Glasgow, J.M., Scott-Caziewell, J.R., Kaboli, P.J., 2010. Guiding inpatient quality improvement: a systematic review of lean and six sigma. *The Joint Commission Journal on Quality and Patient Safety* 36 (12) 533–540.
- Gobel, B., Zwart, D., Hesselink, G., Pijnenborg, L., Barach, P., Kalkman, C., Johnson, J.K., 2012. Stakeholder perspectives on handovers between hospital staff and general practitioners: an evaluation through the microsystems lens. *BMJ Quality & Safety* 21, 106–113.
- Gollop, R., Whitby, E., Buchanan, D., Ketley, D., 2004. Influencing sceptical staff to become supporters of service improvement: a qualitative study of doctors' and managers' views. *Quality and Safety in Health Care* 13 (2) 108–114.
- González-Romá, V., Schaufeli, W.B., Bakker, A.B., Lloret, S., 2006. Burnout and work engagement: independent factors or opposite poles? *Journal of Vocational Behavior* 68 (1) 165–174.
- Graban, M., 2012. *Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement*. CRC Press, New York.
- Gribben, B., McCance, T., Slater, P., 2009. Belfast Health and Social Care Trust, Productive Ward-Releasing Time to Care Evaluation Report. BHSCT, Belfast, NI.
- Hagedorn Wonder, A., 2012. Engagement in RNs working in Magnet®-designated hospitals: exploring the significance of work experience. *The Journal of Nursing Administration* 42 (12) 575–579.
- Hallberg, U.E., Schaufeli, W.B., Stockholms, u., Samhällsvetenskapliga, f., Psykologiska, i., 2006. "Same same" but different? Can work engagement be discriminated from job involvement and organizational commitment?. *European Psychologist* 11 (2) 119–127.
- Harter, J.K., Schmidt, F.L., Hayes, T.L., 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *The Journal of Applied Psychology* 87 (2) 268–279.
- Holden, R.J., Kth, Ergonomi, Skolan för teknik och, h., 2011. Lean thinking in emergency departments: a critical review. *Annals of Emergency Medicine* 57 (3) 265–278.
- Joosten, T., Bongers, I., Janssen, R., 2009. Application of lean thinking to health care: issues and observations. *International Journal for Quality in Health Care* 21 (5) 341–347.
- Kendall-Raynor, P., 2010. Wards urged to adopt successful productive ward scheme quickly. *Nursing Standard* 25 (15–17) 8–9.
- Keogh, B., 2013. Review into the Quality of Care and Treatment Provided by 14 Hospital Trust in England: Overview Report.
- Langley, A., Denis, J.L., 2011. Beyond evidence: the micropolitics of improvement. *BMJ Quality & Safety* 20, 143–146.
- Langley, G., Nolan, K., Norman, C., Provost, L., Nolan, T., 2009. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. Jossey-Bass, San Francisco, CA.
- Laschinger, H.K.S., Wong, C.A., Greco, P., 2006. The impact of staff nurse empowerment on person-job fit and work engagement/burnout. *Nursing Administration Quarterly* 30 (4) 358.
- Lennard, C., 2012. How the Productive Ward scheme gives staff more time to care: implementation of a work efficiency initiative in an acute mental health adult ward is improving nurses' welfare while providing a more effective service to clients. *Mental Health Practice* 15 (5) 30–33.
- Lucas, B., Buckley, T., 2009. Leadership for quality improvement - what does it really take? *The International Journal of Leadership in Public Services* 5 (1) 37.
- Macey, W.H., Schneider, B., 2008. The meaning of employee engagement. *Industrial and Organizational Psychology* 1 (1) 3–30.
- MacLeod, D., Clarke, N., 2009. Engaging for Success: Enhancing Performance Through Employee Engagement. Department for Business, Innovation and Skills, Surrey, UK, pp. 152.
- MacLeod, D., Clarke, N., 2010. Leadership and employee engagement: passing fad or a new way of doing business? *The International Journal of Leadership in Public Services* 6 (4) 26–32.
- Mann, D., 2009. The missing link: lean leadership. *Frontiers of Health Services Management* 26 (1) 15–26.
- Marshall, M., 2009. Applying quality improvement approaches to health care. *British Medical Journal* 339, <http://dx.doi.org/10.1136/bmj.b3411> (published online first 02 Sept 2013).
- Maslach, C., Schaufeli, W.B., Leiter, M.P., 2001. Job burnout. *Annual Review of Psychology* 52 (1) 397–422.
- Mazur, L., McCreery, J., Rothenberg, L., 2012. Facilitating lean learning and behaviors in hospitals during the early stages of lean implementation. *Engineering Management Journal* 24 (1) 11–22.
- Morrow, E., Robert, G., Maben, J., Griffiths, P., 2012. Implementing large-scale quality improvement: lessons from The Productive Ward: Releasing Time to Care. *International Journal Of Health Care Quality Assurance* 25 (4) 237–253.
- Mumvuri, M., Pithouse, A., 2010. Implementing and evaluating the Productive Ward initiative in a mental health trust. *Nursing Times* 106 (41) 15–18.
- Nerstad, C.G.L., Richardsen, A.M., Martinussen, M., 2010. Factorial validity of the Utrecht Work Engagement Scale (UWES) across occupational groups in Norway. *Scandinavian Journal of Psychology* 51 (4) 326–337.
- NHS Institute, NNRU, 2010a. *Improving Healthcare Quality at Scale and Pace. Lessons for the Productive Ward: Releasing Time to Care Programme*. NHS Institute, Warwick.

Appendix A: Peer Reviewed Publications from this study to date

- NHS Institute, NNRU. 2010b. The Productive Ward: Releasing Time to Care Learning and Impact Review. NHS Institute, Warwick.
- NHS Institute, NNRU. 2010c. Top Tips for Spreading the Productive Ward within NHS Trusts. NHS Institute, Warwick.
- NHS Scotland, 2008. NHS Scotland, Releasing Time to Care Evaluation. NHS Scotland, Edinburgh.
- Nolan, A. 2007. Productive Ward: Making Time to Improve Patient Care. *Health Services Journal* (online). Available: <http://www.hsj.co.uk/resource-centre/productive-ward-making-time-to-improve-patient-care/293099.article>.
- Nursing Management, 2008. Productive ward scheme rolled out. *Nursing Management - UK* 15 (3) 5.
- Nursing Standard, 2012. Full Roll-Out for Productive Wards by 2013. *Nursing Standard* 26 (19) 7.
- OECD, 2013. OECD Reviews of Health Care Quality: Denmark 2013: Raising Standards. OECD Publishing, Denmark.
- Ovretveit, J. 2011. Understanding the conditions for improvement: research to discover which context influences affect improvement success. *BMJ Quality and Safety* 20 (Suppl. 1) i18–i23.
- Ovretveit, J., Gustafson, D., 2002. Evaluation of quality improvement programmes. *Quality & Safety in Health Care* 11 (3) 270–275.
- Palmer, B., Quinn Griffin, M.T., Reed, P., Fitzpatrick, J.J., 2010. Self-transcendence and work engagement in acute care staff registered nurses. *Critical Care Nursing Quarterly* 33 (2) 138–147.
- Qianmel, F., Chris, M.M., 2008. Under the knife: a national survey of six sigma programs in US healthcare organizations. *International Journal of Health Care Quality Assurance* 21 (6) 535–547.
- Radnor, Z.J., Holweg, M., Waring, J., 2012. Lean in healthcare: the unfilled promise? *Social Science & Medicine* 74 (3) 364–371.
- Robert, G., 2011. Progress of the Productive Ward. *Nursing Times* 107 (7) 18–19.
- Robert, G., Morrow, E., Maben, J., Griffiths, P., Callard, L., 2011. The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England. *Journal of Clinical Nursing* 20 (7–8) 1196–1207.
- Rudge, T., 2013. Desiring productivity: nary a wasted moment, never a missed step. *Nursing Philosophy* 14 (3) 201–211.
- Salanova, M., Lorente, L., Chambel, M.J., Martínez, I.M., 2011. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. *Journal of Advanced Nursing* 67 (10) 2256–2266.
- Schaufeli, W.B., 2014. What is engagement? In: Truss, C., Alfes, K., Delbridge, R., Shantz, A., Soane, E. (Eds.), *Employee Engagement in Theory and Practice*. Routledge, Oxford.
- Schaufeli, W.B., Bakker, A.B., 2004. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior* 25 (3) 293–315.
- Schaufeli, W.B., Bakker, A.B., Salanova, M., 2006. The measurement of work engagement with a short questionnaire – a cross-national study. *Educational and Psychological Measurement* 66 (4) 701–716.
- Schaufeli, W.B., Janczur, B., 1994. Burnout among nurses – a Polish-Dutch comparison. *Journal of Cross-Cultural Psychology* 25 (1) 95–113.
- Schaufeli, W.B., Salanova, M., González-romá, V., Bakker, A.B., 2002. The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies* 3 (1) 71–92.
- Seppala, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., Schaufeli, W., 2009. The construct validity of the Utrecht Work Engagement Scale: multisample and longitudinal evidence. *Journal of Happiness Studies* 10 (4) 459–481.
- Shojania, K.G., Grimshaw, J.M., 2005. Evidence-based quality improvement: the state of the science. *Health Affairs* 24 (1) 138–150.
- Shuck, B., 2011. Integrative literature review: four emerging perspectives of employee engagement: an integrative literature review. *Human Resource Development Review* 10 (3) 304.
- Simpson, M.R., 2010. Development and psychometric evaluation of the Core Nurse Resource Scale. *Journal of Nursing Management* 18 (8) 1048–1059.
- Simpson, M.R., 2009a. Engagement at work: a review of the literature. *International Journal of Nursing Studies* 46 (7) 1012–1024.
- Simpson, M.R., 2009b. Predictors of work engagement among medical-surgical registered nurses. *Western Journal of Nursing Research* 31 (1) 44–65.
- Siriwardena, A.N., 2009. Engaging clinicians in quality improvement initiatives: art or science? *Quality in Primary Care* 17 (5) 303.
- Smith, J., Rudd, C., 2010. Implementing the productive ward management programme. *Nursing Standard* 24 (31) 45–48.
- Steed, A., 2012. An exploration of the leadership attributes and methods associated with successful lean system deployments in acute care hospitals. *Quality Management in Health Care* 21 (1) 48–58.
- Storm, K., Rothmann, L., 2003. A psychometric analysis of the Utrecht Work Engagement Scale in the South African police service. *South African Journal of Industrial Psychology* 29 (4) .
- Taylor, J., 2006. Productive ward. Stand by your bed. *The Health Service Journal* 116 (6029) 26–27.
- The Kings Fund, 2012. Leadership and engagement for improvement in the NHS: together we can. In: *Kings Fund Leadership Review 2012*. The Kings Fund, London.
- Ulrich, D., 1997. *Human Resource Champions: The Next Agenda for Adding Value and Delivering Results*. Harvard Business School Press, Boston.
- van den Broek, J., Bosellie, P., Paauwe, J., 2013. Multiple institutional logics in health care: Productive Ward: 'Releasing Time to Care'. *Public Management Review* 1–20.
- Walshe, K., 2009. Pseudoinnovation: the development and spread of healthcare quality improvement methodologies. *International Journal for Quality in Health Care* 21 (3) 153–159.
- Waring, J.J., Bishop, S., 2010. Lean healthcare: rhetoric, ritual and resistance. *Social Science & Medicine* (1982) 71 (7) 1332–1340.
- Warshawsky, N.E., Havens, D.S., Knafl, G., 2012. The influence of interpersonal relationships on nurse managers' work engagement and proactive work behavior. *The Journal of Nursing Administration* 42 (9) 418–425.
- Wefald, A.J., Downey, R.G., 2009. Construct dimensionality of engagement and its relation with satisfaction. *The Journal of Psychology* 143 (1) 91–111.
- White, M., Wells, J.G., Butterworth, T., 2014. The transition of a large-scale quality improvement initiative: a bibliometric analysis of the Productive Ward: Releasing Time to Care Programme. *Journal of Clinical Nursing*. <http://dx.doi.org/10.1111/jocn.12585> (published online first 20 March 2014).
- White, M., Wells, J.S.G., Butterworth, T., 2013. The Productive Ward: Releasing Time to Care™ – What we can learn from the literature for implementation. *Journal of Nursing Management*. <http://dx.doi.org/10.1111/jonm.12069> (published online first 18 June 2013).
- Wilson, G., 2009. Implementation of releasing time to care – the productive ward. *Journal of Nursing Management* 17 (5) 647–654.
- Wong, C.A., Spence Laschinger, H.K., Cummings, G.G., 2010. Authentic leadership and nurses' voice behaviour and perceptions of care quality. *Journal of Nursing Management* 18 (8) 889–900.
- Wright, S., McSherry, W., 2013. A systematic literature review of Releasing Time to Care: The Productive Ward. *Journal of Clinical Nursing* 22, 1361–1371.

Nursing Practice

Discussion

Productive ward

Keywords: Productive ward/Releasing Time to Care/Quality improvement/Impact review

• This article has been double-blind peer reviewed

The Productive Ward initiative celebrates its 10th birthday this year, and a growing body of literature reveals its benefits to patients and staff

How effective is Productive Ward?

In this article...

- › The developing academic literature on Productive Ward
- › Factors contributing to its uptake by healthcare organisations
- › Evidence of positive achievement using Productive Ward

Author Mark White is national lead for the productive ward and director at the nursing and midwifery planning and development unit, HSE South, Kilkenny Ireland.

Abstract White M (2015) How effective is Productive Ward? *Nursing Times*; 111: 8, 22-25

The Productive Ward: Releasing Time to Care initiative is probably the largest quality-improvement initiative involving nurses and ward-based teams in the UK and Ireland. The impact of the initiative has been well described, but there has been no robust systematic evaluation of its impact to date. This article reviews the abstracts and conclusions of 30 peer-reviewed articles and nine evaluation reports in relation to outputs, outcomes and impacts, discusses what the Productive Ward has delivered and whether the initiative will be sustained.

In 2015 the Productive Ward: Releasing Time to Care initiative will celebrate its 10th birthday. Designed to empower ward teams to identify areas for improvement, it gives front-line staff the information, tools, skills and time they need to regain control of their ward and the care they provide.

The initiative was developed in 2005 by the NHS Institute for Innovation and Improvement through the partnership of senior nurse leaders and improvement experts from industry. It was piloted and refined in four large NHS pilot site hospitals in 2006, and formally launched as a national NHS initiative in 2007. Productive Ward received positive attention and accolade from the professional nursing press during this period (Shepherd, 2009; Castleline, 2008; Taylor, 2006).

In May 2008, the government invested £50m to support the dissemination and implementation of the PW throughout England. This large-scale investment was provided in the absence of any real evidence of impact or robust evaluation. The initiative did, however, have widespread commitment from senior nursing leaders and full support for implementation through the NHSI. Modules and toolkits to guide implementation were provided free via the NHSI website and support team. Hospitals could enhance implementation through additional training and support packages. Since recent reports suggest that appetite for it is diminishing (White et al, 2014; Wright and McSherry, 2013) this article focuses on whether the PW initiative has delivered, and whether it will be sustained.

What is Productive Ward?

Since its initial pilot in 2006, PW has been extensively used to improve efficiency, patient safety and quality of care. Castleline has described how PW "empowers nurses to look at how their ward is organised and make changes that allow them to spend more time with patients" (Castleline, 2008). Robert et al (2011) highlighted that the initiative aimed to:

- Increase the proportion of time nurses spend in direct patient care;
- Improve experience for staff and patients;
- Make structural changes to the use of ward spaces to improve efficiency in terms of time, effort and money.

PW has also been described as a patient safety initiative (Dean, 2009), an improvement programme (Armitage and Hingham, 2011) and a large-scale quality-improvement

5 key points

1 Productive Ward is the largest quality-improvement initiative involving nurses

2 Research and evaluations have generally reported positive outcomes for patients and staff

3 Robust evidence of the impact of Productive Ward is relatively scarce

4 Interest in PW appears to be declining, with little recent uptake

5 PW may be a gateway to further quality improvement

BOX 1. FOCUS OF PW

- Improving clinical leadership by giving ward leaders methods of leading and helping their staff to deliver safer, more dignified care
- Empowering ward-based teams to take ownership and control of ward-based processes
- Developing stronger, more confident front-line leaders
- Creating a ward-based culture of measurement and improvement
- Applying lean/improvement methods and tools in a ward setting
- Encouraging an entire patient focus for all of the changes or improvements
- Improving team-manager relationships through collaborative working and corporate engagement

programme (White et al, 2014b; Morrow et al, 2012). Some authors have described and viewed PW through a practice development lens (Kemp et al, 2011).

In the main, PW is best described as a long-term programme, not a one-off exercise, which can deliver long-term sustainable change and improvement. It is a modular, self-directed learning programme that focuses on a variety of quality improvement activities (Box 1).

Impacts, outcomes and outputs

A full review of the literature identified research papers, case-study reports and evaluations related to PW or its implementation, that reported impact, outcomes or outputs. The review was limited to material published between January 2006 and October 2014. The search methods, databases used and selection criteria were identical to a bibliometric analysis performed previously (White et al, 2014a). Four NHSI-commissioned evaluation reports were excluded as previous authors (Wright and McSherry, 2014) have highlighted a possible reporting bias. In total, 30 peer-reviewed papers and nine evaluation reports were examined and the reported impacts, outcomes and outputs from the abstracts and conclusions recorded (Table 1).

Results

Despite concerns raised in previous reviews (White et al, 2014; Wright and McSherry, 2013), interest in PW, in terms of publications, continues to grow, with seven peer-reviewed publications in 2014 alone. The vast majority of papers and evaluation reports examined reported positive experiences, impact, outcomes and outputs. Five (12.8%) papers reported negative impact, outcomes or outputs (highlighted in bold in Table 1). Positive outcomes reported varied widely: some of the most common are listed in Box 2.

Discussion and key questions

PW was promoted by its creators and the nursing and healthcare press as the panacea or "magic bullet" for all nursing and ward-based woes. However, following the closure of the NHSI in 2012, and its merger with the NHSIQ in 2013, interest in PW declined. This drop in momentum has been sensed throughout the UK NHS and in other countries where the initiative has been adopted, with a reduced number of reviews and reports in the nursing and healthcare press. The opposite can be said in relation to the academic literature, which has shown an increase in

BOX 2. POSITIVE OUTCOMES REPORTED

- Improved patient care times
- Ward improvements
- Staff engagement
- Improved team working
- Leadership development
- Empowerment
- Positive change management
- Ward improvements

peer-reviewed papers published in recent years (White et al, 2014a). Much of the recent communication from NHSIQ is that it is "business as usual". However, the level of interest from new or start-up PW sites in the NHS or internationally is less obvious, and this information is not readily available from NHSIQ.

Has PW delivered?

The results from this review highlight that, in many ways, PW has delivered. The initiative has been reported as being generally successful, with ample accounts of extremely positive impacts, outcomes and outputs. The small number of academic papers, research reports and robust evidence available suggest it has achieved and delivered many improvements and has improved both healthcare quality and patient safety. Most importantly it appears to have created a culture and an appetite for improvement that has been absent from nursing for many years. The organisations that have actively managed PW have reported achievements and improvements.

Some reports have criticised the lack of impact data, empirical evidence and evaluative research to substantiate PW. The small number of peer-reviewed publications identified in this article highlights that the research and evidence base in relation to PW is in its infancy and still developing. Accepting that there is a potential positive reporting bias in the literature (Wright and McSherry, 2013) for this improvement initiative (like other improvement initiatives), there is an onus on the nursing profession to contribute to the literature and to capture the data and evidence in relation to ward-based quality improvement initiatives such as PW. The National Institute for Health Research (NIHR) recently identified PW as an example of initiatives where there has been "no systematic evaluation of impact". It is only when robust evidence is available from large-scale, independent impact-evaluation studies that we will be in a

position to judge the effectiveness of PW.

For those who have viewed this initiative through an efficiency or cost-savings lens, PW has probably disappointed. Analysis of the amount of investment required to achieve reported impacts, outcomes and outputs has yet to be made available. However, there is little doubt that any large-scale expected cost-savings have not materialised, or at least are not reported in any consistent systematic way.

While there are certainly reports of small-scale efficiencies at ward level, the introduction of PW has highlighted that quality improvement requires long-term investment. It is difficult for nurses and ward-based teams to find the time in busy clinical environments for improvement activities without the enabling resources. Some of the articles examined in this review have highlighted the tensions experienced by ward teams wanting to improve and not being able to find the time. The experience in Ireland to date confirms that the sites that have invested the most, in terms of financial and human resources, have yielded the most improvements.

For the majority of staff (nurses and ward-based teams) implementing PW, it has never been about efficiency or cost-saving. Their focus has been on improving patient and staff experience, and the ward environment and processes. In this regard, reading the reported impacts, outcomes and outputs highlighted in this review would indicate that PW has indeed delivered as nurses and ward teams intended.

Will PW be sustained?

To answer the question whether PW will be sustained, one needs to ask, or at least get a sense of, whether PW is still being used in many of the organisations that adopted it. Without the data from NHSIQ or any national reporting system, this is impossible to gauge. Experience in Ireland indicates it is not a simple matter to decide whether a site is a PW site or not. When does one decide that a ward or clinical environment is not on a journey of improvement? Some of the experience in Ireland suggests that some wards take an "à la carte" approach to PW, deciding to just use some of the tools and leave out elements that may not suit the ward at that time. This does not necessarily make them any less a PW site than a ward that has implemented the initiative "as prescribed". Quality improvement initiatives such as PW are extremely complex social interventions (Øvretveit, 2014), and the experiences of implementation in Ireland to date demonstrate that the momentum of PW and

Appendix A: Peer Reviewed Publications from this study to date

Nursing Practice Discussion

TABLE 1. PEER-REVIEWED PAPERS AND EVALUATION REPORTS

Author(s)	Findings
Allsop et al, 2009	Increased patient care times, ward improvements
Armitage and Hingham, 2011	Ward improvements, motivation, empowerment
Avis, 2011	Staff engagement, stronger patient focus, increased use of measurement
Avis, 2009	Ward improvements, positive staff attitudes, engagement
Blakemore, 2009	Empowerment, improved leadership
Bloodworth, 2011	Culture change for improvement, increased direct patient care times
Bloodworth, 2009	Gives control back to staff, involves the whole organisation
Brunoro-Kadash and Kadash, 2013	Improved patient safety, staff engagement, leadership opportunities, affirmative organisational cultural shift
Burston et al, 2011	Converging different strategies should be considered
Coutts, 2010	Positive change management, poor corporate leadership
Davis and Adams, 2012	Positive impact on staff attitudes, morale, development
Foley and Cox, 2013	Improved performance, patient safety, measurements, organisational culture
Foster et al, 2009	Increased patient care times, reduced infection rates
Grant, 2008	Lack of medical colleague involvement, engagement
Gribben et al, 2009	Valuable tools, improved communication and values
Health Quality Council, 2011	Ward improvements, engaged and motivated staff, more improvement and measurement training needed
Healthcare Improvement Scotland, 2013	Increased patient care times, efficiency savings, ward improvements
Kemp et al, 2011	Improved patient care times
Lennard, 2012	Improved teamworking
Morrow et al, 2014	Develops leadership skills
Morrow et al, 2012	Positive leadership, improved social and work environment
NHS Scotland, 2008	Increased patient care times, improved morale
NHSI, 2012	Improved patient care times, patient safety, quality
NHSI, 2009	Increased patient care times, efficiencies, time saved, reduced falls, reduced waste, ward improvements
Robert, 2011	Lessons for spread, communication, champions
Robert et al, 2011	Improved teamworking, staff experience, leadership
Rudge, 2013	Criticised for creating productivity as a desired state
Smith and Rudd, 2010	Improved absenteeism, reduced complaints, ward organised
Van den Broek, 2014	Confusing communication, poor long-term engagement
Van Bogaert et al, 2014	Improved teamworking, quality of care and job outcomes
White et al, 2014a	Reducing bibliometric interest in the initiative
White et al, 2014b	Positive work engagement (vigour, absorption, dedication)
White et al, 2013a	Seven key characteristics for implementation identified
White et al, 2013b	Leadership, empowerment, engagement
White and Waldron, 2014	Empowerment, leadership, engagement
Wilson, 2009	Positive patient satisfaction, improved patient care times, safety
Wright and McSherry, 2014	Enthusiasm, empowerment, improved team working, increased morale, patient care times
Wright and McSherry, 2013a	Improved patient safety, improved patient care times, patient/staff experience and financial savings
Wright and McSherry, 2013b	Improved patient care times
Note: comments in bold indicate less positive findings. Full reference list available on request from the author: whitson@eircom.net	

Appendix A: Peer Reviewed Publications from this study to date

quality improvement activity ebbs and flows in accordance with ward life. In the Irish case, some PW sites have temporarily "suspended" PW activity to deal with the various crises that routinely affect wards and organisations.

PW, such as other quality improvement interventions, is dependent on context and implementation. However, some reports have already started to identify contextual and implementation characteristics that appear to affect the success of the initiative and how it is sustained (White et al, 2014c). These include:

- Effective/engaging communication;
- Enabling front-line managers;
- Access to training and support;
- Project management;
- Leadership;
- Corporate engagement and support;
- A commitment to human and financial support.

As the literature develops around initiatives like PW and their implementation, so will our understanding develop of "what works" or at the very least "what might work" with this type of intervention.

Whether PW remains contemporary will depend on the NHSIQ and how it continues to market the initiative both in the NHS and internationally. It also depends on the intentions and adaptability of the organisations that have already adopted it. There are signs internationally, and within some NHS trusts, that PW has served its purpose as a quality improvement "opiate", paving the way for organisation-wide lean initiatives. PW could also be consolidated into organisation-specific quality improvement programmes, as observed in Salford Royal Foundation Trust.

Conclusion

The evidence (however little) is that experiences of PW are overwhelmingly positive. Research interest in this relatively new ward-based initiative is gathering pace and the peer-reviewed PW literature is growing. In the absence of robust evidence, nurses must decide whether PW is the vehicle for delivering front-line, ward-based improvement. Waiting for more evidence will result in missed opportunities to improve our clinical environments, to improve the patient's experience and to engage fatigued ward teams by allowing them to innovate and create solutions. The PW initiative is well reported to deliver ward-based improvements and should therefore be viewed, accepted and celebrated for what it has achieved and can achieve as a nurse-led, ward-based quality improvement initiative.

If PW had political aims or corporate intentions for the delivery of efficiencies and cost savings, it certainly appears to have under-performed. However, if the intention was to deliver ward-based quality improvements and cultivate a culture of improvement among ward-based teams, PW has delivered for many health-care organisations. **WT**

Reference

- Allcrop P et al (2009) Productive Ward 2: practical advice to facilitators implementing the programme. *Nursing Times*; 106: 19-21.
- Ambridge C, Hingham P (2010) The Productive Ward: encouraging teambuilding and innovation. *Nursing Management - UK*; 16: 28-31.
- Avila K (2011) Looking Back, Thinking Forward: Insight and Recommendations From Health Region Leadership of Creating a Culture of Continuous Performance Improvement in Saskatchewan. Saskatchewan Health Quality Council.
- Avila K (2009) Releasing Time to Care in Saskatchewan: Promising Signs that Programme Engages Clinicians. Saskatchewan Health Quality Council.
- Ballemore S (2009) How productive wards can improve patient care. *Nursing Management*; 16: 14-18.
- Bloodworth K (2007) The Productive Ward and the productive operating theatre. *Journal of Perioperative Practice*; 21: 97-103.
- Bloodworth K (2009) Productive Ward 1: implementing the initiative across a large university teaching hospital. *Nursing Times*; 106: 22-5.
- Brunoro-Kadash C, Kadash M (2010) Time to care: a patient-centred quality improvement strategy. *Leadership in Health Services*; 26: 220-223.
- Burton S et al (2011) A discussion of approaches to transforming care: contemporary strategies to improve patient safety. *Journal of Advanced Nursing*; 67: 2488-2495.
- Castledine G (2008) Increasing the time nurses spend on patient care. *British Journal of Nursing*; 17: 801.
- Coutts J (2010) Releasing time to care. *Healthcare Quarterly*; 12: 25-33.
- Devlin J, Adams J (2012) The "Releasing Time to Care: Productive Ward" programme: participant perspectives. *Journal of Nursing Management*; 20: 354-360.
- Dean E (2009) Productive ward measures see hospital's mortality rates plummet. *Nursing Standard*; 24: 15: 8.
- Foley B, Cox A (2010) Work Organisation and Innovation. Case study: Nottingham University Hospitals NHS Trust, UK. Dublin: Eurofound.
- Forster S et al (2009) Rolling out Productive Ward foundation modules across a hospital trust. *Nursing Times*; 106: 28-30.
- Geart P (2008) The productive ward round: a critical analysis of organisational change. *International Journal of Clinical Leadership*; 16: 193-201.
- Gribben et al (2009) Releasing Time to Care Evaluation Report. Belfast: Belfast Health and Social Care Trust, Productive Ward.
- Health Quality Council (2010) Releasing Time to Care: the Productive Ward, Long-term Care Pilot Project Report. Saskatchewan: Health Quality Council.
- Healthcare Improvement Scotland/NHS Education for Scotland (2013) Releasing Time to Care. Edinburgh: NHS/NHSQIS.
- Kemp P et al (2011) How to turn innovations into everyday practice. *Mind/Health Practice*; 15: 2, 20-24.
- Leonard C (2012) How the Productive Ward scheme gives staff more time to care. *Mind/Health Practice*; 15: 30-33.
- Morrow et al (2014) Exploring the nature and impact of leadership on the local implementation of The Productive Ward: Releasing Time to Care. *Journal of Health Organization and Management*; 28: 154-176.
- Morrow E et al (2012) Implementing large-scale

- quality improvement: lessons from The Productive Ward. *Releasing Time to Care. International Journal of Health Care Quality Assurance*; 25: 4, 237-253.
- NHS Institute for Innovation and Improvement (2012) Putting Patients First: The Productive Series. Coventry: NHSQIS/NT/NTProductiveSeries
- NHS Institute for Innovation and Improvement (2009) The Productive Ward - Quality and Productivity example. Coventry: NHSQIS/NT/NTProductiveWardQuality
- NHS Scotland (2008) NHS Scotland, Releasing Time to Care Evaluation. Edinburgh: NHS Scotland.
- Shvetz J (2010) Understanding the conditions for improvement: research to discover which context influences affect improvement success. *BMJ Quality and Safety*; 20: 5, 88-93.
- Robert G (2011) Progress of the Productive Ward. *Nursing Times*; 107: 18-19.
- Robert G et al (2011) The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England. *Journal of Clinical Nursing*; 20: 1996-2007.
- Rudge T (2013) Dealing productivity: vary a wasted moment, never a missed step! *Nursing Philosophy*; 14: 201-211.
- Shepherd S (2009) This is a phenomenon. *Nursing Times*; 106: 9, 502-503.
- Smith J, Rudd C (2010) Implementing the Productive Ward management programme. *Nursing Standard*; 24: 45-48.
- Taylor J (2006) Productive ward. Stand by your bed. *The Health Service Journal*; 116 (6029): 26-27.
- Van den Broek J et al (2014) Multiple institutional logics in health care: Productive Ward: Releasing Time to Care. *Public Management Review*; 16: 1-20.
- Van Rogaert et al (2014) The Productive Ward program: a longitudinal multilevel study of nurse-perceived practice environment, burnout, and nurse-reported quality of care and job outcomes. *Journal of Nursing Administration*; 44: 452-463.
- White M et al (2014a) The initiation of a large-scale quality improvement initiative: a bibliometric analysis of the Productive Ward: Releasing Time to Care Programme. *Journal of Clinical Nursing*; 23: 2494-2495.
- White M et al (2014b) The impact of a large-scale quality improvement programme on work engagement: Preliminary results from a national cross-sectional survey of the "Productive Ward". *International Journal of Nursing Studies*; 51: 1634-1643.
- White M et al (2013a) The Productive Ward: Releasing Time to Care - what we can learn from the literature for implementation. *Journal of Nursing Management*; 21: 994-995.
- White M et al (2013b) Leadership, a key element of quality improvement in healthcare: Results from a literature review of "Lean Healthcare" and the Productive Ward: Releasing Time to Care initiative. *International Journal of Leadership in Public Services*; 3: 354, 90-106.
- White M, Waldron M (2014) Effects and impacts of Productive Ward from a nursing perspective. *British Journal of Nursing*; 23: 8, 489-496.
- Wilson G (2009) Implementation of releasing time to care - the productive ward. *Journal of Nursing Management*; 17: 647-654.
- Wright S, McSherry W (2014) Evaluating the Productive Ward at an acute NHS trust: experience and implications of releasing time to care. *Journal of Clinical Nursing*; 23: 13-14, 1866-1876.
- Wright S, McSherry W (2013a) A systematic literature review of Releasing Time to Care: The Productive Ward. *Journal of Clinical Nursing*; 22: 9-10, 150-171.
- Wright S, McSherry W (2013b) How much time do nurses spend on patient care? *Nursing Times*; 109: online issue.

For more on this topic go online...

- Designing wards to release time to care
- [Bit.ly/NTProductiveWard](http://bit.ly/NTProductiveWard)



Appendix B: Phase 1 Project Plan and Terms of Reference

Project Plan/Gantt Chart for Phase 1 PW roll-out

	JANUARY 2012					FEBRUARY				MARCH				APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
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Implementation Group meetings																																																				
Area Coordinator meetings	x				x				x				x				x				x				x				x				x				x				x				x							
A/C telephone calls		x					x		x		x		x																																							
Project Managers forum																																																				
Site visits		x					x				x				x				x				x				x				x				x				x				x									
Skills assessment / training needs							x						x																																							
Rollout assessment																																																				
Reporting points																																																				
Communication	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x							
Evaluation																																																				

Appendix B: Phase 1 Project Plan and Terms of Reference



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Office of the Nursing & Midwifery Services Director
Quality and Clinical Care Directorate
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21st January 2011

Re: Introduction of the Rollout on the Productive Series

Dear Director,

I am writing to you to let you know of emerging plans to support the roll out of Productive Series sites nationally. The Quality and Clinical Care Directorate (QCCD) and the Office of the Nursing and Midwifery Services Director (ONMSD) are committed to providing a co-ordinated and supportive approach to the national rollout of the Productive Series.

As part of this process, a National Advisory Group is currently being established to provide advice and support on the strategic roll out and evaluation of the productive series within a National Clinical Programme context. The introduction of the productive series will occur initially in acute hospital sites where clinical programmes are being implemented in 2011. It is envisaged that a process of consultation with Directors of Nursing/Midwifery and the senior management teams will occur to oversee the productive series sites when The National Advisory Group is established. I will circulate documentation/plans in relation this initiative, as they develop.

I wish to take this opportunity to thank you for your support regarding the Clinical Programmes to date.

Yours sincerely,

Handwritten signature of Michael Shannon in black ink.

Mr Michael Shannon
Interim Director,
Nursing and Midwifery Services

Handwritten signature of Dr. Barry White in blue ink.

Dr. Barry White
National Director,
Clinical Strategy & Programmes

Appendix B: Phase 1 Project Plan and Terms of Reference

HSE Productive Series National Advisory Group TOR

The Productive Series is a group of programmes introduced by the NHS Institute of Innovation and Improvement to help Healthcare teams redesign and streamline the way that they work, releasing more time to care for patients and resulting in significant demonstrable improvements in quality, patient care and efficiency.

Purpose

The function of the National Advisory group is to strategically explore and support the development and enablement of the Productive Series in HSE/Voluntary sites.

Objectives

1. Assure a strategy and structure that provides a facilitative national context to aid all those who wish to implement the Productive series in HSE/Voluntary sites
2. Ensure a standardised, cohesive and multi-disciplinary approach for the National roll-out of the Productive Series in HSE/Voluntary sites.
3. Ensure the roll-out of the Productive series in HSE funded sites congruent with a National Clinical Programme context.
4. Formally agree the project and roll-out plan with the National Implementation group.
5. To ensure the project is implemented within the agreed timeframe.
6. Advise National Implementation Group in relation to strategic decisions to support the role out of the National Productive Series Programme
7. Agree and support an evaluation of the implementation of the productive series that will be conducted by WIT/HSE/NHSI Fellow.
8. Agree & Support all relevant communication methods and strategy in relation to the rollout of Productive Series Nationally.
9. Review impact of developments on a regular (three-monthly) basis.

These Terms of reference will be reviewed periodically to reflect the developmental nature of this initiative.

- ◆ Communication in relation to all aspects of this initiative will be filtered through the advisory group
- ◆ Minutes will be circulated to the group promptly after each meeting and various circulation methods explored
- ◆ The Quorum for a meeting is agreed as being 60% of the group membership and a varied representation.

Appendix B: Phase 1 Project Plan and Terms of Reference

HSE Productive Series National Implementation Group

The Productive Series is a group of programmes introduced by the NHS Institute of Innovation and Improvement to help Healthcare teams redesign and streamline the way that they work, releasing more time to care for patients and resulting in significant demonstrable improvements in quality, patient care and efficiency.

Purpose: The function of the National Implementation Group is to provide leadership, direction, expertise, and project support for Productive rollout sites nationally.

Objectives:

1. Ensure revision, strategy and desired outcomes set by the national advisory group are achieved in the desired timeframes.
2. Provide leadership direction, coaching and support for the Area Coordinators and local site facilitators.
3. Act as a credible source for expert advice and reference for the productive series and the project as a whole.
4. Act a conduit for information, advice and guidance from both the NHS Institute and the HSE/WIT/NHS Fellow.
5. Design Local and are Project Plans for the planning, implementation and evaluation of the productive rollout with the 'Area Coordinators.
6. Prepare regular updates and metrics for the national Advisory Group.
7. Ensure that sites recruited for each 'phase' of the initiative are 'prepared' and 'ready' for engagement.
8. Update the national Advisory group on a regular basis.
9. Prepare promotional, marketing and communication information on the initiative and its progress as required.
10. Maintain a representative, objective view of service need in regard to this initiative by regularly reviewing Implementation group membership and expanding and contracting membership as required, to reflect the 'organic' needs of implementation.

These Terms of Reference will be reviewed on a regular basis as the project develops to reflect the evolving nature of this initiative.

Appendix C: Readiness Assessment V1

Critical Success Factors					
	A	B	C	D	Self-assessment
<i>Executive commitment and support</i>	Management team fully supportive Organisation lead identified Organisation lead anticipated to be proactive in ensuring resources	Management team expected to support the programme but need further information	Management team not expected to actively support the programme but want to go ahead	No Management involvement or support	
<i>Strategic alignment</i>	Clear links between identified ward/unit and national clinical care programmes	Some links between identified ward/unit and national clinical care programmes	Links between identified ward/unit and national clinical programme not explicit but not in conflict	No alignment between identified ward/unit and national clinical care programme	
<i>Programme Lead – Practice Development/ Local lead</i>	Experienced practice development personnel available to support the programme with allocated time and responsibility	Agreement to appoint or train a dedicated lead	No 'dedicated' service lead or Practice Development personnel but 'ward manager' has service improvement skills	No Practice Development/service improvement skills available to support the programme	
<i>Programme Lead – Ward Manager</i>	Full time secondment of 'Ward Manager' to run the programme	'Ward Manager' identified to run the programme as part of substantive role with 'dedicated' Practice Development personnel/dedicated lead	'Ward Manager' identified to run the programme as part of substantive role with no 'dedicated' Practice Development/dedicated lead	No 'Ward Manager' named as lead for programme	

Appendix C: Readiness Assessment V1

<i>xperience of large scale change programme</i>	Successfully implemented large scale improvement/productive programme within the organisation	Already used 'lean methodology' for change programmes within the organisation	Already implemented some changes in the identified ward that are similar to Productive ward	Ward/site has no experience of change programmes	
<i>Measures</i>	<p>Management team request and review a balanced set of key measures related to the nominated ward and regularly and take action</p> <p>Data analyst available within the organisation with experience and use of Audit data.</p> <p>Ward team have analyst support providing information across the balanced set of measures</p> <p>Practice Development personnel/dedicated lead have good understanding of using measurement for improvement and metrics.</p>	<p>Management team request information on key measures related to the nominated ward</p> <p>Data analysis available within the organisation but no experience of using Audit data.</p> <p>Ward team receive information on key metrics but currently have no analyst support</p> <p>Key Metric champion(s) identified to support and develop metrics work within the MDT</p>	<p>Management team receive information for minimum number of measures related to the nominated ward e.g. admissions/discharges/falls</p> <p>Information Department collect ward data and can retrieve limited data e.g. admissions/discharges/fall</p> <p>Ward team receive limited information on key metrics e.g. admissions/discharges/falls from the Information Department</p>	<p>Management team do not currently receive any reports containing information on key measures related to the nominated ward</p> <p>No access to Information Department and unable to retrieve information</p> <p>Ward team currently receive no information</p>	
<i>Showcase Ward</i>	Single specialty Ward/Unit (minimal variation of consultant teams)	Many specialties using the ward/unit but able to identify distinct 'pilot' area and pilot team	Many specialties using ward/unit but able to identify 'pilot' team	Many specialties using ward/unit and unable to identify distinct pilot area or team	

Appendix C: Readiness Assessment V1

	<p>Stable staff base with adequate cover to allow for 'time out'</p> <p>Ward Manager enthusiastic and proactive in supporting Productive Ward programme</p> <p>Clinical leads (Consultants) engaged and actively supporting the Productive Ward programme and willing to engage colleagues</p> <p>Committed champions from all the professional groups</p> <p>No major performance issues. No external issues affecting ward/unit activity e.g. bed capacity, HDU availability etc.</p>	<p>Adequate staff cover to allow for 'time out'</p> <p>Ward manager proactive in supporting Productive Ward programme</p> <p>Clinical leads (Consultants) engaged and supportive of the Productive Ward programme</p> <p>Committed champions from most professional groups</p> <p>Minor performance issues and / or external issues affecting ward/unit – team fully aware of 'current state' and underlying reasons</p>	<p>Vacancy issues likely to impact on available time to work on Productive ward modules</p> <p>Nurse Manager cautious in supporting Productive Ward</p> <p>Clinical leads (Consultants) aware of the programme/ cautious response</p> <p>Champions from some professional groups</p> <p>Moderate performance issues and / or external issues affecting ward/unit activity – team fully aware of 'current state'</p>	<p>Vacancy issues likely impact significantly on available time to work on Productive Ward modules</p> <p>Nurse Manager resistant to Productive Ward</p> <p>Clinical leads (Consultants) resistant and likely to be negative towards the Productive Ward programme</p> <p>Low number of champions identified</p> <p>Significant performance issues and / or external issues affecting ward/unit activity with no real understanding of 'current state'</p>	
Next steps	If all A's – get started, you are expected to be successful	If any B's– consider any actions to improve your chance of success	If any C's– actions are recommended to improve your chance of success	If any D's – do not start this programme without further actions	

Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Office of the Nursing & Midwifery Services Director
Clinical Strategy & Programmes Directorate
Room 250
Dr Steevens' Hospital
Dublin 8.

Tel: +353-1-6352381
Fax: +353-1-6352509

1 October 2012

Re: Productive Ward Project

Dear RDO,

The Productive Ward - Releasing Time to Care Project, which commenced in December 2011, is making great strides with improvements in each of the pilot sites. Initial examples include: reducing absenteeism, streamlining stock and pharmacy supplies, reducing falls, saving thousands of hours of nursing time which are re-invented into time at the bedside and other nursing quality initiatives which improve patient experience. (A 12 month progress report will be finalised in January 2013).

The Clinical Strategy and Programmes Directorate and the Office of the Nursing and Midwifery Services Director are committed to this initiative and we have agreed that the training and updates required for these 18 sites should continue as planned in October 2012. This will require approval for front-line staff from the PW sites to travel to training venues.

We have also agreed that we continue to maintain momentum with Phase 2 site recruitment and training later this year. This will require new sites participating in this project to travel to other sites or central locations for training/updates. This training is provided by the NHSI and was pre-arranged earlier this year. We would therefore appreciate if your full support could be given to the participating sites and staff to facilitate this training.

Thank you for your support and commitment with this initiative to date and we look forward to seeing frontline staff at the NHSI training events in October and December 2012.

Yours sincerely,

Yours sincerely,

Dr. Michael Shannon
Nursing & Midwifery Service Director
Assistant National Director of Clinical
Strategy and Programmes Directorate
HSE

Dr. Barry White
HSE National Director of Clinical
Strategy and Programmes

Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2

Instructions for completing the ‘Readiness’ Self-Assessment for the Productive Ward-Releasing Time to Care: Critical Success Factors

Executive Engagement and Senior Management Team support of the Project is Essential

Self-assessment must be completed collaboratively with contributions from all levels of nursing/midwifery, including the proposed ward team and up to the DON/DOM. Wherever possible, the multidisciplinary team should be involved.

Where indicated, provide names of personnel with responsibility for Productive Ward programme implementation

Provide detailed information and evidence indicating how each criterion will be achieved

The chosen service area will be expected to be a ‘Showcase’ site for the Productive Ward programme in your organization, therefore staff engagement in the initiative is essential; this must be taken into consideration when identifying an area for the project.

This self –assessment must reflect the readiness of the organization and its management team as a whole and not simply the readiness of the identified service area (i.e. do services such as Technical Services, Catering, Housekeeping etc. understand what the initiative is about and are they willing to support implementation)

This change management project adopts a “bottom–up and top-enabled” approach. It is essential that mechanisms to empower front line staff, without a power-base are made explicit from the onset.

Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2

Productive Ward-Releasing Time to Care™: Critical Success Factors						
	A	B	C	D	Self-Assessment Score (A,B,C,D)	Evidence to support self-assessment score
<i>Executive commitment and support</i>	<p>Management team fully supportive</p> <p>Organisation lead identified</p> <p>Organisation lead anticipated to be proactive in ensuring resources and 'unblocking' any process issues</p>	Management team expected to support the programme but need further information	Management team not expected to actively support the programme but want to go ahead	No Management involvement or support		<p><i>Include an example, Eg:: Provide detail as to how exec sponsor will be involved e.g. steering group, ward visits, accessible to project lead, advocate for the PW, available to 'unblock' process issues as they arise etc</i></p>
<i>Strategic alignment</i>	Clear links between identified ward/unit and national clinical care programmes	Some links between identified ward/unit and national clinical care programmes	Links between identified ward/unit and national clinical programme not explicit but not in conflict	No alignment between identified ward/unit and national clinical care programme		
<i>Programme Lead – Practice Development/Local lead</i>	Experienced practice development personnel available to support the programme with allocated time and responsibility.	Agreement to appoint or train a dedicated lead	No 'dedicated' service lead or Practice Development personnel but 'ward manager' has service improvement skills	No Practice Development/service improvement skills available to support the programme		

Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2

<i>Programme Lead – Ward Manager</i>	Full time secondment of 'Ward Manager' to run the programme	'Ward Manager' identified to run the programme as part of substantive role with 'dedicated' Practice Development personnel/dedicated lead	'Ward Manager' identified to run the programme as part of substantive role with no 'dedicated' Practice Development/dedicated lead	No 'Ward Manager' named as lead for programme		
<i>Engagement with AHPs</i>	<i>Heads of AHP Departments engaged and actively supporting the Productive Ward programme and willing to engage their staff and colleagues</i>	<i>HODs engaged and supportive of the Productive Ward programme</i>	<i>HODs aware of the Productive Ward programme but cautious response</i>	<i>HODs resistant and likely to be negative towards the productive Ward programme</i>		
<i>Engagement with Support Services e.g. Technical Services, Catering, Pharmacy etc</i>	<i>Heads of Departments (HODs) engaged and actively supporting the Productive Ward programme and willing to engage their staff and colleagues</i>	<i>HODs engaged and supportive of the Productive Ward programme</i>	<i>HODs aware of the Productive Ward programme but cautious response</i>	<i>HODs resistant and likely to be negative towards the productive Ward programme</i>		
<i>Experience of large scale change programme</i>	Successfully implemented large scale improvement/ productive programme within the organisation	Already used 'lean methodology' for change programmes within the organisation	Already implemented some changes in the identified ward that are similar to Productive ward	Ward/site has no experience of change programmes		
<i>Measures</i>	Management team request and review a balanced set of key measures related to the	Management team request information on key measures related to the nominated ward	Management team receive information for minimum number of measures related to the nominated ward e.g.	Management team do not currently receive any reports containing information on key		


Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2

	<p>nominated ward and regularly and take action</p> <p>Data analyst available within the organisation with experience and use of Audit data.</p> <p>Ward team have analyst support providing information across the balanced set of measures</p> <p>Practice Development personnel/dedicated lead have good understanding of using measurement for improvement and metrics.</p>	<p>Data analysis available within the organisation but no experience of using Audit data.</p> <p>Ward team receive information on key metrics but currently have no analyst support</p> <p>Key Metric champion(s) identified to support and develop metrics work within the MDT</p>	<p>admissions/discharges/falls</p> <p>Information Department collect ward data and can retrieve limited data e.g. admissions/discharges/fall</p> <p>Ward team receive limited information on key metrics e.g. admissions/discharges/falls from the Information Department</p>	<p>measures related to the nominated ward</p> <p>No access to Information Department and unable to retrieve information</p> <p>Ward team currently receive no information</p>		
<i>Showcase Ward</i>	<p>Single specialty Ward/Unit (minimal variation of consultant teams)</p> <p>Stable staff base with adequate cover to allow</p>	<p>Many specialties using the ward/unit but able to identify distinct 'pilot' area and pilot team</p> <p>Adequate staff cover to allow for 'time out'</p>	<p>Many specialties using ward/unit but able to identify 'pilot' team</p> <p>Vacancy issues likely to impact on available time to</p>	<p>Many specialties using ward/unit and unable to identify distinct pilot area or team</p> <p>Vacancy issues likely impact significantly on</p>		

Appendix D: Phase 2 Expressions of Interest & Readiness Assessment V2

	<p>for 'time out'</p> <p>Ward Manager enthusiastic and proactive in supporting Productive Ward programme</p> <p>Clinical leads (Consultants) engaged and actively supporting the Productive Ward programme and willing to engage colleagues</p> <p>Committed champions from all the professional groups</p> <p>No major performance issues. No external issues affecting ward/unit activity e.g. bed capacity, HDU availability etc</p>	<p>Ward manager proactive in supporting Productive Ward programme</p> <p>Clinical leads (Consultants) engaged and supportive of the Productive Ward programme</p> <p>Committed champions from most professional groups</p> <p>Minor performance issues and / or external issues affecting ward/unit – team fully aware of 'current state' and underlying reasons</p>	<p>work on Productive ward modules</p> <p>Nurse Manager cautious in supporting Productive Ward</p> <p>Clinical leads (Consultants) aware of the programme/ cautious response</p> <p>Champions from some professional groups</p> <p>Moderate performance issues and / or external issues affecting ward/unit activity – team fully aware of 'current state'</p>	<p>available time to work on Productive Ward modules</p> <p>Nurse Manager resistant to Productive Ward</p> <p>Clinical leads (Consultants) resistant and likely to be negative towards the Productive Ward programme</p> <p>Low number of champions identified</p> <p>Significant performance issues and / or external issues affecting ward/unit activity with no real understanding of 'current state'</p>		
Next steps	If all A's – get started, you are expected to be successful	If any B's– consider any actions to improve your chance of success	If any C's– actions are recommended to improve your chance of success	If any D's – do not start this programme without further actions	Total A's: Total B's: Total C's: Total D's:	

Appendix E: Monthly Reporting Template V1

Cavan General Hospital	Our Lady of Lourdes Hospital	Beaumont Hospital	Rotunda Hospital	Coombe Hospital	St Vincent's Hospital	Tullamore General Hospital	Portlaoise General Hospital	South Tipperary General	Waterford Regional Hospital	South Infirmary Hospital	Cork Univ. Maternity Hospital	St. John's Hospital Limerick	Mid-Western Regional	Sligo General Hospital	Letterkenny General Hospital	Our Lady's Hospital Manorhamilton	
																	
																	←
Definitions for RAG status Colour Coding																	
In Good Shape – project going according to plan specified in scope statement							Moderate Concern – issues exist and completion will be behind if actions are not taken					Critical – urgent attention needed- key milestones will be or have been missed schedule delayed immediate action required at nation level					
Overall Key Progress since last report										New Key National Issues (Ref No refers to number on Issue Log)							
<u>Cavan Gen. Hosp.:</u>																	
<u>Our Lady of Lourdes:</u>																	
<u>Beaumont Hosp.:</u>																	
<u>Rotunda Hosp.:</u>																	
<u>Coombe Hosp.:</u>																	
<u>St. Vincent's Hosp.:</u>																	
<u>Tullamore Gen:</u>																	
<u>Portlaoise Gen:</u>																	
<u>South Tipp. Gen.:</u>																	
<u>Waterford Regional:</u>																	

Appendix E: Monthly Reporting Template V1

<u>South Infirmary:</u>
<u>Cork Univ. Maternity Hosp.:</u>
<u>St. John's Limerick</u>
<u>Mid-Western Reg. Hosp.:</u>
<u>Sligo Gen. Hosp.:</u>
<u>Letterkenny Gen. Hosp.:</u>
<u>Our Lady's Hosp. Manorhamilton:</u>

Appendix E: Monthly Reporting Template V1

Productive Ward Summary Status Dashboard Report –

Overall summary of next key actions –

Site	No	Planned Next Key Actions	Responsible	Due Date
Cavan Gen	1			
Our Lady's of Lourdes Drogheda	2			
Beaumont	3			
Rotunda	4			
Coombe	5			
St. Vincent's Hosp.	6			
Tullamore Gen.	7			
Portlaoise Gen.	8			
South Tipp Gen	9			
Waterford Regional	10			
South Infirmary	11			
CUMH	12			

Appendix F: Revised Monthly Reporting Template

Productive Ward (PW) National Monthly Reporting Template									
Area	DNE		R	<i>Critical - Urgent attention needed - key milestones will be or have been missed, schedule of immediate action required by Steering Group</i>					
Hospital	Beaumont Hospital		A	<i>Moderate concern - issues exist and completion will be behind schedule if actions are not</i>					
Ward	Adams McConnell		G	<i>Project going according to Project Plan</i>					
Month/Year	January 2013								
Report No.	1								
Site No.									
	PRODUCTIVE WARD MODULE	PREPARE	ASSESS	DIAGNOSE	PLAN	TREAT	EVALUATE	COMMENT	
	KNOWING HOW WE ARE DOING	G	G	G	G	G	G	ongoing	
	WELL ORGANISED WARD	G	G	G	G	G	G	5's Nurses station this month	
	PATIENT STATUS AT A GLANCE	G	G	G	G	G	G	Nearly ready to transfer to Electron	
	PROCESS MODULES <i>(please indicate current status opposite the module(s) below you have chosen to implement)</i>								
	Patient Observations	G	G	G	G	G	G	...	
	Admissions & Patient Discharges							...	
	Shift Handover	G	G	G	G	G		...	
	Meals							...	
	Medicines							...	
	Patient Hygiene							...	

Spoke to AC. Happy that all cells are ticked green as they are in line with project plan.

Appendix F: Revised Monthly Reporting Template

Productive Ward (PW) National Monthly Reporting Template

Area	DNE
Hospital	Beaumont Hospital
Ward	Adams McConnell
Month, Year	January 2013
Report No.	1
Site No.	0

USE THIS SPREADSHEET TO RECORD QUANTITATIVE DATA COLLECTED ON A MONTHLY BASIS.

Only fill in data relevant to your site. If the Measure/Safety Cross is not listed below use the blank spaces to input the Measure being collected.

Core Objectives	Measure	Operational Definition	Reported as	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	O
IMPROVE PATIENT SAFETY AND RELIABILITY OF CARE	Patient Observations	Completion of Patient observations	% of complaiance	95%									
	Falls												
	Pressure Areas												
	MRSA infection rates												
	C. diff infection rates												
	Other (please identify below)												
	MRSA Screening rates	Adherence to MRSA screening	% of complaiance	95%									
Fluid balance	Completion of fluid balance documentation	% of complaiance	96%										
IMPROVE THE EFFICIENCY OF CARE	Direct Care Time		% of time nurse spends on direct care										
	% patients going home on agreed date (EDD)												
	Length of Stay												
	Ward cost per patient spell												
	Other (please identify below)												

↑
suggest deletion of this comment - Direct Care time is included on the "Periodic Data" worksheet.

Appendix F: Revised Monthly Reporting Template

Productive Ward (PW) National Monthly Reporting Template					
Area	DNE				
Hospital	Beaumont Hospital				
Ward	Adams McConnell				
Month, Year	January 2013				
Report No.	1				
Site No.	0				
USE THIS SPREADSHEET TO RECORD "POINT IN TIME INFORMATION" (Insert your baseline assessment and update reassessment at particular points in time)					
<i>Only fill in data relevant to your site. Use the blank lines to insert your measure if not already listed</i>					
Core Objectives	Measure	Operational Definition	Reported as	BASELINE MEASUREMENT	Update 1
IMPROVE PATIENT SAFETY AND RELIABILITY OF CARE	Patient Observations	Completion of Patient observations	% of compliance	77% compliance in April 2012	Information is being collected monthly basis - see Safety C Data for monthly updates
	MRSA Screening rates	Adherence to MRSA screening	% of compliance	60% compliance in April 2012	Information is being collected monthly basis - see Safety C Data for monthly updates
	Fluid balance	Completion of fluid balance documentation	% of compliance	88% compliance in April 2012	Information is being collected monthly basis - see Safety C Data for monthly updates
IMPROVE THE EFFICIENCY OF CARE	Direct Care Time	time nurse spends on direct care	% of time nurse spends on direct care	48% in April 2012	suggest deletion of core under "Update 1". This unnecessary as this info is recorded on the Safety C Data worksheet
	Other (please identify)				

Appendix F: Revised Monthly Reporting Template

Productive Ward (PW) National Monthly	
Area	DNE
Hospital	Beaumont Hospital
Ward	Adams McConnell
Month, Year	January 2013
Report No.	1
Site No.	0

IMPROVEMENTS DEMONSTRATED FROM INTRODUCTION OF PRODUCTIVE WARD		
PROCESS	MEASURE	OUTCOME
WOW *	Financial	Wound dressings stock return €400, general stock return €2,206 Total savings € 2,606. Month unchanged. Process leaner as stock now worth 16,000 was worth 21,000 before equals less
PSAG	Quality Improvement	Improved communication and decision making. Dry round done at PSAG white board, very m 10am by senior decision maker - Reg or above.
WOW	Quality Improvement	Stock ordering processes have been updated. New stock list colour coded, items prioritised to monthly and infrequently used. Ward stock levels decreased.
WOW	Quality Improvement	Internal and external storage area's are all now clearly labelled and colour coded.
KHWD	Patient Satisfaction	Patient satisfaction surveys run continually for 3 months - patient satisfaction was 100%
WOW	Time	Moving dressing closer to nurses - estimated time saved is 228 hours a year
Process Module - hand overs	Time	Handover time reduced form 45 minutes to 25-30 minutes. Estimated save will be 365 hours ir

If you want to include time saved of 228 hours and 365 hours you will need to articulate in the "Process" column how you arrived at this number

suggest re-wording time saved to time re-invested in care of patient.

With regard in the "Process" column - describe what you did. For example in respect of the first point above* you could say: "Conducted stock

Appendix G: The all-Ireland Productive Ward Conference

Island of Ireland Productive Ward: *Releasing Time to Care™* Conference 'Realising & Sustaining Frontline Potential'



Tuesday 15th October 2013
Cusack Suite, Croke Park Conference Centre, Dublin 3

Tús Áite do
Shábháilteacht 1 Othar
Patient Safety 1 First



Office of the
Nursing & Midwifery
Services Director



Department of
Health, Social Services
and Public Safety
www.dhsspsni.gov.uk

Appendix G: The all-Ireland Productive Ward Conference

Island of Ireland Productive Ward: *Releasing Time to Care™* Conference *'Realising & Sustaining Frontline Potential'*

FOREWORD

Welcome to the first Island of Ireland Productive Ward *Releasing Time to Care™* Conference. We are delighted to welcome our colleagues from Northern Ireland and hope you all find the day both informative and enjoyable.

The Office of the Nursing & Midwifery Services Director (ONMSD), within the HSE, aims to provide leadership, support excellence and capacity building in nursing and midwifery in order to enhance patient care and delivery. The Office is part of the Clinical Strategy and Programmes Directorate.

In December 2010 the ONMSD commenced work on the introduction of the National Productive Ward *Releasing Time to Care™* initiative in the HSE. 17 hospitals across the country participated in Phase I while a further 10 hospitals commenced Phase II earlier this year.

The Productive Ward *Releasing Time to Care™* is a quality improvement initiative designed by the NHS Institute for Innovation and Improvement (NHSi) which aims to empower frontline staff to drive improvements in health services through redesigning and streamlining the way staff and services deliver care with a particular emphasis on patient safety.

The programme emphasis is on the promotion of leadership at all levels of nursing and midwifery, while also including multidiscipline working. Early indications are really positive. They show that direct patient care times have increased, waste - where identified has been reduced, and the introduction of stock management systems have resulted in savings and reduced expenditure. As part of the process, productive wards have identified patient safety issues that they intend to improve on. Often this has resulted in improved information gathering and data processing.

We are confident that the Productive Ward *Releasing Time to Care™* will empower nurses and midwives to improve the safety, quality and delivery of care by releasing more time to care for our patients.

We wish to acknowledge the work of the Phase 1 and 2 implementation sites across the four HSE regions for their participation and commitment, the National Advisory Group and the National Implementation Group supported by the HSE Area Coordinators in the Nursing & Midwifery Planning & Development Units. Finally we wish to acknowledge and extend particular thanks to Mr. Mark White, National Lead Productive Ward, Interim Director NMPDU, HSE South (SE).



Dr Michael Shannon



Dr Aine Carroll

Appendix G: The all-Ireland Productive Ward Conference

Island of Ireland Productive Ward: *Releasing Time to Care™* Conference *'Realising & Sustaining Frontline Potential'*

AGENDA

8.45am	Registration, Viewing of Posters, Tea/Coffee & Pastries on arrival
Morning Session	Chair: Ms Jenny Hogan, Head of Transition and Engagement, The National Treatment Purchase Fund, Health Service Directorate
9.10am	Welcome Address and Introduction Dr Áine Carroll, <i>Director, Clinical Strategy & Programmes Directorate, Health Service Executive, Ireland</i>
9.15am	Opening Address Dr Ambrose McLoughlin, <i>Secretary General of the Department of Health and Chairman of the Board of the HSE</i> Mrs Charlotte McArdle, <i>Chief Nursing Officer, Department of Health, Social Services and Public Safety, Northern Ireland</i>
9.30am	The Productive Ward: A National Update Mr Mark White, <i>A/Director, Nursing & Midwifery Planning & Development Unit, HSE SE and National Lead for Productive Ward, Republic of Ireland</i>
9.45am	The Productive Ward Northern Ireland Ms Anne Witherow, <i>Assistant Director of Nursing and Productive Ward Lead, Western Health and Social Care Trust, Northern Ireland</i>
10.00am	'Is Lean a Failed Theory for Public Services?' Professor Zoe Radnor, <i>Professor of Service Operations Management, Loughborough University, UK</i>
10.45am	Refreshment Break & Viewing of Posters
Mid Morning Session	Chair: Dr Michael Shannon, Nursing & Midwifery Services Director, Assistant National Director, Clinical Strategy & Programmes Directorate HSE
11.15am	PSAG Journey and Introduction of the Electronic PSAG Board Ms Sharon Trehy, <i>Clinical Nurse Manager II, Adams McConnell Ward, Beaumont Hospital</i>
11.35am	Improving Patient and Staff Experience at Meal Times Ms Kathleen Mollahan, <i>Clinical Nurse Manager II, Ms. Aideen Banet, A/CNMII St. Comans Ward, Roscommon Hospital</i>
11.55am	Sharing the Patient's Story by Utilising Effective Communication Processes for Handover Ms Maria Curley, <i>Clinical Nurse Manager I, Medical 2</i> and Ms Denise Doolan, <i>Nurse Practice Development Co-ordinator, Midlands Regional Hospital, Tullamore, Co. Offaly</i>
12.15pm	Supporting the Development of Person-centred Cultures through the Implementation of Productive Ward using Practice Development approaches as outlined by Garbett and McCormack (2004) Ms. Bernadette Gribbens <i>and participants from the Belfast Health and Social Care Trust, Belfast, Northern Ireland</i>
12.35pm	Question & Answer session on morning topics

Appendix G: The all-Ireland Productive Ward Conference

Island of Ireland Productive Ward: *Releasing Time to Care™* Conference *'Realising & Sustaining Frontline Potential'*

1.00pm-2.00pm	Lunch, Viewing and Judging of Poster Presentations
Afternoon Session	Chair: Dr. Maura Pidgeon, Chief Executive Officer, Nursing & Midwifery Board of Ireland
2.00pm	'The Vital Few Versus the Trivial Many: Measurement for Improvement' Ms Lorraine Murphy, <i>International Fellow NHS Institute for Innovation and Improvement WIT/HSE</i>
2.30pm	The Productive Operating Theatre: National Overview Ms Martha Ni Chuainigh, <i>The Productive Operating Theatre (TPOT) Programme Manager, National Clinical Programmes</i>
2.40pm	The Power of Measurement in Improving Patient Processes Ms Mary Mills, <i>Director of Nursing and Ms. Grace Reidy, Assistant Director of Nursing, Cork University Hospital</i>
2.50pm	Knowing How We are Doing: TPOT and PW Working Together Ms Mairead Hourihane, <i>Clinical Nurse Manager II and Ms. Kate Bree, Nurse Practice Development Co-ordinator, Sligo Regional Hospital</i>
3.05pm	The Future Direction of Quality and Patient Safety Dr Philip Crowley, <i>National Director of Quality and Patient Safety, Health Service Executive</i>
3.20pm	'Productive Ward – Empowering Nurses Worldwide' Ms Lizzie Cunningham, <i>Associate – CareOregon, Visiting Scholar – Oregon Health Sciences University, US</i>
4.05pm	National Productive Ward Evaluation: Preliminary Findings Dr Randal Parlour, <i>Assistant Director & Senior Researcher NMPDU HSE-West</i>
4.25pm	Questions & Answers session on afternoon topics
4.45pm	Closing Remarks, Poster Prize Giving, Presentation of Certificates, Evaluation and Close Mr Mark White, <i>ADirector, Nursing & Midwifery Planning & Development Unit, HSE SE and National Lead, Productive Ward, Republic of Ireland</i>

Appendix H: Ethics Approval

Institiúid Teicneolaíochta Phort Láirge Waterford Institute of Technology

Ref: 12/NUR/02

1st May, 2012.

Mr. Mark White,
Somers Lane,
Killowen,
Gorey,
Co. Wexford.

Dear Mark,

Thank you for bringing your project 'An evaluative, implementation study of the productive ward in Ireland' to the attention of the WIT Research Ethics Committee.

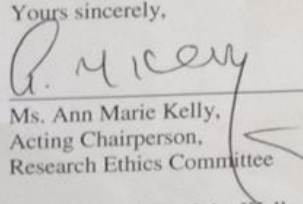
I am pleased to inform you that we provisionally approve WIT's participation in this project and we will convey this to Academic Council.

We would however ask that you make the following amendments and submit them to Suzanne Kiely (skiely@wit.ie) where upon submission of same, full approval will be granted:

- (a) Amend the sentence in the information sheet (paragraph 2 – What will the study involve?) 'I am hoping that you will agree to be one of the people I interview' to 'I am **inviting you to be one of the people I interview**'
- (b) Indicate on the information sheet that permission will be sought to record interviews.
- (c) Highlight that where interviews will be recorded, the participant will have the option to stop the recording at any stage should they wish to do so.
- (d) The time and location of the interviews will be at the convenience of the participant.
- (e) Indicate on the information sheet that a copy of participants recorded transcripts will be available on request.
- (f) Include tick boxes for each statement the participant is agreeing to on your consent form.


We would also ask that clarity be shown at all times between your role as HSE employee and researcher and that any impromptu conversations cannot be used in your study.

Yours sincerely,


Ms. Ann Marie Kelly,
Acting Chairperson,
Research Ethics Committee

cc: Dr. John Wells
Prof. Tony Butterworth

Waterford, Ireland.
T: +353-51-302000
info@wit.ie
www.wit.ie



Paragraph 2
2
2
2
3
6

Appendix H: Ethics Approval



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

NAME Mr. Mark White
ADDRESS Office Complex
Kilcreene Hospital
Kilkenny
DATE 27th February 2013

HSE South,
Waterford Regional Hospital,
Dunmore Road,
Waterford,
Ireland.



RESEARCH ETHICS COMMITTEE,
HEALTH SERVICE EXECUTIVE, SOUTH EASTERN AREA

Study Title: "An implementation and evaluation study of the Productive Ward in Ireland"

Study Status: APPROVED

Dear Mr. White

The Research Ethics Committee Coordinator REC, HSE, South East reviewed the above study on the 20th February 2013

Expedited ethical approval has been granted for the above study in advance of the next scheduled REC meeting and constitutes full ethical approval.

The following documents were reviewed and approved:

1. Ethics Application Form
2. Research Proposal
3. UWES Questionnaire
4. Interview Schedule
5. Participant Information Sheet
6. Participants Consent Form
7. Signed Hard Copy of Declaration Page
8. Letter to Director of Nursing requesting permission

The following document was received:

C.V. Chief Investigator

In addition this study will be outlined at the next planned Research Ethics Committee Meeting for the HSE, South Eastern Area by the Research Ethics Committee Coordinator and any comments made at this meeting in relation to your study shall be communicated to you in writing.

Version 4, Updated 13/10/10 CL

Folder: Ethics/ Expedited Approval Letter Final

Waterford Regional Hospital Mission Statement:

"Together we will provide quality patient care delivered by skilled and valued staff through the best use of available resources".

Appendix H: Ethics Approval

It is a requirement of the REC, HSE, South East that you send copy of your study to the Research Ethics Office on completion.

Yours sincerely,



Ms Caroline Lamb
Research Ethics Committee Coordinator
Health Service Executive, South Eastern Area

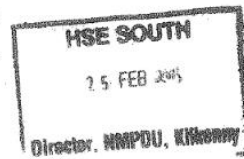
The Research Ethics Committee, HSE, South East is a recognized Ethics Committee under Regulation 7 of the European Communities (Clinical Trials on Medicinal Products for Human use) Regulations 2004 and as such is authorized to undertake ethical review of clinical trials of all descriptions and classes for the Republic of Ireland.

The Research Ethics Committee, HSE, South East issues ethical approval on the basis of information provided. It is the responsibility of the researcher to notify the Research Ethics Office of any changes to a study to ensure that the approval is still relevant.

Appendix H: Ethics Approval

MERCY UNIVERSITY HOSPITAL, CORK LIMITED
Grenville Place, Cork, Ireland. Tel: +353 (21) 427 1971 Fax: +353 (21) 493 5073
Email: sdaly@muh.ie www.muh.ie

From the Chief Executive Officer
Ms Sandra Daly



25th February, 2013.

Mr. Mark White,
National Lead for Productive Ward,
A/Director, Nursing & Midwifery Planning & Development Unit,
HSE South,
Kilcreene Hospital,
Kilkenny.

Research Study: An Implementation and Evaluation Study of the Productive Ward in Ireland.

Dear Mr. White,

I refer to your request of February 11th, 2013, forwarded for my attention by Ms. Bridie O'Sullivan, Director of Nursing, regarding the above research study.

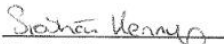
I am pleased to advise that the Executive Management Board considered your application at its meeting on February 19th, 2013 and has approved your request.

This approval is conditional on adherence to the following criteria:

- (a) Results of the study's findings must be furnished to the Board upon completion of the study and,
- (b) The inclusion of the Mercy University Hospital name on publication of findings may be withheld at the discretion of the Board (Guarantee of Anonymity).

I would like to take this opportunity to wish you all the best with your research.

Yours sincerely,

pp. 
Ms. S. Daly
Chief Executive Officer

Registered in Ireland No.: 353064 Registered Office: Mercy Provincial Offices, Bishop Street, Cork. Charity No.: CHY 13963

Directors: Mr Michael O'Sullivan (Chairman), Professor Colin Bradley, Mr. Mortimer Kelleher, Ms. Margaret Lane, Mr. Padraic Liston, Sr. Veronica Mangan, Mr. Tim McCarthy, Dr. Patrick J Murphy, Ms Irene O'Donovan, Professor Fergus Shanahan

Appendix I: Phase 1 UWES & Information Sheet (PW Sites)



Nursing & Midwifery Planning & Development Unit
HSE South
Office Complex
Kilcreene Hospital
Kilkenny

Tel: +353-56-7785629
Fax: +353-56-7784459

An Implementation and Evaluation Study of the Productive Ward in Ireland

Dear Potential Participant,

My name is Mark White and I am the National Lead for the Productive Ward project and a doctoral student in the Department of Nursing, Waterford Institute of Technology. I am inviting you to participate in a study that examines the impact that the Productive Ward project may have had on your work and well-being.

Attached is a questionnaire that explores the elements of work and well-being and other work related measures. Permission to carry-out this survey has been granted by the Director of Nursing and this study has been approved by your governing ethics committee. The questionnaire is being distributed to all members of staff involved in the Productive Ward project and a small sample of staff on wards not directly involved in the productive ward so that comparisons can be made. The questionnaire has been designed to take approximately 5 minutes to complete.

Participation in the survey is voluntary; however, your participation would be greatly appreciated. The information obtained from the survey will be used by the national project team to gain a better understanding of the impact that the productive ward may/may not have on your work and the wards work. The data collected will also be used by me as part of my PhD thesis.

The information obtained in each questionnaire will be kept highly confidential and all information is coded and unidentifiable, before the distribution of the survey. The returned questionnaire will be forwarded directly to me and stored in a locked facility and uploaded onto a coded electronic database which is secure, password protected and encrypted with access restricted to myself and my research supervisor in WIT.

I would be grateful if you would seal the completed questionnaire in the attached envelope and post it internally to nursing administration, who have agreed to collect all the surveys and hold or forward them directly to me unopened. I have provided additional information about my study and my contact details overleaf.

Please do not hesitate to contact me if you require any additional information.

Yours Sincerely



Mark White
National Lead for Productive Ward
Office Complex
Kilcreene Hospital Kilkenny

Appendix I: Phase 1 UWES & Information Sheet (PW Sites)

Information Sheet

Purpose of the Study. As part of the requirements for my PhD at WIT, I have to carry out a research study. The study is concerned with examining the implementation and outcome of the productive ward, releasing time to care initiative that you and your ward team may or may not have been involved and engaged with.

What will the study involve? The study will involve 3 stages:

A brief survey that takes about 5 minutes at the start of the Productive Ward Project

A second survey using the same questionnaire will be distributed 12-14 months into the project to ascertain in any elements of work or well-being has improved or remained the same.

A small number of staff from Productive Ward's, who have been involved with the project may be invited to participate in a recorded semi-structured interview, that should take no longer than 45 minutes. They will be asked a series of questions about their experiences with the productive ward initiative.

Why have you been asked to take part? You have been asked because you have been working with the productive ward initiative and some of its activities during the previous months.

Do you have to take part? Participation is voluntary. If you participate in the recorded interview, you will be asked to sign a consent form (attached) and you will retain a copy. You can withdraw from this study anytime (even if you have agreed to participate), or discontinue participation after the interview stage. If you discontinue from this study, all your data which has been coded will be destroyed.

Will your participation in the study be kept confidential?

Yes. I will ensure that no clues to your identity appear in my thesis. Any extracts from what you say that are quoted in the research study will be entirely anonymous. I am however bound by my professional obligations under the An Bord Altráinis code of professional conduct to report any allegations of professional misconduct or abuse that may be disclosed during the interviews.

What will happen to the information which you give? If you are just involved in the survey, the information you provide is coded and uploaded onto an electronic database for analysis. If you consent to a recorded interview, you will be given an opportunity to review and amend the transcripts of all the audio recordings. The data will be kept confidential for the duration of the study. The HSE or your employer will not have access to the data. On completion of my thesis, the data will be retained for a further twelve months and then destroyed.

What will happen to the results? The results will be presented in my thesis. They will be seen by my principal supervisor, a second supervisor and possibly an external examiner. The thesis may be read by future students on the course. The study may be published in a research journal but all extracts will remain anonymous and unidentifiable.

What are the possible benefits of taking part? The main benefit lies in the opportunity for you to express your personal experiences of this large-scale project and the impact it has had on you and the ward team. Your valuable feedback will help shape future project roll-out plans and implementation in Ireland.

What are the possible disadvantages of taking part? I don't envisage any negative consequences for you in taking part. It is possible that talking about your experiences may cause some uncomfortable feelings and you might feel reluctant to disclose some information, but you will be reassured during the interview interaction and again I can confirm that all data is confidential, will be coded and there will be no links to your identity.

What if there is a problem? At the end of the interview, I will discuss with you how you found the experience and how you are feeling. If you subsequently feel uncomfortable or distressed, you should contact your local employee assistance service. I will ensure these contact details are provided to you.

Who has reviewed this study? This study has been reviewed by the Waterford Institute of Technology Ethics Committee and your own HSE or Voluntary Regional Ethics Committee. This study is also being supervised by Professor John Wells, WIT and Professor Tony Butterworth, visiting Lecturer WIT.

Any further queries? If you need any further information, you can contact me: Mark White, Mob: 0877989086. Email: mark.white@hse.ie

Appendix I: Phase 1 UWES & Information Sheet (PW Sites)

Work & Well-being Survey UWES©		
I am: Male <input type="checkbox"/> Female <input type="checkbox"/>		My Age Grouping is:
My Grade is best described as:		18 – 24 <input type="checkbox"/>
Nurse Manager <input type="checkbox"/> Staff Nurse <input type="checkbox"/> Clerical/Admin <input type="checkbox"/>		25 – 44 <input type="checkbox"/>

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the "0" (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

	Almost Never	Rarely	Sometimes	Often	Very Often	Always
0	1	2	3	4	5	6
Never	A few time a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

1. At my work, I feel bursting with energy ①②③④⑤⑥
2. I find the work that I do full of meaning and purpose ①②③④⑤⑥
3. Time flies when I'm working ①②③④⑤⑥
4. At my job, I feel strong and vigorous ①②③④⑤⑥
5. I am enthusiastic about my job ①②③④⑤⑥
6. When I am working, I forget everything else around me ①②③④⑤⑥
7. My job inspires me ①②③④⑤⑥
8. When I get up in the morning, I feel like going to work ①②③④⑤⑥
9. I feel happy when I am working intensely ①②③④⑤⑥
10. I am proud of the work that I do ①②③④⑤⑥
11. I am immersed in my work ①②③④⑤⑥
12. I can continue working for very long periods at a time ①②③④⑤⑥
13. To me, my job is challenging ①②③④⑤⑥
14. I get carried away when I'm working ①②③④⑤⑥
15. At my job, I am very resilient, mentally ①②③④⑤⑥
16. It is difficult to detach myself from my job ①②③④⑤⑥
17. At my work I always persevere, even when things do not go well ①②③④⑤⑥

Appendix J: Phase 1 UWES & Information Sheet (Control Wards)



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Nursing & Midwifery Planning & Development Unit
HSE South
Office Complex
Kilcreene Hospital
Kilkenny

Tel: +353-56-7785629
Fax: +353-56-7784459

An Implementation and Evaluation Study of the Productive Ward in Ireland

Dear Potential Participant,

My name is Mark White and I am the National Lead for the Productive Ward project and a doctoral student in the Department of Nursing, Waterford Institute of Technology. I am inviting you to participate in a study that is examining the work and well-being of staff on standard hospital wards and comparing them to the work and well-being of staff involved in the national Productive Ward project.

You have been selected as you are a team member from a normal standard ward that is not involved in the Productive Ward project and the information you provide will be used as a comparator.

Attached is a questionnaire that explores the elements of work and well-being and other work related measures. Permission to carry-out this survey has been granted by the Director of Nursing and this study has been approved by your governing ethics committee. The questionnaire has been designed to take approximately 5 minutes to complete.

Participation in the survey is voluntary; however, your participation would be greatly appreciated. The information obtained from the survey will be used by the national project team to gain a better understanding of work and well-being in a standard ward environment and compare this to the work and well-being on productive ward project sites. The data collected will also be used by me as part of my PhD thesis.

The information obtained in each questionnaire will be kept highly confidential and all information is coded prior to distribution making it completely unrecognisable in any format. The returned questionnaire will be forwarded directly to me, stored in a locked facility and uploaded onto a coded electronic database which is secure, password protected and encrypted with access restricted to myself and my research supervisor in WIT.

I would be grateful if you would seal the completed questionnaire in the attached envelope and post it internally to nursing administration, who have agreed to collect all the surveys and hold or forward them directly to me unopened. I have provided additional information about my study and my contact details overleaf.

Please do not hesitate to contact me if you require any additional information.

Yours Sincerely

A handwritten signature in red ink that reads "Mark White".

Mark White
National Lead for Productive Ward
Office Complex
Kilcreene Hospital, Kilkenny Tel: 0877989086

Appendix J: Phase 1 UWES & Information Sheet (Control Wards)

Information Sheet

Purpose of the Study. As part of the requirements for my PhD at WIT, I have to carry out a research study. The study is concerned with examining the implementation and outcome of the productive ward, releasing time to care initiative that you and your ward team may or may not have been involved and engaged with.

What will the study involve? The study will involve 3 stages:

A brief survey that takes about 5 minutes at the start of the Productive Ward Project for both Productive Ward and Comparative Ward sites

A second survey using the same questionnaire will be distributed 12-14 months into the project to ascertain in any elements of work or well-being has improved or remained the same.

A small number of staff from Productive Ward's, who have been involved with the project may be invited to participate in a recorded semi-structured interview, that should take no longer than 45 minutes. They will be asked a series of questions about their experiences with the productive ward initiative.

Why have you been asked to take part? You have been asked because you have been working with the productive ward initiative and some of its activities during the previous months or you are working on a standard ward that has been chosen as a comparative ward for the project.

Do you have to take part? Participation is voluntary. If you participate in the recorded interview, you will be asked to sign a consent form (attached) and you will retain a copy. You can withdraw from this study anytime (even if you have agreed to participate), or discontinue participation after the interview stage. If you discontinue from this study, all your data which has been coded will be destroyed.

Will your participation in the study be kept confidential?

Yes. I will ensure that no clues to your identity appear in my thesis. Any extracts from what you say that are quoted in the research study will be entirely anonymous. I am however bound by my professional obligations under the An Bord Altrains code of professional conduct to report any allegations of professional misconduct or abuse that may be disclosed during the interviews.

What will happen to the information which you give? If you are just involved in the survey, the information you provide is coded and uploaded onto an electronic database for analysis. If you consent to a recorded interview, you will be given an opportunity to review and amend the transcripts of all the audio recordings. The data will be kept confidential for the duration of the study. The HSE or your employer will not have access to the data. On completion of my thesis, the data will be retained for a further twelve months and then destroyed.

What will happen to the results? The results will be presented in my thesis. They will be seen by my principal supervisor, a second supervisor and possibly an external examiner. The thesis may be read by future students on the course. The study may be published in a research journal but all extracts will remain anonymous and unidentifiable.

What are the possible benefits of taking part? The main benefit lies in the opportunity for you to express your personal experiences of this large-scale project and the impact it has had on you and the ward team. Your valuable feedback will help shape future project roll-out plans and implementation in Ireland.

What are the possible disadvantages of taking part? I don't envisage any negative consequences for you in taking part. It is possible that talking about your experiences may cause some uncomfortable feelings and you might feel reluctant to disclose some information, but you will be reassured during the interview interaction and again I can confirm that all data is confidential, will be coded and there will be no links to your identity.

What if there is a problem? At the end of the interview, I will discuss with you how you found the experience and how you are feeling. If you subsequently feel uncomfortable or distressed, you should contact your local employee assistance service. I will ensure these contact details are provided to you.

Who has reviewed this study? This study has been reviewed by the Waterford Institute of Technology Ethics Committee and your own HSE or Voluntary Regional Ethics Committee. This study is also being supervised by Professor John Wells, WIT and Professor Tony Butterworth, visiting Lecturer WIT.

Any further queries? If you need any further information, you can contact me: Mark White, Mob: 0877989086. Email: mark.white@hse.ie

Appendix K: Consent Form for In-depth Interviews



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Nursing & Midwifery Planning & Development Unit
HSE South
Office Complex
Kilcreene Hospital
Kilkenny

Tel: +353-56-7785629
Fax: +353-56- 7784459

An Implementation and evaluation study of the Productive Ward in Ireland

Consent Form

I.....agree to participate in Mark White's research study, examining the implementation and outcomes of the productive ward, releasing time to care initiative in Ireland.

The purpose and nature of the study has been explained to me in writing.

I am participating voluntarily.

I give permission for my interview with Mark White to be recorded.

I understand that I can withdraw from the study, without repercussions, at any time, whether before it starts or while I am participating.

I understand that I can withdraw permission to use the data within two weeks of the interview, in which case the material will be deleted.

I understand that anonymity will be ensured in the write-up by disguising my identity.

I understand that disguised/coded extracts from my interview may be quoted in the thesis and any subsequent publications if I give permission below:

(Please tick one box :)

I agree to quotation/publication of extracts from my interview

I do not agree to quotation/publication of extracts from my interview

Signed by Participant.....

Date.....

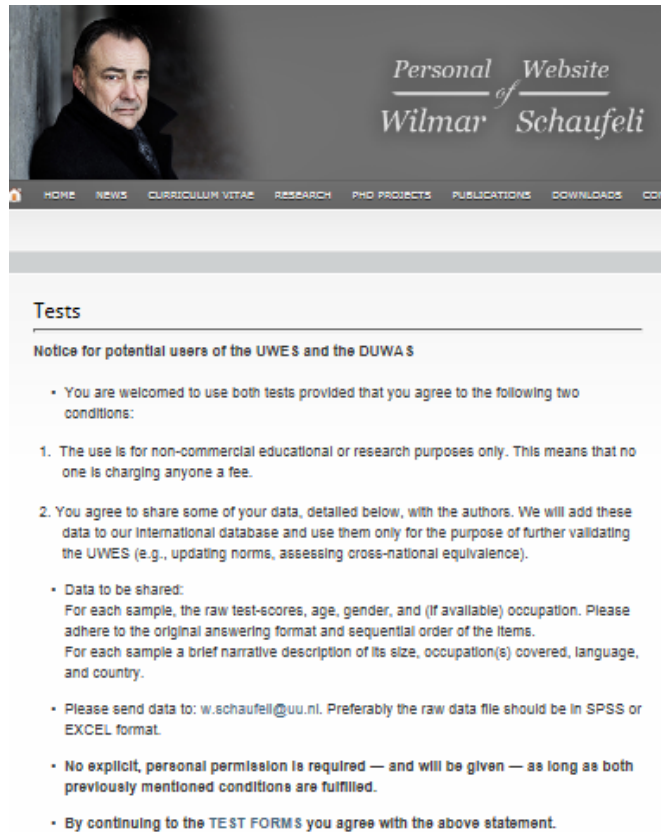
Contact email:.....

In the presence of:

Signed by Researcher.....

Date.....

Appendix L: Conditions for UWES



Personal Website
of
Wilmar Schaufeli

HOME NEWS CURRICULUM VITAE RESEARCH PHD PROJECTS PUBLICATIONS DOWNLOADS CONTACT

Tests

Notice for potential users of the UWES and the DUWAS

- You are welcomed to use both tests provided that you agree to the following two conditions:

1. The use is for non-commercial educational or research purposes only. This means that no one is charging anyone a fee.
2. You agree to share some of your data, detailed below, with the authors. We will add these data to our international database and use them only for the purpose of further validating the UWES (e.g., updating norms, assessing cross-national equivalence).

- Data to be shared:
For each sample, the raw test-scores, age, gender, and (if available) occupation. Please adhere to the original answering format and sequential order of the items.
For each sample a brief narrative description of its size, occupation(s) covered, language, and country.
- Please send data to: w.schaufeli@uu.nl. Preferably the raw data file should be in SPSS or EXCEL format.
- No explicit, personal permission is required — and will be given — as long as both previously mentioned conditions are fulfilled.
- By continuing to the TEST FORMS you agree with the above statement.

Appendix M: Interview Topic Guide

The impact and effect of the Productive Ward Programme on participants Topic Guide

Objectives

- To explore participants experience in more detail
- To capture the impact and effect of the improvement programme on those who participate
- To examine any contextual influences that affect the impact and effect
- To identify any PW experiences or impact not previously reported

Introduction

General introduction and Thank you for participating

Who I am and why I am here evaluating

The focus and purpose of the interview

Re-affirm Consent and ensure Consent form is complete

Explain Audio recordings, the opportunity to check transcripts and data management arrangements.

Broad demographic/circumstances:

Current Grade?

Length of time working on ward? Hospital

Summary of involvement or role with the Productive Ward to date. What PW activities have you been involved in to date?

Contextual information

Training and support Received

Formal MIT

Internal or External facilitation

Experience of training

Other training on/off ward

Experience/Knowledge of the PW Modules pack

What PW modules have had greatest impact on ward?

PW Project Plan & Project Management

Why ward was chosen

How you found out: discussions.

How far into the initiative you are

When modules are changed

Tell PW project or implementation plan

Whether everyone is allocated PW work

What way is this the work allocated or divided out

How the allocation of PW's going forward will be managed

Appendix M: Interview Topic Guide

Communication Strategy for PW

Whether Information/detail circulated prior to the starting of PW
How Information about PW was given to staff
Whether information about PW was or is given to patients
Whether PW Information or progress is given to other wards/depts.
How is it given
How is success/improvements conveyed throughout the hospital

Hospital Management Involvement/Engagement with PW

How have hospital Management got involved?
How regular have management Ward visits been?
Whether visit Pyramid have been used, signed & up to date
How Hospital manger is updated with PW achievements
How ward goes about getting Permission to make changes?
Whether any congratulations/recognition have been received or conveyed by hospital management?

Financial/Human Resource Commitment for PW

Whether Extra budget/resources available or given for PW work
Whether Any addition monies were spent because of PW
Whether Any extra time/relief allocated for PW activities/module work/training
Explore Pressure, how any additional PW work got done, Time

Ward lead's Role

Whether Ward lead Provided extra training or help
What way did Ward lead support the initiative
How did he/she get the module/improvement work done
How was activities or PW work allocated
In what way did he/she get staff involved in ward training/ describing or outlining modules or activities?
Whether the PW material has helped Ward lead progress/change/improve

Leadership

Leadership Role on the ward

Where ideas and innovations for change come from
Has the PW had any effect on the way staff work
Who do you think owns PW on ward/ in hospital
Where does PW sit within ward priorities, within hospital priorities
What there plans there are for other ward to become PW's

Leadership Experiences

Whether you experienced Leadership during PW
Who
In What way/Example
How it made a difference?

Leadership Examples

Explore examples of staff 'leading' on elements of PW
Who? Junior/Senior
Any previous experience of Leadership
What do you think made them lead/get involved
How did it work out
Was there any impact

Appendix M: Interview Topic Guide

Have they developed?

Empowerment

Decision making

Whether PW has helped you with ward/clinical work How?

If PW has helped get ideas for change/improvements

How decisions about getting ideas are made on the ward

Is this any different than before, in what way

Whether you yourself go involved in ward training/ describing or module activity

Front-line changes/improvements

What kind of changes have had biggest impact on patients/staff

Who was involved

What was involved

What made things happen now

Engagement

Involvement

What percentage of ward team is involved

How PW engages Medical/AHP staff to get involved?

How was PW managed to keep people involved in PW

What do you prevented people.

What could be done differently

What difference is there now with staff that wasn't there before

Disagreements

Examples of team disagreement is relation to any aspect

How was that managed

What impact did that have on others

What could be done differently

Socio/Cultural

Sustaining

Whether PW has or should have an end-date

Has PW changed the way the ward works

Do you think PW will continue/last/ be sustained

What has been done to make PW, language and methods stick

Has PW changed the way people think about their work? in way way?

What impact PW has it had on ward life

Closure

Didn't work Experiences

Whether All Module or work went well

What made things worse

How fixed

Anyone unhelpful

What do differently

What would they have done differently implementing PW

What lessons need to be learned?

Is there anything further you would like to add in relation to the productive ward project or your experience in the initiative?

Thank you for your participation, leave contact details and expected timeframes for transcripts.

Appendix O: Coding Book (All cycles of coding)



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Nursing & Midwifery Planning & Development Unit
HSE South
Office Complex
Kilcreene Hospital
Kilkenny

Tel: +353-56-7785629

Fax: +353-56-7784459

An Implementation and Evaluation Study of the Productive Ward in Ireland

Dear Potential Participant,

My name is Mark White and I am the National Lead for the Productive Ward project and a doctoral student in the Department of Nursing, Waterford Institute of Technology. Recently you and the ward team participated in a survey that examined the work and well-being of staff involved in the national Productive Ward initiative. That questionnaire was the first part of a 3-phase evaluation design.

I am inviting you to participate in the next stage of the evaluation which is a short, voice-recorded interview. The interview should take no longer than 45 minutes.

If you agree to participate you will be asked a series of questions about your experiences with the productive ward initiative to date. There are no 'right' or 'wrong' answers and you are not required to answer all of the questions. You may pass on any question that makes you feel uncomfortable. At any time you can notify me that you would like to stop the interview and your participation in the study. There is no penalty for discontinuing participation.

Participation in the interview is voluntary; however, your participation would be greatly appreciated. The information obtained from the interviews will be used by the national project team to gain a better understanding of what has worked well for people involved in the productive ward initiative. The data collected will also be used by me as part of my PhD thesis.

The information obtained from the interview will be kept highly confidential and will be anonymised and coded making it completely unrecognisable in any format. The interview recordings will be managed directly by me, stored in a locked facility and transcribed in their coded format. Coded transcriptions will be uploaded onto a coded electronic database which is secure, password protected and encrypted with access restricted to myself and my research supervisor in WIT.

I would be grateful if you would indicate to the Productive Ward Project lead or Ward lead, your willingness to participate. They will inform you of the date of the interview and arrange time off from you clinical duties to participate. I have attached a copy of the participant consent form which I will ask you to complete on the day of interview. I have provided additional information about my study and my contact details overleaf.

Please do not hesitate to contact me if you require any additional information.

Yours Sincerely

Mark White
National Lead for Productive Ward
Office Complex, Kilcreene Hospital
Kilkenny Tel: 0877989086

Appendix O: Coding Book (All cycles of coding)

Information Sheet

Purpose of the Study. As part of the requirements for my PhD at WIT, I have to carry out a research study. The study is concerned with examining the implementation and outcome of the productive ward, releasing time to care initiative that you and your ward team may or may not have been involved and engaged with.

What will the study involve? The study will involve 3 stages:

A brief survey that takes about 5 minutes at the start of the Productive Ward Project for both Productive Ward and Comparative Ward sites

A second survey using the same questionnaire will be distributed 12-14 months into the project to ascertain in any elements of work or well-being has improved or remained the same.

A small number of staff from Productive Ward's, who have been involved with the project may be invited to participate in a recorded semi-structured interview, that should take no longer than 45 minutes. They will be asked a series of questions about their experiences with the productive ward initiative.

Why have you been asked to take part? You have been asked because you have been working with the productive ward initiative and some of its activities during the previous months.

Do you have to take part? Participation is voluntary. If you participate in the recorded interview, you will be asked to sign a consent form (similar to the attached) and you will retain a copy. You can withdraw from this study anytime (even if you have agreed to participate), or discontinue participation after the interview stage. If you discontinue from this study, all your data which has been coded will be destroyed.

Will your participation in the study be kept confidential?

Yes. I will ensure that no clues to your identity appear in my thesis. Any extracts from what you say that are quoted in the research study will be entirely anonymous. I am however bound by my professional obligations under the Nursing and Midwifery Board of Ireland's code of professional conduct to report any allegations of professional misconduct or abuse that may be disclosed during the interviews.

What will happen to the information which you give? If you are just involved in the survey, the information you provide is coded and uploaded onto an electronic database for analysis. If you consent to a recorded interview, you will be given an opportunity to review and amend the transcripts of all the audio recordings. The data will be kept confidential for the duration of the study. The HSE or your employer will not have access to the data. On completion of my thesis, the data will be retained for a further twelve months and then destroyed.

What will happen to the results? The results will be presented in my thesis. They will be seen by my principal supervisor, a second supervisor and possibly an external examiner. The thesis may be read by future students on the course. The study may be published in a research journal but all extracts will remain anonymous and unidentifiable.

What are the possible benefits of taking part? The main benefit lies in the opportunity for you to express your personal experiences of this large-scale project and the impact it has had on you and the ward team. Your valuable feedback will help shape future project roll-out plans and implementation in Ireland.

What are the possible disadvantages of taking part? I don't envisage any negative consequences for you in taking part. It is possible that talking about your experiences may cause some uncomfortable feelings and you might feel reluctant to disclose some information, but you will be reassured during the interview interaction and again I can confirm that all data is confidential, will be coded and there will be no links to your identity.

What if there is a problem? At the end of the interview, I will discuss with you how you found the experience and how you are feeling. If you subsequently feel uncomfortable or distressed, you should contact your local employee assistance service. I will ensure these contact details are provided to you.

Who has reviewed this study? This study has been reviewed by the Waterford Institute of Technology Ethics Committee and your own HSE or Voluntary Regional Ethics Committee. This study is also being supervised by Professor John Wells, WIT and Professor Tony Butterworth, visiting Lecturer WIT.

Any further queries? If you need any further information, you can contact me: Mark White, Mob: 0877989086. Email: mark.white@hse.ie

Appendix O: Coding Book (All cycles of coding)

Coding Book for Phase 1: Open Coding			
Name	Description/Criteria	Number Of Sources	Number Of Coding References
à la carte approach	just taking some of the elements of modules or PW QI work	8	15
additional training	examples of additional teaching, training or dissemination of PW material	5	10
Benefits	examples of how everyone benefits from PW	2	2
broken promise	references in relation to promises or 'leverage' that were given to ward team that never materialised	3	3
budget constraints	Money prevented progress/implementation	4	6
Certain staff chosen	Referring to the fact that certain staff led out on element of PW or were chosen for training.	17	55
Challenges	reference to challenge or a challenge described	18	49
Champions	examples of other show case wards or other hospitals who have done well	16	28
Change	difficult to change or make changes	12	37
Competing Priorities	Other national initiatives/priorities/projects	10	32
Competing with other PW's	comments or references to jealousy or rivalry between PW;s	4	5
Corporate support	visible support from the members of the management team	17	55
Criticising Ward leads role	Examples of criticism in the ward leaders decision, role in the PW initiative	5	14
Current Job	What my current role entails, how it has been effected	25	30
currently studying	Engaged in education	2	11
Disenables	Examples of people or things that were highlighted as disabling implementation or progress	15	37

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Dishonest communication	examples or reports of not dishonest communication within the team or project group	7	10
Disillusioned-disappointed	Fed up or running out of enthusiasm	17	30
Don't like change	negative feedback in relation to the improvement work, change, project	12	27
Don't like learning	shying away from new things	3	4
Don't like new ideas	Staff resisting or disliking new ideas	10	16
Drivers for PW	Champions, drivers, change agents people/things that drive the programme	19	71
Empowered	Being able to do the job	13	53
Engaging	getting involved, being more involved	19	70
Enthusiasm	showing energy or vigour to do something	19	53
Expanded-enhanced Role	Examples of how the programme or programme work has helped expand ones role.	5	10
Extra Pressure	Just seen as another pressure on top of full days	4	7
extra resources	information in relation to any extra resources received a part of PW	17	29
Financial saving	A description or positive experience of PW saving time	6	7
Financially supported	Sign of corporate intent	16	26
Good communication	Examples of how and when communication was provided effectively in relation to PW and its implementation	19	59
Good programme-good support for the PW	positive affirmation statement about PW or support from the team	16	31
Good project plan	Reference to a good plan for roll-out or module progression	9	10
Good Training	Good experience of training	17	41
Happy to just do their work	describes team-members who just want to do their work and go home	2	3
Help not helpful	discussion around the extra help not being helpful	2	2
helped ward lead	Given structure, assistance to the ward manager	19	40
Highlighting the waste-risks	PW demonstrating the waste or the risks on the ward with the processes	16	35
How work is allocated	The ways in which people get work-get allocated work	3	7
How ward was chosen	Description/explanation of how PW ended up on this ward	20	34

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Imposed change	examples or instances where change happened but was forced or imposed on the ward team	10	20
Improvement success	detail of small or incremental changes that are positive	22	130
Independent learning	self-researching and further reading	12	30
insufficient training	did not get or receive any PW training	8	12
Interest from outside the team	good news, general commentary or enquiries from other wards	17	48
Interest from the team	general interest from team members, curiosity about PW	20	56
Involving the team	descriptions of how the ward team were involved in PW and PW work	22	95
lack of meetings	no regular updates or ward meetings on PW	10	21
lack of progress	little interest in moving the project on, lack of momentum	12	26
Leadership	examples of ward staff going out of their way to follow the ward lead	13	26
Lessons learned	Tips for roll-out or start-up by another ward	22	76
little enthusiasm	poor motivation/enthusiasm for the programme	15	44
Love of Specialist area	positive affirmation of liking/loving working in rehabilitation	2	6
Love work	Positive affirmation of loving/liking work current work environment	8	12
maintaining momentum	keeping up with the pace of the roll-out	7	21
More from meetings	Examples of wanting more from the meetings, notes attendance etc.	7	9
More incentives	Providing incentives/opportunities to entice staff to engage more with it..	6	9
more information	reference to needing more information...to disseminate ideas	6	14
More involved	should of been/could have been more involved	13	20
More open to change	consequence or result of being involved in PW	6	8
More room for improvement	Some work done but more to do..not quite there	4	4
More time	not enough time to implement	12	25

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
more training	reference to access to training... more training, more meetings	7	13
More work than we thought	description or examples of when the project work surprised or overwhelmed	8	10
negative feedback	poor experience/feedback in relation to PW	17	66
Networking others	Learning from good for developing a network, strength in developing a network	8	24
No Access to Information	Module information pack or details in relation to the PW is not made available.	3	4
No consultation	references to no communication or prior consultation in relation to introducing or implementing PW	10	25
No further training	only training was MIT training, no further on the ward training took place	11	18
No Improvement	negative comment possibly worse than before	4	14
No Management engagement	details/examples of no management involvement	18	54
No project plan	no knowledge of plan or roll-out strategy is vague	16	32
No resources	no help or assistance was provided	15	32
Non-nursing role	reference to PW helping shed or re-assign a non-nursing role	3	3
Not engaged	Not involved, not communicated with	21	105
not my job	references to not being a manager or not being paid sufficiently or not in my job	12	22
Not sustained	No commitment or evidence to sustain, maintain or continue with PW	10	15
Nothing new in this	Attitude or understanding that there is nothing new in productive ward. we are doing it already	3	5
Other modes of communication	PW training/improvements being communicated in different ways	21	48
Other work priorities	details of when other clinical or ward work took priority over PW work	11	18
Overworked	too onerous on staff	8	13

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Ownership	who owns the project	20	72
part-time	comments in relation to working full-time or part-time	2	6
patient experience	impact that PW may or may not have had on patients	8	10
Patient focus	Commentary relating to 1any initiative that has a patient focus or deemed better for the patient/patient benefits	12	45
Patient information	details of information that was given to patients/clients in relation to PW	14	21
Patients not involved	Referring to expressions that patients were not consulted or involved in the initiative.	10	16
Poor communication	Not spoken with, not discussed	13	49
poor experience of training	examples of poor feedback with the training, elements of the training	6	10
Positive experience	Positive feedback or example of positive outcome	20	67
pride in work	examples/descriptions of pride in work, pride in team	3	3
Priority	emphasising the priority of the initiative on the ward	5	6
Programme is valued	statement around the need for the need for the programme/change/improvement	13	32
PW modules Knowledge	Familiarity with the PW boxset, tools, programme	14	38
Reason for being on ward	Contextual background provided by participant as to why they are where they are	5	10
Reason for slow progress	Excuses/reasons for little or no progress with the initiative	15	78
Reliance on the project Lead	Describing work that should be or is promised to be undertaken by the project lead	10	22
Seniority	Being seen or describing oneself as 'senior'	2	6
Some progress	some type of progress, momentum or change or improvement, half-baked progress	19	51
Specialist qualification	Further education in the clinical specialism	1	4

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Staffing pressures	Too little staff to meet or make progress	11	42
Success	A quick win, a point of success	20	67
Success not attributed to PW	Examples when success/change/improvement is not attributed to PW	16	28
sustaining the changes	Reference or examples to maintaining the improvements or trying to sustain the changes	18	37
Team approach	Success is down to the team effort and not just one individual	15	52
Team not involved	Team not buying in or not part of the process	23	115
Teething Problem	Change/initiative taking time to bed-in	10	13
There to stay	Experience of sustaining or long-lived change	16	33
time was saved	PW activity saved time	11	30
Too Busy	overworked, overloaded with work	16	56
too much going on	Too busy, no time to implement	16	42
too much paperwork	Describing the amount of paperwork that blocks the system...	3	3
Too rushed	Needs more meetings	5	8
Tool to improve	examples or descriptions of how the modules/tools were used positively	11	24
Training	received training, attended training or got training	17	31
Uncomfortable Staff	Staff Wary or uncomfortable with content/exercises/programme or elements of same	13	28
Understanding other grades	Being able to work on par with other professionals	13	31
Understanding the Process	Staff understanding what is behind the PW initiative	14	32
unfair allocation of work	The way certain staff get away with no PW work and some don't	2	3
unfamiliar with material	poor understanding of PW tools and boxset	17	54
Unfamiliar with Progress	detail in relation to where the initiative is not known or vague	7	23

Appendix O: Coding Book (All cycles of coding)

Coding Book for Phase 2: Categorising			
Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Aspects of how the initiative was managed	Expressions relating to how the PW project or initiative was managed.		
á la carte approach	just taking some of the elements of modules or PW QI work	8	15
additional training	examples of additional teaching, training or dissemination of PW material	5	10
Certain staff chosen	Referring to the fact that certain staff led out on element of PW or were chosen for training.	17	55
Competing with other PW's	comments or references to jealousy or rivalry between PW;s	4	5
Drivers for PW	Champions, drivers, change agents people/things that drive the programme	19	71
extra resources	information in relation to any extra resources received a part of PW	17	29
Financially supported	Sign of corporate intent	16	26
Good communication	Examples of how and when communication was provided effectively in relation to PW and its implementation	19	59
Good programme-good support for the PW	positive affirmation statement about PW or support from the team	16	31
Good project plan	Reference to a good plan for roll-out or module progression	9	10
Good Training	Good experience of training	17	41
How ward was chosen	Description/explanation of how PW ended up on this ward	20	34
how work is allocated	The ways in which people get work.get allocated work	3	7
Independent learning	self-researching and further reading	12	30
insufficient training	did not get or receive any PW training	8	12

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Interest from outside the team	good news, general commentary or enquiries from other wards	17	48
Lessons learned	Tips for roll-out or start-up by another ward	22	76
maintaining momentum	keeping up with the pace of the roll-out	7	21
More from meetings	Examples of wanting more from the meetings, notes attendance etc.	7	9
More incentives	Providing incentives/opportunities to entice staff to engage more with it.	6	9
more information	reference to needing more information...to disseminate ideas	6	14
More time	not enough time to implement	12	25
more training	reference to access to training... more training, more meetings	7	13
Networking Learning from others	good for developing a network, strength in developing a network	8	24
No further training	only training was MIT training, no further on the ward training took place	11	18
No Management engagement	details/examples of no management involvement	18	54
No project plan	no knowledge of plan or roll-out strategy is vague	16	32
other work priorities	details of when other clinical or ward work took priority over PW work	11	18
Patient information	details of information that was given to patients/clients in relation to PW	14	21
Poor communication	Not spoken with, not discussed	13	49
poor experience of training	examples of poor feedback with the training, elements of the training	6	10
PW modules Knowledge	Familiarity with the PW boxset, tools, programme	14	38
Reason for slow progress	Excuses/reasons for little or no progress with the initiative	15	78
Reliance on the project Lead	Describing work that should be or is promised to be undertaken by the project lead	10	22
some progress	some type of progress, momentum or change or improvement, half-baked progress	19	51
sustaining the changes	Reference or examples to maintaining the improvements or trying to sustain the changes	18	37
Teething Problem	Change/initiative taking time to bed-in	10	13
Training	received training, attended training or got training	17	31
Uncomfortable Staff	Staff Wary or uncomfortable with content/exercises/programme or elements of	13	28

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Understanding other grades	Being able to work on par with other professionals	13	31
Understanding the Process	Staff understanding what is behind the PW initiative	14	32
unfamiliar with material	poor understanding of PW tools and boxset	17	54
Unfamiliar with Progress	detail in relation to where the initiative is not known or vague	7	23
Well Informed	Knowing about PW and modules	12	20
Empowering Aspects	Nodes that host examples of empowerment		
Corporate support	visible support from the members of the management team	17	55
Empowered	Being able to do the job	13	53
Leadership	Types and levels of leadership that influence		
poor ward leadership	Examples of criticism in the ward leaders decision, role in the PW initiative	5	14
Positive Leadership	examples of ward staff going out of their way to follow the ward lead	13	26
helped ward lead	Given structure, assistance to the ward manager	19	40
Ward Leader Communication	Dialogue/information dissemination with Ward leads	22	78
Ward sisters work	work/progress attributed to the efforts of the ward sister	20	46
Negative Experiences of Implementation	All negative experiences of the initiative, its implementation and roll-out		
broken promise	references in relation to promises or 'leverage' that were given to ward and not delivered	3	3
budget constraints	Money prevented progress/implementation	4	6
challenges	reference to challenge or a challenge described	18	49
Competing Priorities	Other national initiatives/priorities/projects	10	32
Disenables	Examples of people or things that were highlighted as disabling implementation or progress	15	37
dishonest communication	examples or reports of not dishonest communication within the team or project group	7	10

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Disillusioned-disappointed	Fed up or running out of enthusiasm	17	30
Don't like change	negative feedback in relation to the improvement work, change, project	12	27
Don't like learning	shying away from new things	3	4
Don't like new ideas	Staff resisting or disliking new ideas	10	16
Extra Pressure	Just seen as another pressure on top of full days	4	7
Happy to just do their work	describes team-members who just want to do their work and go home	2	3
Help not helpful	discussion around the extra help not being helpful	2	2
Imposed change	examples or instances where change happened but was forced or imposed on the ward team	10	20
lack of meetings	no regular updates or ward meetings on PW	10	21
lack of progress	little interest in moving the project on, lack of momentum	12	26
little enthusiasm	poor motivation/enthusiasm for the programme	15	44
More involved	should of been/could have been more involved	13	20
more room for improvement	Some work done but more to do. Not quite there	4	4
More work than we thought	description or examples of when the project work surprised or overwhelmed	8	10
negative feedback	poor experience/feedback in relation to PW	17	66
No Access to Information	Module information pack or details in relation to the PW is not made available.	3	4
No consultation	references to no communication or prior consultation in relation to introducing or implementing PW	10	25
No Improvement	negative comment possibly worse than before	4	14
No Need to Improve-Change	references to not seeing the point to improve or change or opposing PW work	3	6
No resources	no help or assistance was provided	15	32
Non-nursing role	reference to PW helping shed or re-assign a non-nursing role	3	3

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Not engaged	Not involved, not communicated with	21	105
Not my job	references to not being a manager or not being paid sufficiently or not in my job	12	22
Not sustained	No commitment or evidence to sustain, maintain or continue with PW	10	15
Nothing new in this	Attitude or understanding that there is nothing new in productive ward. we are doing it already	3	5
Overworked	Too onerous on staff	8	13
Patients not involved	Referring to expressions that patients were not consulted or involved in the initiative.	10	16
Priority	emphasising the priority of the initiative on the ward	5	6
Seniority	Being seen or describing oneself as 'senior'	2	6
Staffing pressures	Too little staff to meet or make progress	11	42
Team not involved	Team not buying in or not part of the process	23	115
Too Busy	overworked, overloaded with work	16	56
Too much going on	Too busy, no time to implement	16	42
Too much paperwork	Describing the amount of paperwork that blocks the system...	3	3
Too rushed	Needs more meetings	5	8
Unfair allocation of work	The way certain staff get away with no PW work and some don't	2	3
what's in it for me	valuing the contribution staff give or make	3	6
Work not shared	Work is not shared/just one person leading	20	67
Nodes not used or categorised	Don't seem to fit into the research question		
Current Job	What my current role entails, how it has been effected	25	30

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Love of Specialist area	positive affirmation of liking/loving working in rehabilitation	2	6
part-time	comments in relation to working full-time or part-time	2	6
Reason for being on ward	Contextual background provided by participant as to why they are where they are	5	10
Specialist qualification	Further education in the clinical specialism	1	4
Organisational Benefit	Examples and descriptions of how the organisation has benefitted		
Financial saving	A description or positive experience of PW saving time	6	7
Highlighting the waste-risks	PW demonstrating the waste or the risks on the ward with the processes	16	35
Idea Generator	Experience of innovation or idea generation stimulation	20	75
Improvement success	detail of small or incremental changes that are positive	22	130
Love work	Positive affirmation of loving/liking work current work environment	8	12
Made us more aware	examples or descriptions of how PW has made team more aware	2	3
Patient experience	impact that PW may or may not have had on patients	8	10
Patient focus	Commentary relating to 1any initiative that has a patient focus or deemed better for the	12	45
Programme is valued	statement around the need for the need for the programme/change/improvement	13	32
Success	A quick win, a point of success	20	67
Success not attributed to PW	Examples when success/change/improvement is not attributed to PW	16	28
There to stay	Experience of sustaining or long-lived change	16	33
time was saved	PW activity saved time	11	30
Using the time	descriptions in relation to what was done with the time that was saved	6	7
Very Structured	PW has made the ward or the work very structured now compared to before	7	7
Vision	example or reference to wanting a vision or an end-game, end-place	6	7

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Positive workplace behaviours	Examples of generally positive behavioural outcomes from the initiative		
Champions	examples of other show case wards or other hospitals who have done well	16	28
Change	difficult to change or make changes	12	37
Encouragement	a desire for more drive/pace/momentum with the programme	11	18
Engaging	getting involved, being more involved	19	70
Enthusiasm	showing energy or vigour to do something	19	53
Expanded-enhanced Role	Examples of how the programme or programme work has helped expand ones role.	5	10
Interest from the team	general interest from team members, curiosity about PW	20	56
Involving the team	Examples of how the PW or the activities involved the team	22	95
More open to change	consequence or result of being involved in PW	6	8
Other modes of communication	PW training/improvements being communicated in different ways	21	48
Ownership	who owns the project	20	72
Positive experience	Positive feedback or example of positive outcome	20	67
Benefits	examples of how everyone benefits from PW	2	2
pride in work	examples/descriptions of pride in work, pride in team	3	3
Team approach	Success is down to the team effort and not just one individual	15	52
Tool to improve	examples or descriptions of how the modules/tools were used positively	11	24
What we want	examples, descriptions about getting the ward team what they want	11	16

Appendix O: Coding Book (All cycles of coding)

Coding Book for Phase 3: Coding on			
Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
How the initiative was implemented-managed	changed from just managed after phase 2 coding	26	1678
Information and communication	Positive and Negative examples of information and communication that influence how the initiative was implemented or managed	24	136
Disabling Information and Communication	List of feedback/experiences which disabled effective information-dissemination/communication	0	0
dishonest communication	examples or reports of not dishonest communication within the team or project group	6	9
broken promises	references in relation to promises or 'leverage' that were given to ward and not delivered	2	3
lack of information	reference to needing more information...to disseminate ideas (previously coded as 'more information')	9	17
lack of meetings	no regular updates or ward meetings on PW	10	19
No Access to Information	Module information pack or details in relation to the PW is not made available.	2	4
No consultation	References to no communication or prior consultation in relation to introducing or implementing PW	9	24
No shared project plan	no knowledge of plan or roll-out strategy is vague	16	32
Poor communication	Not spoken with, not discussed	13	50
Unfamiliar with Progress	detail in relation to where the initiative is not known or vague	7	21
Enabling Communication-Information	List of experiences of good communication and information	24	136
Being well Informed	Knowing about PW and modules (previously coded as well informed)	12	19
Effective meetings	Examples of good meetings and references to wanting more from the meetings, notes attendance etc. (previously coded as more from meetings)	7	9
Good communication	Examples of how and when communication was provided effectively in relation to PW and its implementation	24	99

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Other modes of communication	PW training/improvements being communicated in different ways	20	42
Good project plan	Reference to a good plan for roll-out or module progression	8	9
<i>Negative Experiences of Implementation</i>	All negative experiences of the initiative, its implementation and roll-out	25	650
challenges	reference to challenge or a challenge described	25	279
budget constraints	Money prevented progress/implementation	4	6
Competing Priorities	Other national initiatives/priorities/projects	23	164
Additional Pressure	Just seen as another pressure on top of full days (formerly coded as extra pressure)	4	6
Too Busy	overworked, overloaded with work	18	77
More time	not enough time to implement	9	19
too much going on	Too busy, no time to implement	16	43
too much paperwork	Describing the amount of paperwork that blocks the system...	3	3
Too rushed	Needs more meetings	5	7
Environmental constraints	instances of reduced room, clutter, special issues, layout	6	16
PSAG Confidentiality issues	Expressions relating to the confidentiality concerns of the PSAG board	2	3
lack of progress	little interest in moving the project on, lack of momentum	14	28
Non-nursing role	reference to PW helping shed or re-assign a non-nursing role	5	5
Staffing pressures	Too little staff to meet or make progress	19	60
Help not helpful	discussion around the extra help not being helpful	1	1
Overworked	too onerous on staff	8	13
More work than we thought	description or examples of when the project work surprised or overwhelmed	8	9
Disenablers	Examples of people or things that were highlighted as disabling implementation or progress	24	279
Don't like change	negative feedback in relation to the improvement work, change, project	14	31
Don't like learning	shying away from new things	3	3
Don't like new ideas	Staff resisting or disliking new ideas	10	15

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Happy to just do their work	describes team-members who just want to do their work and go home	2	2
Imposed change	examples or instances where change happened but was forced or imposed on the ward team	9	18
Made Staff Uncomfortable	Staff Wary or uncomfortable with content/exercises/programme or elements of same (formerly coded as uncomfortable staff)	13	30
No Improvement	negative comment possibly worse than before	3	13
No Need to Improve-Change	references to not seeing the point to improve or change or opposing PW work	2	5
Nothing new in this	Attitude or understanding that there is nothing new in productive ward. we are doing it already	2	4
little enthusiasm-interest	poor motivation/enthusiasm for the programme	15	44
little interest from outside the ward	examples of little or no interest from outside the ward/team	3	3
Not got Involved-engaged	Not involved, not communicated with (previously cited as not engaged)	21	103
Team not involved	Team not buying in or not part of the process	23	115
Work not shared	Work is not shared/just one person leading	18	64
how work is allocated	The ways in which people get work...get allocated work	2	4
unfair allocation of work	The way certain staff get away with no PW work and some don't	1	2
negative feedback	poor experience/feedback in relation to PW	22	92
Disillusioned-disappointed	Fed up or running out of enthusiasm	16	27
Preparation for PW	all nodes identifying any pre-PW work, experiences	22	74
How ward was chosen	Description/explanation of how PW ended up on this ward	19	34
No consultation-knowledge of how ward was chosen	no knowledge of how ward became part of the PW initiative	13	19
Independent Research and preparation	Self-researching and further reading...(previously coded independent learning)	10	22
Prepared-informed in advance	Knowing about PW and modules (formerly coded as well informed)	11	18
Project Management	all nodes relating to how the initiative was planned, operationalised and managed	26	752

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Choosing Certain staff	Referring to the fact that certain staff led out on element of PW or were chosen for training.	17	49
Competition between PWs	comments or references to jealousy, rivalry competition between PW;s (previously coded as Competing with other PW's)	3	4
Corporate support	visible support from the members of the management team	24	106
No Management engagement	details/examples of no management involvement	20	59
Drivers for PW	Champions, drivers, change agents people/things that drive the programme	21	81
Corporate Drivers	Examples of the corporate team pushing/driving PW	1	4
Incentivised	Providing incentives/opportunities to entice staff to engage more with it... (previously coded as more incentives)	5	6
Patient-care Drivers	Examples of when patients or patient care was the driver behind PW	6	8
Time-saving Drivers	Examples of time saving being the driver behind PW	6	11
Work-Process-Flow Drivers	Examples of work/environment/process's driving PW	18	52
Extra resources provided	information in relation to any extra resources received a part of PW (previously coded as extra resources)	23	79
Being Financially supported	Sign of corporate intent and commitment (formerly coded as financially supported)	16	22
No extra resources provided	no help or assistance was provided (previously coded as no resources) a possible sign of no corporate engagement	17	35
Involving-Informing the patients	Detail or examples of how patients were involved in the initiative (formerly coded as patient information)	18	35
No Patient information	examples of PW's that didn't actively inform/involve the patients	3	3
Patients not involved	Referring to expressions that patients were not consulted or involved in the initiative.	9	15
maintaining momentum	keeping up with the pace of the roll-out	24	155
more room for improvement	Some work done but more to do...not quite there	3	3
Reason for slow progress	Excuses/reasons for little or no progress with the initiative	15	67
some progress	some type of progress, momentum or change or improvement, half-baked progress	19	52
Teething Problem	Change/initiative taking time to bed-in	9	13

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Teething Problem	Change/initiative taking time to bed-in	9	13
Managing work priorities	formerly coded as other work priorities	11	16
PW modules Knowledge	Familiarity with the PW boxset, tools, programme	23	113
Taking an á la carte approach	just taking some of the elements of modules or PW QI work (previously coded as a la carte)	8	15
Understanding the materials-concept	Staff understanding what is behind the PW initiative (previously coded as understanding the	11	20
No understanding of material-concept	examples of where there was no understanding/poor understanding of either the material or the improvement/PW concept	7	12
unfamiliar with material	poor understanding of PW tools and boxset	21	60
sustaining the changes	Reference or examples to maintaining the improvements or trying to sustain the changes	23	114
Not sustained	No commitment or evidence to sustain, maintain or continue with PW	11	16
Ownership	who owns the project	14	31
Getting people more involved	should of been/could have been more involved (previously cited as 'more involved')	13	19
not my job	references to not being a manager or not being paid sufficiently or not in my job	12	20
Ownership not shared	Examples of where the ward team have not taken on or owned the project	15	37
There to stay	Experience of sustaining or long-lived change	16	32
The Training	All nodes relating to experience of training	23	66
additional-further training	examples of additional teaching, training or dissemination of PW material (previously coded as	4	8
No further training	only training was MIT training, no further on the ward training took place	11	17
insufficient training	did not get or receive any PW training	14	27
more training needed	reference to access to training... more training, more meetings (previously cited as 'more training needed')	9	17

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Received Training	received training, attended training or got training (formerly coded as training)	16	31
Good experience of Training	examples or citations of Good experiences from the training	16	38
poor experience of training	examples of poor feedback with the training, elements of the training	6	9
Leadership	Types and levels of leadership that influence	25	223
<i>A Reliance on the ward-project Lead</i>	Describing work that should be or is promised to be undertaken by the ward/project lead	25	102
Dependant on Ward Leader-managers Communication	Dialogue/information dissemination with Ward leads (formerly coded as ward leaders	22	78
<i>Highlighted Positive Leadership</i>	examples of ward staff going out of their way to follow the ward lead (formerly coded as positive leadership)	25	121
helped ward lead-ward manage	Given structure, assistance to the ward manager	19	37
highlighted poor ward-manager leadership	Examples of criticism in the ward leaders decision, role in the PW initiative (formerly coded as poor ward leadership)	4	13
ward manager-leaders influence	work/progress attributed to the efforts of the ward sister (formerly coded as ward sisters work)	20	46
Nodes not used or categorised	don't seem to fit into the research question	26	73
Current Job	What my current role entails, how it has been effected	24	29
Love of Specialist area	positive affirmation of liking/loving working in rehabilitation	2	5
Love or happy @ work	Positive affirmation of loving/liking work current work environment	6	7
part-time	comments in relation to working full-time or part-time	2	5
Priority	emphasising the priority of the initiative on the ward	5	6
Reason for being on ward	Contextual background provided by participant as to why they are where they are	5	9
Seniority	Being seen or describing oneself as 'senior'	2	5
Specialist qualification	Further education in the clinical specialism	1	3
what's in it for me	valuing the contribution staff give or make	2	4

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Organisational Benefits	Examples and descriptions of how the organisation has benefitted from PW	24	269
Achievements-success	A quick win, a feeling of success (formerly coded as success)	20	66
Created improvement awareness	examples or descriptions of how PW has made team more aware (previously coded as made us more aware)	9	18
Created Interest from outside the team	good news, general commentary or enquiries from other wards (formerly coded as interest from	15	42
Financial saving	A description or positive experience of PW saving time	5	6
Highlighted the waste	PW demonstrating the waste or the risks on the ward with the processes... formerly waste & risks	14	34
Improvements	detail of small or incremental changes that are positive	22	133
Employee or Staff-related	Example when improvements were staff related	10	19
pride in work	examples/descriptions of pride in work, pride in team	3	3
Other Achievements-Successes not attributed to PW	Examples when success/change/improvement is not attributed to PW	16	27
time saved	PW activity saved time (formerly coded as time was saved)	11	29
Using the time saved	Examples or recognising that the time saved was used for something else...	5	6
Enabled Change	Examples of change or making changes...(formerly coded as 'change')	13	36
More open to change	consequence or result of being involved in PW	5	7
Impacted on the patient experience	impact that PW may or may not have had on patients	17	55
Maintained Patient focus	Commentary relating to 1any initiative that has a patient focus or deemed better for the patient/patient benefits (formerly coded as just	14	42
No impact on the patient experience	statements saying that the PW has not made a difference to the patients	6	7
Provided Structure	PW has made the ward or the work very structured now compared to before (formerly coded as 'very structured')	21	112
Helped create a vision	example or reference to wanting a vision or an end-game, end-place (formerly coded as vision)	3	3
What we want	examples, descriptions about getting the ward team what they want	8	12
Idea Generator & Innovator	Experience of innovation or idea generation stimulation	19	75

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
Tool to improve	examples or descriptions of how the modules/tools were used positively	11	25
Positive experiences-behaviours-attitudes	Examples of generally positive behavioural outcomes from the initiative	24	552
Creating Champions	examples of other show case wards or other hospitals who have done well (previously coded as champions)	14	24
Empowering Aspects	Nodes that host examples of empowerment	13	53
Empowered by the approach	Details and examples of how the PW approach/methods empowered	8	14
Empowered to make change	examples when PW has helped people change (formerly coded as 'empowered for change')	6	8
Empowered with Knowledge	Examples of how PW education or knowledge has empowered	3	5
Provided Opportunities-permission	examples of how PW has brought forward empowerment opportunities (formerly coded as	10	26
Encouraging	a desire for more drive/pace/momentum with the programme (formerly coded as encouragement)	11	15
Enhanced job or role	Examples of how the programme or programme work has helped expand ones role. (Previously	5	10
Enhanced Team approach	Success is down to the team effort and not just one individual (formerly coded as team approach)	21	202
Interest from the team	general interest from team members, curiosity about PW	19	56
Involving the team	descriptions of how the ward team were involved in PW and PW work	21	95
Enthusiasm	showing energy or vigour to do something	19	50
Involvement-Inclusion	getting involved, being more involved (formerly coded as engaging)	20	72
<i>Positive experiences</i>	Positive feedback or example of positive outcome	22	126
Personal support for the programme.	positive affirmation statement about how good PW is and the support for it Previously coded at;; Good programme-good support for the	16	30
Programme is valued	statement around the need for the need for the programme/change/improvement	12	30
The Learning	All nodes in relation to what lessons were learned during PW implementation	21	92
Lessons learned	Tips for roll-out or start-up by another ward	21	73
Networking-Learning from others	good for developing a network, strength in developing a network	7	19

Appendix O: Coding Book (All cycles of coding)

Coding Book for Phase 4: Final Hierarchical Themes			
Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Implementation & Management	Recoded to Implementation & Management after Coding on (Changed from how the initiative was implemented-managed changed from just managed after phase 2 coding)	24	1842
Information and communication	Positive and Negative examples of information and communication that influence how the initiative was implemented or managed	24	311
Disabling Information and Communication	List of feedback/experiences which disabled effective information-dissemination/communication	22	176
dishonest communication	examples or reports of not dishonest communication within the team or project group	6	9
broken promises	references in relation to promises or 'leverage' that were given to ward team that never	2	3
lack of information	reference to needing more information...to disseminate ideas (previously coded as 'more information')	9	17
lack of meetings	no regular updates or ward meetings on PW	10	19
No Access to Information	Module information pack or details in relation to the PW is not made available.	2	4
No consultation	References to no communication or prior consultation in relation to introducing or implementing PW	9	24
No shared project plan	no knowledge of plan or roll-out strategy is vague	16	32
Poor communication	Not spoken with, not discussed	13	50
Unfamiliar with Progress	detail in relation to where the initiative is not known or vague	7	21
Enabling Communication-Information	List of experiences of good communication and information	23	135
Being well Informed	Knowing about PW and modules (previously coded as well informed)	12	19
Effective meetings	Examples of good meetings and references to wanting more from the meetings, notes attendance etc. (previously coded as more from meetings)	7	9
Good communication	Examples of how and when communication was provided effectively in relation to PW and its implementation	23	98

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Other modes of communication	PW training/improvements being communicated in different ways	20	42
Good project plan	Reference to a good plan for roll-out or module progression	8	9
<i>Negative Experiences of Implementation</i>	All negative experiences of the initiative, its implementation and roll-out	24	643
challenges	reference to challenge or a challenge described	24	276
budget constraints	Money prevented progress/implementation	4	6
Competing Priorities	Other national initiatives/priorities/projects	22	162
Additional Pressure	Just seen as another pressure on top of full days (formerly coded as extra pressure)	4	6
Too Busy	overworked, overloaded with work	17	76
More time	not enough time to implement	8	18
too much going on	Too busy, no time to implement	16	43
too much paperwork	Describing the amount of paperwork that blocks the system...	3	3
Too rushed	Needs more meetings	4	6
Environmental constraints	instances of reduced room, clutter, space issues, layout	6	16
PSAG Confidentiality issues	Expressions relating to the confidentiality concerns of the PSAG board	2	3
lack of progress	little interest in moving the project on, lack of momentum	14	28
Non-nursing role	reference to PW helping shed or re-assign a non-nursing role	5	5
Staffing pressures	Too little staff to meet or make progress	18	59
Help not helpful	discussion around the extra help not being helpful	1	1
Overworked	Too onerous on staff	8	13
More work than we thought	description or examples of when the project work surprised or overwhelmed	8	9
Disenablers	Examples of people or things that were highlighted as disabling implementation or progress	23	276
Don't like change	negative feedback in relation to the improvement work, change, project	14	31
Don't like learning	shying away from new things	3	3
Don't like new ideas	Staff resisting or disliking new ideas	10	15

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Happy to just do their work	describes team-members who just want to do their work and go home	2	2
Imposed change	examples or instances where change happened but was forced or imposed on the ward team	9	18
Made Staff Uncomfortable	Staff Wary or uncomfortable with content/exercises/programme or elements of same (formerly coded as uncomfortable staff)	13	30
No Improvement	negative comment possibly worse than before	3	13
No Need to Improve-Change	references to not seeing the point to improve or change or opposing PW work	2	5
Nothing new in this	Attitude or understanding that there is nothing new in productive ward. we are doing it already	2	4
little enthusiasm-interest	poor motivation/enthusiasm for the programme	15	44
little interest from outside the ward	examples of little or no interest from outside the ward/team	3	3
Not got Involved-engaged	Not involved, not communicated with (previously cited as not engaged)	20	100
Team not involved	Team not buying in or not part of the process	22	114
Work not shared	Work is not shared/just one person leading	18	64
how work is allocated	The ways in which people get work...get allocated work	2	4
unfair allocation of work	The way certain staff get away with no PW work and some don't	1	2
negative feedback	poor experience/feedback in relation to PW	21	91
Disillusioned-disappointed	Fed up or running out of enthusiasm	16	27
Preparation for PW	all nodes identifying any pre-PW work, experiences	22	74
How ward was chosen	Description/explanation of how PW ended up on this ward	19	34
No consultation-knowledge of how ward was chosen	no knowledge of how ward became part of the PW initiative	13	19
Independent Research and preparation	self-researching and further reading...(previously coded independent learning)	10	22
Prepared-informed in advance	Knowing about PW and modules (formerly coded as well informed)	11	18
Project Management	all nodes relating to how the initiative was planned, operationalised and managed	24	749

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
Choosing Certain staff	Referring to the fact that certain staff led out on element of PW or were chosen for training.	16	48
Competition between PWs	comments or references to jealousy, rivalry competition between PW;s (previously coded as Competing with other PW's)	3	4
Corporate support	visible support from the members of the management team	24	106
No Management engagement	details/examples of no management involvement	20	59
Drivers for PW	Champions, drivers, change agents people/things that drive the programme	20	80
Corporate Drivers	Examples of the corporate team pushing/driving PW	1	4
Incentivised	Providing incentives/opportunities to entice staff to engage more with it... (previously coded as more incentives)	4	5
Patient-care Drivers	Examples of when patients or patient care was the driver behind PW	6	8
Time-saving Drivers	Examples of time saving being the driver behind PW	6	11
Work-Process-Flow Drivers	Examples of work/environment/process's driving PW	18	52
Extra resources provided	information in relation to any extra resources received a part of PW (previously coded as extra resources)	23	79
Being Financially supported	Sign of corporate intent and commitment (formerly coded as financially supported)	16	22
No extra resources provided	no help or assistance was provided (previously coded as no resources) a possible sign of no corporate engagement	17	35
Involving-Informing the patients	Detail or examples of how patients were involved in the initiative (formerly coded as patient information)	18	35
No Patient information	examples of PW's that didn't actively inform/involve the patients	3	3
Patients not involved	Referring to expressions that patients were not consulted or involved in the initiative.	9	15
maintaining momentum	keeping up with the pace of the roll-out	24	155
Managing work priorities	formerly coded as other work priorities	11	16
PW modules Knowledge	Familiarity with the PW boxset, tools, programme	22	112
Taking an á la carte approach	just taking some of the elements of modules or PW QI work (previously coded as a la carte)	8	15
Understanding the materials-concept	Staff understanding what is behind the PW initiative (previously coded as understanding the process)	11	20

Appendix O: Coding Book (All cycles of coding)

Name	Description/Criteria	Number Of Sources Coded	Number Of Coding References
No understanding of material-concept	examples of where there was no understanding/poor understanding of either the material or the improvement/PW concept	7	12
unfamiliar with material	poor understanding of PW tools and boxset	20	59
sustaining the changes	Reference or examples to maintaining the improvements or trying to sustain the changes	23	114
Not sustained	No commitment or evidence to sustain, maintain or continue with PW	11	16
Ownership	who owns the project	14	31
Getting people more involved	should of been/could have been more involved (previously cited as 'more involved')	13	19
not my job	references to not being a manager or not being paid sufficiently or not in my job	12	20
Ownership not shared	Examples of where the ward team have not taken on or owned the project	15	37
There to stay	Experience of sustaining or long-lived change	16	32
<i>The Training</i>	All nodes relating to experience of training	22	65
Additional-further training	examples of additional teaching, training or dissemination of PW material (previously coded as just additional training)	4	8
No further training	only training was MIT training, no further on the ward training took place	10	16
insufficient training	did not get or receive any PW training	13	26
more training needed	reference to access to training... more training, more meetings (previously cited as 'more training needed')	9	17
Received Training	received training, attended training or got training (formerly coded as training)	16	31
Good experience of Training	examples or citations of Good experiences from the training	16	38
poor experience of training	examples of poor feedback with the training, elements of the training	6	9
Leadership	Types and levels of leadership that influence	24	221
<i>A Reliance on the ward-project Lead</i>	Describing work that should be or is promised to be undertaken by the ward/project lead	24	101

Appendix O: Coding Book (All cycles of coding)

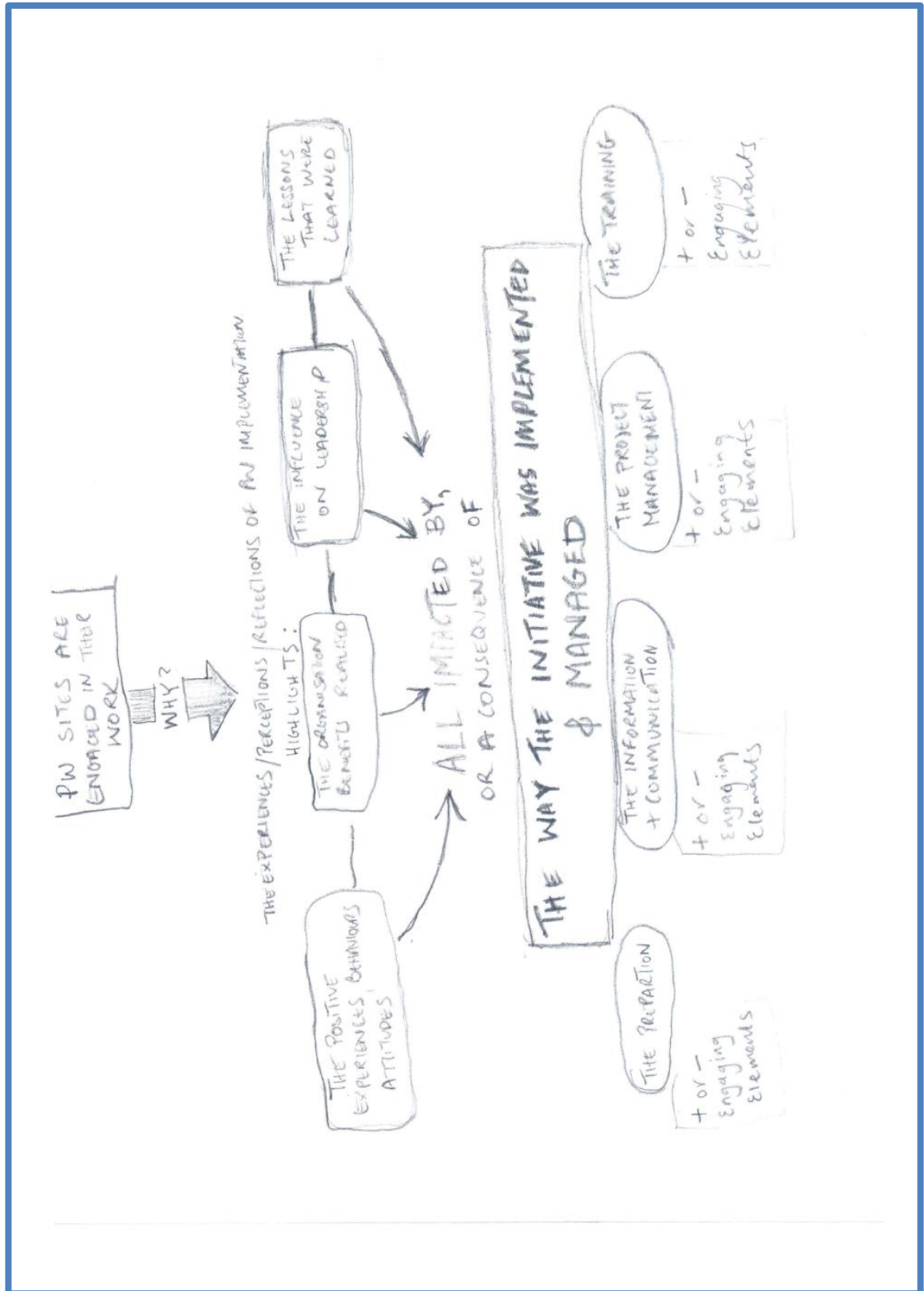
Name	Description	Number Of Sources Coded	Number Of Coding References
Dependant on Ward Leader-managers Communication	Dialogue/information dissemination with Ward leads (formerly coded as ward leaders	21	77
Highlighted Positive Leadership	examples of ward staff going out of their way to follow the ward lead (formerly coded as positive	24	120
helped ward lead-manager to manage	Given structure, assistance to the ward manager	19	37
Highlighted poor ward-manager leadership	Examples of criticism in the ward leaders decision, role in the PW initiative (formerly coded as poor ward leadership)	4	13
ward manager-leaders influence	work/progress attributed to the efforts of the ward sister (formerly coded as ward sisters work)	19	45
Organisational Benefits	A combination of benefits to both employees and the organisation	24	558
Achievements-success	A quick win, a feeling of success (formerly coded as success)	24	355
Created improvement awareness	examples or descriptions of how PW has made team more aware (previously coded as made us more aware)	9	18
Created Interest from outside the team	good news, general commentary or enquiries from other wards (formerly coded as interest from outside the team)	15	42
Financial saving	A description or positive experience of PW saving time	5	6
Highlighted the waste	PW demonstrating the waste or the risks on the ward with the processes... formerly waste & risks	14	34
Improvements	detail of small or incremental changes that are positive	22	133
Employee or Staff-related	Example when improvements were staff related	10	19
pride in work	examples/descriptions of pride in work, pride in team	3	3
Other Achievements-Successes not attributed to PW	Examples when success/change/improvement is not attributed to PW	16	27
time saved	PW activity saved time (formerly coded as time was saved)	11	29
Using the time saved	Examples or recognising that the time saved was used for something else...	5	6
Enabled Change	Examples of change or making changes...(formerly coded as 'change')	13	36
More open to change	consequence or result of being involved in PW	5	7
Impacted on the patient experience	impact that PW may or may not have had on patients	17	55
Maintained Patient focus	Commentary relating to 1any initiative that has a patient focus or deemed better for the patient/patient benefits (formerly coded as just	14	42

Appendix O: Coding Book (All cycles of coding)

Name	Description	Number Of Sources Coded	Number Of Coding References
No impact on the patient experience	statements saying that the PW has not made a difference to the patients	6	7
Provided Structure	PW has made the ward or the work very structured now compared to before (formerly coded as 'very structured')	21	112
Helped create a vision	example or reference to wanting a vision or an end-game, end-place (formerly coded as vision)	3	3
What we want	examples, descriptions about getting the ward team what they want	8	12
Idea Generator & Innovator	Experience of innovation or idea generation stimulation	19	75
Tool to improve	examples or descriptions of how the modules/tools were used positively	11	25
Positive experiences-behaviours-attitudes	Examples of generally positive behavioural outcomes from the initiative	24	552
Creating Champions	examples of other show case wards or other hospitals who have done well (previously coded as champions)	14	24
Empowering Aspects	Nodes that host examples of empowerment	13	53
Empowered by the approach	Details and examples of how the PW approach/methods empowered	8	14
Empowered to make change	examples when PW has helped people change (formerly coded as 'empowered for change')	6	8
Empowered with Knowledge	Examples of how PW education or knowledge has empowered	3	5
Provided Opportunities-permission	examples of how PW has brought forward empowerment opportunities (formerly coded as empowerment opportunities)	10	26
Encouraging	a desire for more drive/pace/momentum with the programme (formerly coded as encouragement)	11	15
Enhanced job or role	Examples of how the programme or programme work has helped expand ones role. (Previously coded as Expanded-enhanced job or role)	5	10
Enhanced Team approach	Success is down to the team effort and not just one individual (formerly coded as team approach)	21	202
Interest from the team	general interest from team members, curiosity about PW	19	56
Involving the team	descriptions of how the ward team were involved in PW and PW work	21	95
Enthusiasm	showing energy or vigour to do something	19	50
Involvement-Inclusion	getting involved, being more involved (formerly coded as engaging)	20	72
Positive experiences	Positive feedback or example of positive outcome	22	126

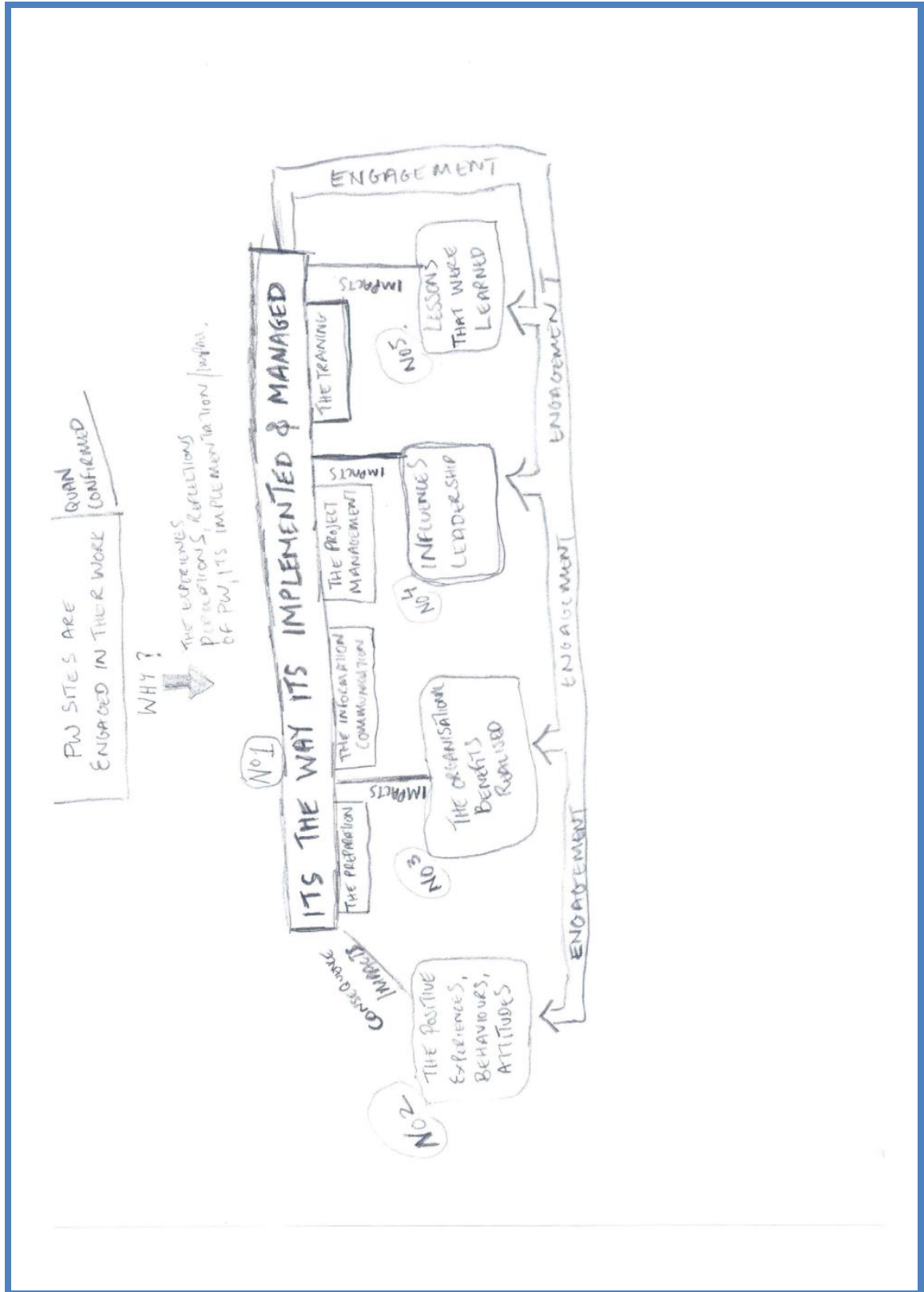
Appendix O: Coding Book (All cycles of coding)

Phase 5: Conceptualising/Generating Proposition Statements



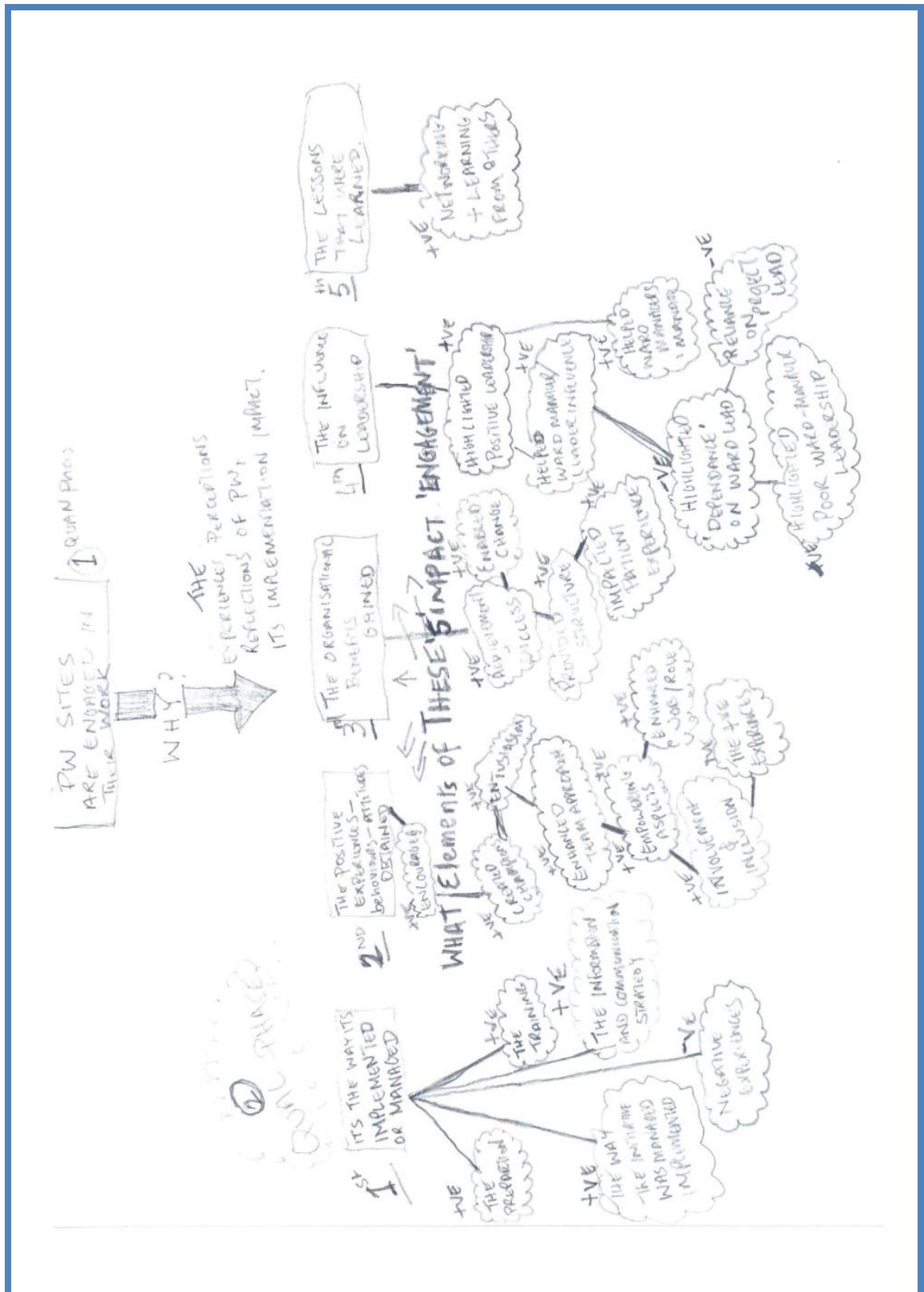
Appendix O: Coding Book (All cycles of coding)

Phase 5: Conceptualising/Generating Proposition Statements



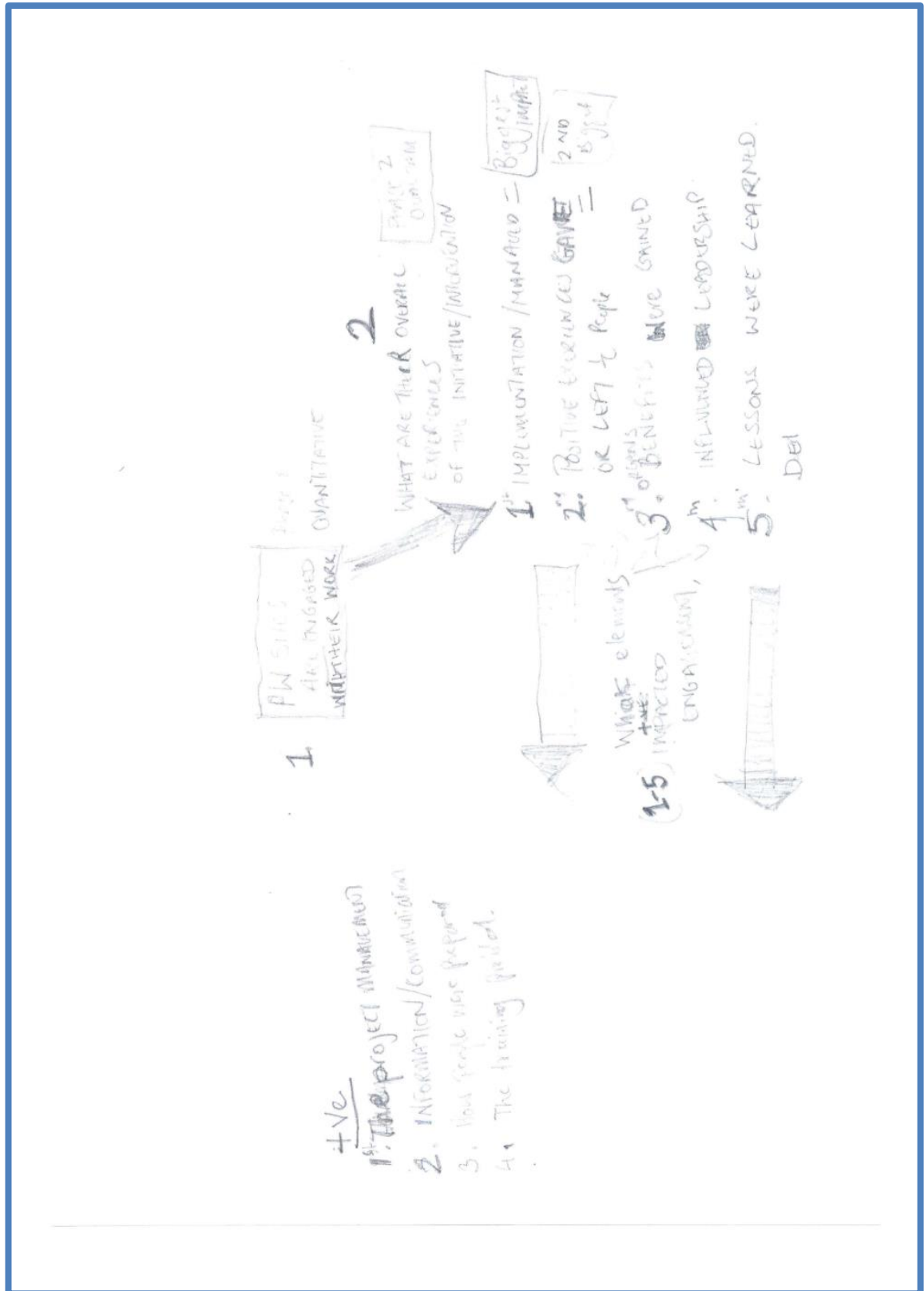
Appendix O: Coding Book (All cycles of coding)

Phase 5: Conceptualising/Generating Proposition Statements



Appendix O: Coding Book (All cycles of coding)

Phase 5: Conceptualising/Generating Proposition Statements



Appendix P: Activity Follow & Totaliser

Releasing Time to Care
The Productive Ward

TOTALISER V7

Populate orange sections only
Green areas will self populate

Institute for Innovation and Improvement

DIRECT CARE TIME CALCULATION

0%

		Hour	6-7am	7-8am	8-9am	9-10am	10-11am	11-12pm	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	Interruption Total	
DIRECT CARE TIME ASSESSMENT 1 Mark Per Minute Column Only	Motion	A Waking													0.0%	
		B Locking													0.0%	
		C Unlocking													0.0%	
		D Returning													0.0%	
	E Bed														0.0%	
	Admin (non medicine, non bed)	A Nurse Station														0.0%
		B Trolley														0.0%
		C Office														0.0%
		D Other														0.0%
	Handovers	A On ward APP														0.0%
		B Off ward APP														0.0%
		C Shared AP/APP														0.0%
		D Other														0.0%
	Medicines Management	A Medicines against														0.0%
		B Medicines stocking														0.0%
C Other															0.0%	
D Other															0.0%	
Discussion	A Verbal prompt														0.0%	
	B Bed prompt														0.0%	
	C Phone call prompt														0.0%	
	D Phone call prompt														0.0%	
Personal Hygiene	A Changing gloves and apron														0.0%	
	B Hand washing														0.0%	
	C Applying gel														0.0%	
	D Other														0.0%	
Patient Flow	A Admissions														0.0%	
	B Discharge														0.0%	
	C Logistics														0.0%	
	D Assessments														0.0%	
Other	A														0.0%	
	B														0.0%	
	C														0.0%	
	D														0.0%	
Direct Care (At patient bed or nr patient)	A Ward Round														0.0%	
	B Medicine Round														0.0%	
	C Teaching														0.0%	
	D Meal Round														0.0%	
	E Nutrition Management														0.0%	
	F Mobilising														0.0%	
	G Observations														0.0%	
	H Assessments														0.0%	
	I Nursing Procedures														0.0%	
	J Hygiene														0.0%	
	K Spec Making														0.0%	
	L Nipple Care														0.0%	
M Patient Communication														0.0%		
N Treatment Admin														0.0%		
INTENDED TASK TALLY 1 Mark Per Minute Column Only	A Bed Making														0.0%	
	B Patient Hygiene														0.0%	
	C Nursing Procedures														0.0%	
	D Ward Round														0.0%	
	E Medicine Round														0.0%	
	F Observations														0.0%	
	G Handovers														0.0%	
	H Trolley														0.0%	
	I Meal Round														0.0%	
	J Admissions														0.0%	
	K Discharge														0.0%	
	L Bedside Liaison														0.0%	
M Patient Communication														0.0%		
N Other														0.0%		
Interruption Counter 1 Mark Per Minute Column Only	Interrupted someone else														0.0%	
	Patience														0.0%	
	Advise														0.0%	
	Location of Equipment														0.0%	
	Location of Information														0.0%	
	Relatives														0.0%	
	General Staff Query														0.0%	
	Patient														0.0%	
	Other														0.0%	
	Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
	Interrupted by someone else															0.0%
	Patience															0.0%
Advise															0.0%	
Location of Equipment															0.0%	
Location of Information															0.0%	
Relatives															0.0%	
General Staff Query															0.0%	
Patient															0.0%	
Other															0.0%	
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	
GRAND TOTAL															0.0%	

DISTANCE TRAVELLED (M)		6-7am	7-8am	8-9am	9-10am	10-11am	11-12pm	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	Total
Total Distance Travelled METRES														0
Total Distance Travelled MILES														0

Total Interruption Summary	
0	Total Interruptions (Interrupts and Interrupted)
0%	Patience
0%	Advise
0%	Location of Equipment
0%	Location of Information
0%	Relatives
0%	General Staff Query
0%	Patient
0%	Other
0%	Interruption Rate (Interruptions / Hr (Total))
0%	Interruption Rate (Interruptions / Hr (Interruptions By Someone Else))
0%	Interruption Rate (Interruptions / Hr (Interruptions Someone Else))

Nick Downham

Appendix Q: General Linear Model Outputs

General linear Model output for T1 WE scores¹³

Parameter Estimates

Dependent Variable	Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Totalmean	Intercept	4.451	.165	26.977	.000	4.126	4.775
	[Grade=1]	.454	.217	2.093	.037	.027	.881
	[Grade=2]	-.022	.142	-.156	.876	-.301	.257
	[Grade=4]	0 ^a	.	.	.	.	.
	[Site=1]	-.562	.165	-3.399	.001	-.888	-.237
	[Site=2]	-.420	.174	-2.415	.016	-.763	-.078
	[Site=3]	-.442	.180	-2.458	.014	-.795	-.088
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.225	.108	2.081	.038	.012	.437
	[Group=2]	0 ^a	.	.	.	.	.
Vigor	Intercept	4.416	.184	24.064	.000	4.055	4.777
	[Grade=1]	.349	.241	1.444	.150	-.126	.824
	[Grade=2]	-.239	.158	-1.514	.131	-.550	.072
	[Grade=4]	0 ^a	.	.	.	.	.
	[Site=1]	-.422	.184	-2.292	.023	-.784	-.060
	[Site=2]	-.360	.194	-1.860	.064	-.741	.021
	[Site=3]	-.450	.200	-2.251	.025	-.843	-.057
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.238	.120	1.985	.048	.002	.475
	[Group=2]	0 ^a	.	.	.	.	.
Absorption	Intercept	4.066	.191	21.240	.000	3.690	4.443
	[Grade=1]	.672	.252	2.670	.008	.177	1.168
	[Grade=2]	.112	.165	.680	.497	-.212	.436
	[Grade=4]	0 ^a	.	.	.	.	.
	[Site=1]	-.653	.192	-3.401	.001	-1.031	-.275
	[Site=2]	-.559	.202	-2.768	.006	-.957	-.162
	[Site=3]	-.523	.208	-2.509	.013	-.933	-.113

¹³

Grade: 1= Nurse manager, Grade 2= Staff Nurse and Grade 4= Care assistant

Site: 1=Medical, 2=Surgical, 3=Rehab, 4=Elderly.

Group: 1= PW, 2=control.

Appendix Q: General Linear Model Outputs

	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.265	.125	2.118	.035	.019	.512
	[Group=2]	0 ^a	.	.	.	.	.
	Intercept	4.749	.189	25.080	.000	4.376	5.121
	[Grade=1]	.434	.249	1.740	.083	-.057	.924
	[Grade=2]	.076	.163	.466	.641	-.244	.396
	[Grade=4]	0 ^a	.	.	.	.	.
Dedication	[Site=1]	-.805	.190	-4.237	.000	-1.178	-.431
	[Site=2]	-.647	.200	-3.236	.001	-1.040	-.253
	[Site=3]	-.401	.206	-1.944	.053	-.806	.005
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.332	.124	2.681	.008	.088	.576
	[Group=2]	0 ^a	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

- ¹
- Grade:** 1= Nurse manager, Grade 2= Staff Nurse and Grade 4= Care assistant
Site: 1=Medical, 2=Surgical, 3=Rehab, 4-Elderly.
Group: 1= PW, 2=control.

Appendix Q: General Linear Model Outputs

General linear Model output for change (T2-T1) in WE scores¹⁴

		Parameter Estimates					
Dependent Variable	Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
T1vT2mean	Intercept	-.192	.206	-.935	.351	-.598	.213
	[Site=1]	-.117	.210	-.557	.578	-.532	.298
	[Site=2]	-.072	.232	-.309	.758	-.530	.386
	[Site=3]	.449	.213	2.108	.036	.029	.870
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.143	.138	1.039	.300	-.415	.129
	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.151	.265	.569	.570	-.373	.674
	[Grade=2]	.224	.207	1.081	.281	-.185	.633
	[Grade=4]	0 ^a	.	.	.	.	.
T1vT2Vigor	Intercept	.470	.246	1.911	.058	-.956	.015
	[Site=1]	.008	.252	-.033	.974	-.505	.488
	[Site=2]	.029	.278	.103	.918	-.520	.577
	[Site=3]	.651	.255	2.552	.012	.148	1.155
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.042	.165	-.253	.801	-.367	.284
	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.339	.318	1.067	.288	-.288	.966
	[Grade=2]	.344	.248	1.386	.167	-.146	.834
	[Grade=4]	0 ^a	.	.	.	.	.
T1vT2Absorption	Intercept	.343	.237	1.450	.149	-.124	.810

¹⁴

Grade: 1= Nurse manager, Grade 2= Staff Nurse and Grade 4= Care assistant

Site: 1=Medical, 2=Surgical, 3=Rehab, 4=Elderly.

Group: 1= PW, 2=control.

Appendix Q: General Linear Model Outputs

General linear Model output for T2 WE scores¹⁵

		Parameter Estimates					
Dependent Variable	Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
TotalmeanT2	Intercept	4.097	.185	22.135	.000	3.732	4.462
	[Site=1]	-.369	.189	-1.948	.053	-.742	.005
	[Site=2]	-.354	.209	-1.692	.092	-.766	.059
	[Site=3]	.235	.192	1.224	.222	-.144	.614
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.219	.124	1.765	.079	-.026	.464
	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.514	.239	2.152	.033	.043	.986
	[Grade=2]	.071	.187	.378	.706	-.298	.439
	[Grade=4]	0 ^a	.	.	.	.	.
VigorT2	Intercept	3.699	.203	18.203	.000	3.298	4.100
	[Site=1]	-.170	.208	-.816	.415	-.580	.240
	[Site=2]	-.264	.230	-1.148	.252	-.716	.189
	[Site=3]	.413	.211	1.959	.052	-.003	.829
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.379	.136	2.784	.006	.110	.648
	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.695	.262	2.651	.009	.178	1.213
	[Grade=2]	.035	.205	.170	.865	-.370	.439
	[Grade=4]	0 ^a	.	.	.	.	.
AbsorptionT2	Intercept	4.206	.211	19.961	.000	3.790	4.622
	[Site=1]	-.548	.216	-2.540	.012	-.973	-.122
	[Site=2]	-.450	.238	-1.890	.060	-.920	.020
	[Site=3]	-.054	.219	-.246	.806	-.485	.377
	[Site=4]	0 ^a	.	.	.	.	.
	[Group=1]	.081	.141	.571	.569	-.198	.359

¹⁵

Grade: 1= Nurse manager, Grade 2= Staff Nurse and Grade 4= Care assistant

Site: 1=Medical, 2=Surgical, 3=Rehab, 4=Elderly.

Group: 1= PW, 2=control.

Appendix Q: General Linear Model Outputs

	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.475	.272	1.745	.083	-.062	1.011
	[Grade=2]	.131	.212	.617	.538	-.288	.550
	[Grade=4]	0 ^a	.	.	.	.	.
	Intercept	4.441	.218	20.398	.000	4.012	4.871
	[Site=1]	-.392	.223	-1.758	.080	-.831	.048
	[Site=2]	-.345	.246	-1.404	.162	-.831	.140
	[Site=3]	.371	.226	1.641	.102	-.075	.816
	[Site=4]	0 ^a	.	.	.	.	.
DedicationT2	[Group=1]	.195	.146	1.335	.184	-.093	.483
	[Group=2]	0 ^a	.	.	.	.	.
	[Grade=1]	.343	.281	1.222	.223	-.211	.898
	[Grade=2]	.040	.220	.183	.855	-.393	.473
	[Grade=4]	0 ^a	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

- ¹
- Grade:** 1= Nurse manager, Grade 2= Staff Nurse and Grade 4= Care assistant
Site: 1=Medical, 2=Surgical, 3=Rehab, 4-Elderly.
Group: 1= PW, 2=control.

Appendix R: Further Citation Analysis

Are Experiences of the PW Similar across all Sites?

The results of the quantitative phase of this study (Chapter 9) identified significantly higher engagement scores amongst the specialist Elderly sites at T1 and the specialist Rehab and Elderly sites at T2. This section now explores whether participants from the different clinical specialist sites reported different experiences of implementation and impact. Table 10.16 provides an overview of the participating clinical specialty sites and the number of participants. Medical specialty sites are represented by four wards/units, Surgical and Rehab sites are each represented by two, and Elderly is represented by just one ward/unit.

Table 10.16: Components of each Clinical Specialty Site

Clinical specialty	Specialty Type	No. of wards	%	No. of Participants	%
	Medical	4	44.4%	9	37.5%
Surgical	2	22.2%	6	25%	
Elderly	1	11.1%	3	12.5%	
Rehab	2	22.2%	6	25%	

Therefore, when reviewing the overall coding contribution by specialty, it is important to maintain a ratio perspective when comparing coding reference contributions between all the specialty sites. Table 10.17 provides an overview of the thematic coding reference contributions by clinical specialty.

Appendix R: Further Citation Analysis

Table 10.17: Number of coded references by specialty site

Major Themes	Rehab.	Elderly.	Medical.	Surgical.
Implementation & Management	↗ 336	↘ 124	↕ 482	↘ 270
Organisational Benefits	↘ 104	↘ 78	↕ 149	↘ 119
Positive experiences-behaviours-attitudes	↕ 124	↘ 78	↕ 114	↘ 75
Leadership	↕ 66	↘ 12	↕ 83	↘ 31
The Learning	↘ 26	↘ 2	↕ 38	↘ 26
Total Coded References	656	294	866	521

*Medical sites are a 4:1 ratio with Elderly sites, Surgical & Rehab sites are a 2:1 ratio

Whilst Table 10.17 provides a comprehensive overview of coding references by themes, and site, it is important to acknowledge that the perspective is skewed. The disproportionality highlighted in Table 10.16 also shows a ratio of twice as many participants from Rehab and Surgical sites compared to Elderly, and three times as many from Medical sites. Therefore, in order to undertake a balanced examination of the coding, adjustments were made to the coding references, as shown in Table 10.18, which take account of the participant ratio differences by using proportionally adjusted values (adjusting all sites up proportionately to be represented on a par with the four Medical sites).

Table 10.18: Number of coded references by specialty site (proportionally adjusted values)

Major Themes	Rehab.	Elderly.	Medical.	Surgical.
Implementation & Management	↕ 672	↘ 496	↕ 482	↘ 540
Organisational Benefits	↘ 208	↕ 312	↘ 149	↘ 238
Positive experiences-behaviours-attitudes	↘ 248	↕ 312	↘ 114	↘ 150
Leadership	↕ 122	↘ 48	↘ 83	↘ 62
The Learning	↕ 52	↘ 8	↘ 38	↕ 52
Total Coded References	1302	1176	866	1042

*Medical = original value, Surgical & Rehab sites X 2, Elderly X 4.

It is noteworthy that very different patterns emerge in the coding reference data when a basic proportionally adjusted correction is applied (upwards to be on par with the four

Appendix R: Further Citation Analysis

Medical sites). Firstly, it is reassuring to note that only a modest variance is observed between the total numbers of coded references across all the specialist sites (min. 707 and max. 1302). This relative uniformity of coding totals demonstrates a level of rigour in the coding of data.

Secondly, even when proportionally adjusted, the table continues to highlight implementation and management as the largest theme by number of coding contributions, suggesting that all the clinical sites were highly expressive when describing their experiences of the way the initiative was implemented and managed. Of note, the Rehab site ranks highest in terms of coding contributions overall, but specifically in three key themes: implementation and management, leadership and the learning.

Different patterns also emerge in the proportionally adjusted data when examining the output or outcome themes. The Elderly and Surgical sites have contributed substantially more to the theme 'organisational benefits' than the Rehab and Medical sites, suggesting that these two sites are considerably more descriptive of the benefits that were realised under the initiative.

The Elderly and Rehab sites are significantly represented in the number of coding references under the theme 'positive experiences/behaviours/attitudes'. This would suggest that the Elderly and Rehab sites gave a considerably greater amount of detail and were more expressive of the positive experiences, behaviours and attitudes that they experienced from the initiative than the Medical and Surgical sites, and may well contribute to the higher engagement scores observed in the quantitative phase of this study (Chapter 9).

The Rehab site is markedly represented in the overall number of coding references attributed to the theme 'leadership', with almost five times more coding reference contributions than the Elderly site and distinctly more than the Medical and Surgical sites. This would suggest that participants from the Rehab setting were substantially more expressive and vocal in relation to how the initiative impacted or affected leadership in their setting.

Appendix R: Further Citation Analysis

The Medical, Surgical and Rehab sites are evenly represented in terms of coding references associated with the theme 'the learning'. The Elderly site returned a minimum amount of citations, indicating that, whilst they may have expressed more positive experiences/behaviours/attitudes and organisational benefits from PW, they are less descriptive of what they learned from their experience of the initiative.

Do Experiences of PW Differ with Employment Grade?

The results presented in the quantitative phase of this study (Chapter 9) draw attention to the variation in engagement scores across the various employment grades. It therefore seems appropriate to explore whether participants from different employment grades reported different experiences of implementation and impact. Table 10.19 presents an overview of the participants' employment grades.

Table 10.19: Participant Employment Grades

	Grade	No. of Participants	%
Employment Grade	Nurse Managers	8	33.4%
	Staff Nurses	10	41.6%
	Healthcare Support	5	20.8%
	Household	1	4.2%

The employment grade Household is only represented by one participant and the other numbers within the participant grades vary significantly. Therefore, it is important to maintain a proportionate perspective when comparing coding reference contributions between all employment grades. Table 10.20 provides an overview of thematic coding reference contributions by clinical specialty.

Appendix R: Further Citation Analysis

Table 10.20: Number of coded references by Employment grade

Major Themes	Nurse Manager.	Staff Nurse.	Care Assistant.	Household.
Implementation & Management	452	510	211	39
Organisational Benefits	159	189	89	13
Positive experiences-behaviours-attitudes	164	142	84	1
Leadership	78	69	36	9
The Learning	42	33	17	0
Total Coded References	895	943	437	62

*Nurse Manager N=8, Staff Nurse N=10, Care Ass N=5, Household N=1

Table 10.20 provides a general overview of coding reference contributions by themes and employment grade. It is important to acknowledge that the view is skewed by the number of participants that represent each of the employment grades. The data in Table 10.19 highlights significant variances between numbers for each employment grade, with just one participant in the Household grade and ten in the Staff Nurse grade. Therefore, in order to take a proportional view of the coded references, the data from the Nurse Manager and Care Assistant grades were proportionally calculated and adjusted upwards to match the Staff Nurse grade participant number (10). Table 10.21 provides a balanced analysis of the thematic coding references using the proportionally adjusted values.

Table 10.21: Number of coded references by Employment Grade (proportionally adjusted values)

Major Themes	Nurse Manager.	Staff Nurse.	Care Assistant.	Household.
Implementation & Management	565	510	422	390
Organisational Benefits	199	189	178	130
Positive experiences-behaviours-attitudes	205	142	164	10
Leadership	98	69	72	90
The Learning	52	33	34	0
Total Coded References	1119	943	870	620

*Nurse Manager adjusted X 1.25, Care Ass adjusted X 2, Household adjusted X 10

It is worth observing that by applying a basic proportionally adjusted correction (upwards) to the coding reference data, similar coding ranking patterns remain, primarily for the Nurse Manager grade (ranked highest for coding references amongst all grades) and the Household grade (which only showed improvement for one theme, leadership). Because the Household grade data was based on just one participant, it was not deemed appropriate to continue to include this data in any further employment-grade analysis.

Appendix R: Further Citation Analysis

Firstly, it is noteworthy that the coding patterns observed for the total numbers of coded references across the remaining three grades do not vary greatly. In particular, total coding references for the employment grades Nurse Manager, Staff Nurse and Care Assistant are quite similar. This pattern is also reflected in the coding reference data for the largest theme 'implementation and management' and provides some assurances in terms of both the rigour and the proportionate coding of the data.

The second noticeable observation relates to the Nurse Manager coding reference contributions which dominate all other grade contributions. Whilst this might not seem surprising considering that this grade fulfilled the role of project or ward lead in all of the participant sites, it is worthy of reporting.

Thirdly, in both the original Table 10.20 and the proportionally adjusted Table 10.21, there are subtle deviations from the normal ranked order of themes (outlined earlier in Table 10.2) whereby the theme 'positive experiences/behaviours/attitudes' is now ranked higher (by number of coded references) than the theme 'organisational benefits' by the Nurse Manager grade. This may suggest that even when the figures are proportionally adjusted, Nurse Managers in particular were considerably more detailed in expressing positive experiences/behaviours/attitudes than they were in expressing benefits to the organisation. Of note also in relation to this theme is that both Ward Managers and Care Assistants were more expressive about positive experiences/behaviours/attitudes than their Staff Nurse colleagues were.

Finally, it is noticeable that, in general, the outcome/output theme 'organisational benefits' has a relatively similar coding reference pattern amongst the grades Nurse Manager, Staff Nurse and Care Assistant, indicating that when adjusted, there appears to be uniformity in relation to the number of positive expressions regarding organisational benefits reported by these grades.

What Elements of Participants' Experiences Impact on Engagement?

The two previous sections have identified that participants from different site specialties and employment grades report their experiences of the PW somewhat differently. Rehab

Appendix R: Further Citation Analysis

and Elderly sites were shown to have proportionately more coding reference citations in relation to the positive experiences/behaviours/attitudes they reported (Table 10.18). Ward Managers and Care Assistants were similarly associated with proportionately more coding references within the same theme (Table 10.21). The Elderly/Rehab sites and the Nurse Manager/Care Assistant grades were similarly observed to have had higher mean WE scores over T1 and T2 in the quantitative phase of this study (see Table 10.22).

Table 10.22: Mean WE by Specialty Site & Employment Grade

Site Specialty	Elderly N=23	4.56	4.40	4.48
	Rehab N=19	4.32	4.51	4.41
	Surgical N=26	4.26	4.14	4.20
	Medical N=31	4.40	3.99	4.19
Employment Grade	Nurse Manager N=9	4.95	4.79	4.87
	Care Assistant N= 20	4.60	4.42	4.51
	Staff Nurse N=70	4.24	4.13	4.18

By comparing the adjusted coding reference ranking patterns for employment grade and site specialty for the theme ‘experiences/behaviours/attitudes’ with the mean WE scores in Table 10.22, a most interesting observation can be made. The coding reference ranking

Appendix R: Further Citation Analysis

matches the mean WE-score ranking for both site specialty (Elderly/Rehab/Surgical/Medical) and employment grade (Ward Manager/Care Assistant/Staff Nurse). This result confirms a correlation between participants' reported experiences/behaviours/attitudes and their WE. The correlation is supported by exact WE rankings and adjusted coding ranking patterns in both site specialty and grade.

It is therefore reasonable to assume that there may be other elements of participants' reported experiences, using similar specialty site and employment grade coding patterns, that may relate to WE scores which would warrant further exploration.

This section therefore examines the coded reference data patterns in the largest theme, 'implementation and management', in more detail, analysing the patterns specific to site specialty and employment grade in order to elicit any correlation between how the initiative was implemented and managed and the higher mean WE-score rankings observed in Elderly/Rehab sites and Ward Manager/Care Assistant grades.

By adopting and exploring the subthemes through the JD-R theoretical framework, 'negative experiences of implementation' are examined through framing each subtheme, and its constituent coded items, as substantial 'job demands' (impacting negatively on WE). All other subthemes and their component coded items are then examined through the JD-R theoretical framework as possible 'job resources' (impacting positively on WE).

Site specialty: experiences and engagement

When comparing the coding reference patterns for site specialty and the theme 'implementation and management' in Table 10.18 with the mean WE-score rankings for site specialty provided in Table 10.22, no obvious correlations in patterns are observed. Mean WE-score rankings in Table 10.22 for site specialty are ordered:

1. Elderly
2. Rehab
3. Surgical
4. Medical

Therefore, the constituent subthemes of the main theme 'implementation and management' were further analysed for coding patterns and are represented in Table 10.23.

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Table 10.23: Implementation and Management by Specialty Site

Implementation & Management	Rehab.	Elderly.	Medical.	Surgical.
Project Management	↑ 164	↓ 78	↑ 227	↑ 154
Negative Experiences of Implementation	↑ 134	↓ 18	↑ 201	↑ 112
Information and communication	↑ 74	↓ 28	↑ 107	↓ 46
Preparation for PW	↑ 22	↓ 9	↑ 24	↓ 13
The Training	↑ 17	↓ 6	↑ 20	↑ 16
Total	↑ 336	↓ 124	↑ 482	↑ 270

Most notable in Table 10.23 is that all specialty sites adequately contributed to identifying key determinants of implementation and management. However, as all sites were not represented proportionately, adjusted values were applied (upwards) to enable a more in-depth analysis, and are presented in Table 10.24.

Table 10.24: Implementation and Management by Specialty Site (proportionately adjusted values)

Implementation & Management	Rehab.	Elderly.	Medical.	Surgical.
Project Management	↑ 328	↑ 312	↓ 227	↑ 308
Negative Experiences of Implementation	↑ 268	↓ 72	↑ 201	↑ 224
Information and communication	↑ 148	↑ 112	↓ 107	↓ 92
Preparation for PW	↑ 44	↑ 36	↓ 24	↓ 26
The Training	↑ 34	↑ 24	↓ 20	↑ 32
Total	↑ 672	↓ 496	↓ 482	↑ 540

*Medical = original value, Surgical & Rehab sites X 2, Elderly X 4.

Table 10.24 shows no significant coding patterns which equate to the specialty site WE-score ranking pattern (Elderly/Rehab/Surgical/Medical) reported in Table 10.22. The nearest comparative subtheme coding pattern to the WE-score rankings reported in Table 10.22 is 'project management', which ranks the specialty sites Rehab/Elderly/Surgical/Medical. The proportionate difference between the two coded reference totals, Rehab and Elderly, is approximately 6%.

Similar coding pattern rankings (Rehab/Elderly/Surgical/Medical) were also observed for the three subthemes: information and communication, preparation for PW and training. The closest margin observed in this group of subthemes was 'preparation for PW', which was within 20% of the citation ranking.

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The only constituent subtheme where Elderly featured as the top-ranked site was ‘negative experiences of implementation’. Examining this subtheme (as a job demand) requires one to reverse the ranking order, since lower expressions of negative experiences would be indicative of higher engagement scores. Constituent subthemes would therefore be ranked: Elderly, Medical, Surgical and Rehab. The coding in this subtheme was furthest from the WE-score pattern observed in Table 10.22, and was therefore not analysed further.

Compared with the WE-score ranking observed in Table 10.22, no coding pattern symmetry was observed for any of the sites in any of the subthemes which would support the argument that there is any one aspect of ‘implementation and management’ which could be characterised as a ‘job resource’ or ‘demand’ using the JD-R theoretical framework lens.

Employment grade: experiences and engagement

No obvious correlations were observed earlier in Table 10.21 when comparing the coding reference patterns for employment grade with the theme ‘implementation and management’ against the WE-score rankings for employment grade provided in Table 10.22. The mean WE-score rankings in Table 10.22 for employment grade are ordered: 1. Ward Manager 2. Care Assistant 3. Staff Nurse

The coding reference patterns of the constituent subthemes were further examined and are represented in Table 10.25.

Table 10.25: Implementation and Management by Employment Grade

Implementation & Management	Nurse Manager.	Staff Nurse.	Care Assistant.
Project Management	247	273	92
Negative Experiences of Implementation	166	196	81
Information and communication	66	122	56
Preparation for PW	31	24	13
The Training	26	25	7
Total	452	510	211

The most notable aspect of Table 10.25 is that in the main, the three employment grades examined – Nurse Manager, Staff Nurse and Care Assistant – contributed considerably to identify key determinants of implementation and management. However, as all

Appendix R: Further Citation Analysis

employment grades were not represented proportionately, adjusted values were applied (upwards) to enable a more in-depth analysis and are presented in Table 10.26.

Table 10.26: Implementation and Management by Employment Grade (proportionately adjusted values)

Implementation & Management	Nurse Manager.	Staff Nurse.	Care Assistant.
Project Management	309	273	184
Negative Experiences of Implementation	207	196	162
Information and communication	82	122	112
Preparation for PW	39	24	26
The Training	32	25	14
Total	565	510	422

*Nurse Manager adjusted X 1.25, Care Ass adjusted X 2,

It is worth noting in Table 10.26 that after applying a basic proportionally adjusted correction (upwards) to the coding reference data for employment grade, coding pattern rankings remain relatively unchanged for the Nurse Manager grade and the Care Assistant grade (which only showed improvement for one theme – information and communication). However, significant differences were observed in the coding pattern for the Staff Nurse grade, with all of the subthemes, bar one, now placed in the mid-rankings. The one subtheme that was not middle-ranked was ‘preparation for PW’, which contained the least amount of coding data for the subtheme.

The subtheme ‘negative experiences of implementation’ was examined through the job demand lens, requiring reversal of the ranking order – lower citations would be indicative of higher engagement scores. Constituent subthemes would therefore be ranked: Staff Nurse, Care Assistant, and Nurse Manager. The coding observed in this subtheme was: Care Assistant, Staff Nurse, Nurse Manager, which did not match the WE-score pattern recorded in Table 10.22, and was therefore not analysed further.

The subtheme ‘preparation for PW’ is the only subtheme within Table 10.26 which matches an exact coding pattern that correlates with the employment grade mean WE-score ranking pattern in the order outlined in Table 10.22:

1. Ward manager
2. Care assistant
3. Staff nurse

Appendix R: Further Citation Analysis

This would support the proposition that ‘preparation for PW’ is the one uniformly coded aspect of ‘implementation and management’ which could be characterised as a ‘job resource’ (in the JD-R theoretical framework) amongst all employment grades.

All other constituent subthemes in Table 10.26 mostly contain the coding pattern: Nurse Manager/Staff Nurse/Care Assistant, except the subtheme ‘information and communication’, which had the ranking pattern Care Assistant/Staff Nurse/Nurse Manager. This is probably a result of the increased emphasis on communication required by the initiative through the ward lead or ward manager (requiring them to communicate more) and the impact of that being reflected in reports of empowerment/job expansion by this grade in section 8.32.

In order to probe the influence or otherwise of this one coding-pattern correlation, a more detailed analysis of the subtheme ‘preparation for PW’ was performed. This detailed analysis examined the patterns of coding reference in the constituent coded categories for the same ranking order observed in mean WE scores (Table 10.22):

1. Ward Manager
2. Care assistant
3. Staff Nurse

Findings are outlined in Table 10.27 using proportionally adjusted values.

Table 10.27: Preparation for PW by Employment Grade (proportionately adjusted values)

Preparation for PW	Nurse Manager.	Staff Nurse.	Care Assistant.
How ward was chosen	↑ 17	↓ 11	↔ 14
Independent Research and preparation	↑ 16	↓ 6	↓ 6
Prepared-informed in advance	↔ 8	↑ 9	↓ 6
Total	↑ 39	↓ 24	↓ 26

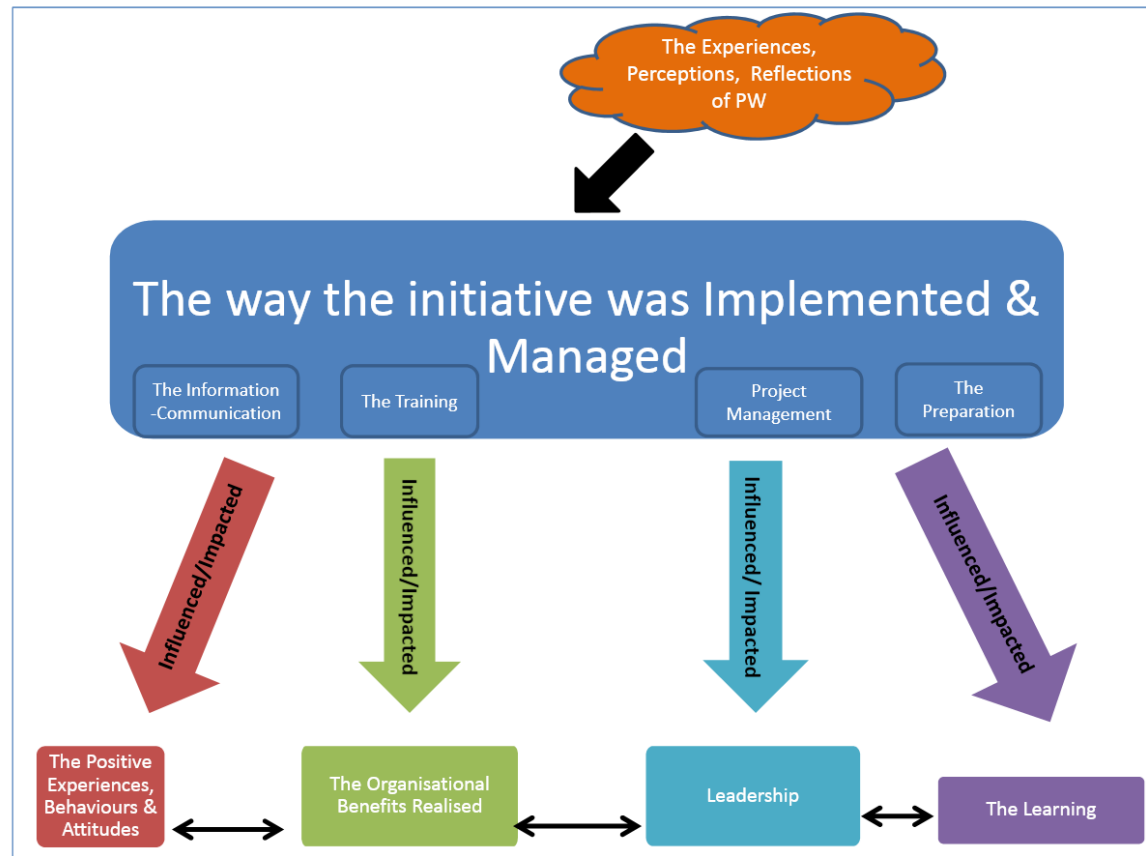
*Nurse Manager adjusted X 1.25, Care Ass adjusted X 2,

An exact coding-pattern match was identified in just one constituent coded category – ‘how the ward was chosen’. An approximate coding pattern match was observed in one further coded category, ‘independent research and preparation’. This category however jointly ranked Staff Nurse and Care Assistant grades with just six coded references per grade.

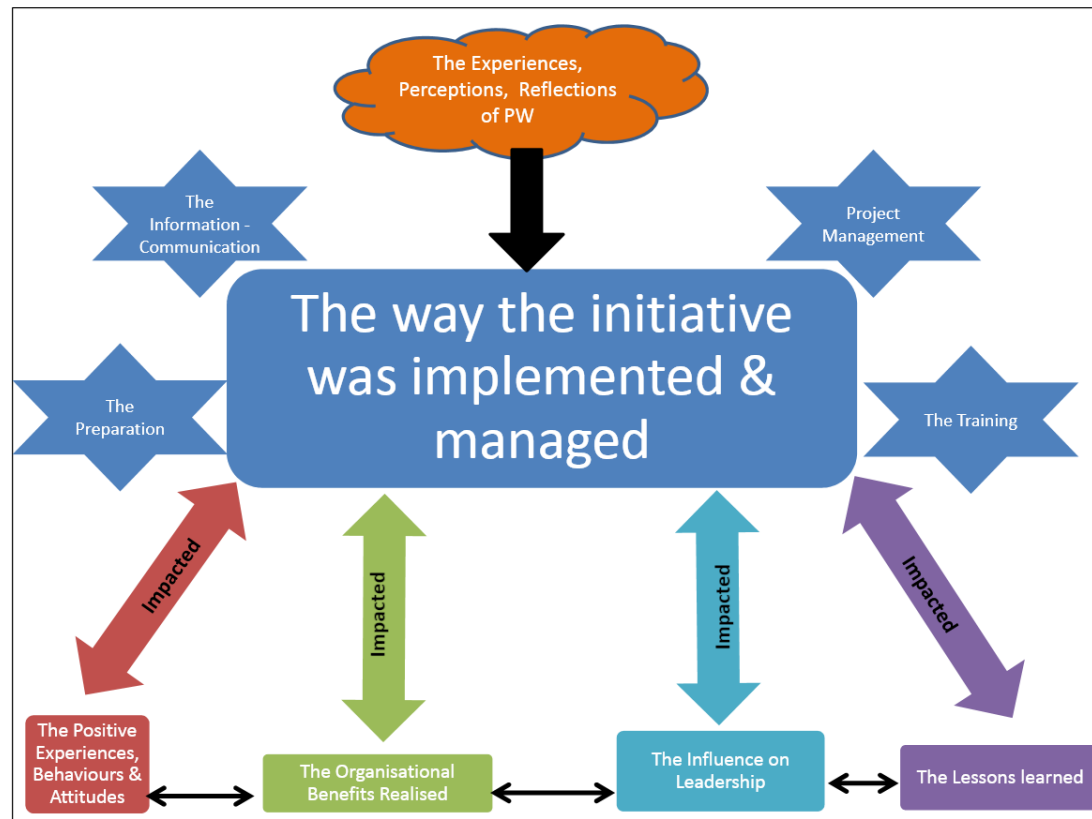
Appendix R: Further Citation Analysis

It must be noted that the non-adjusted total number of coding references for the coding category 'how the ward was chosen' is relatively modest at 30 citations from 19 participants, thus making interpretation and verification somewhat speculative.

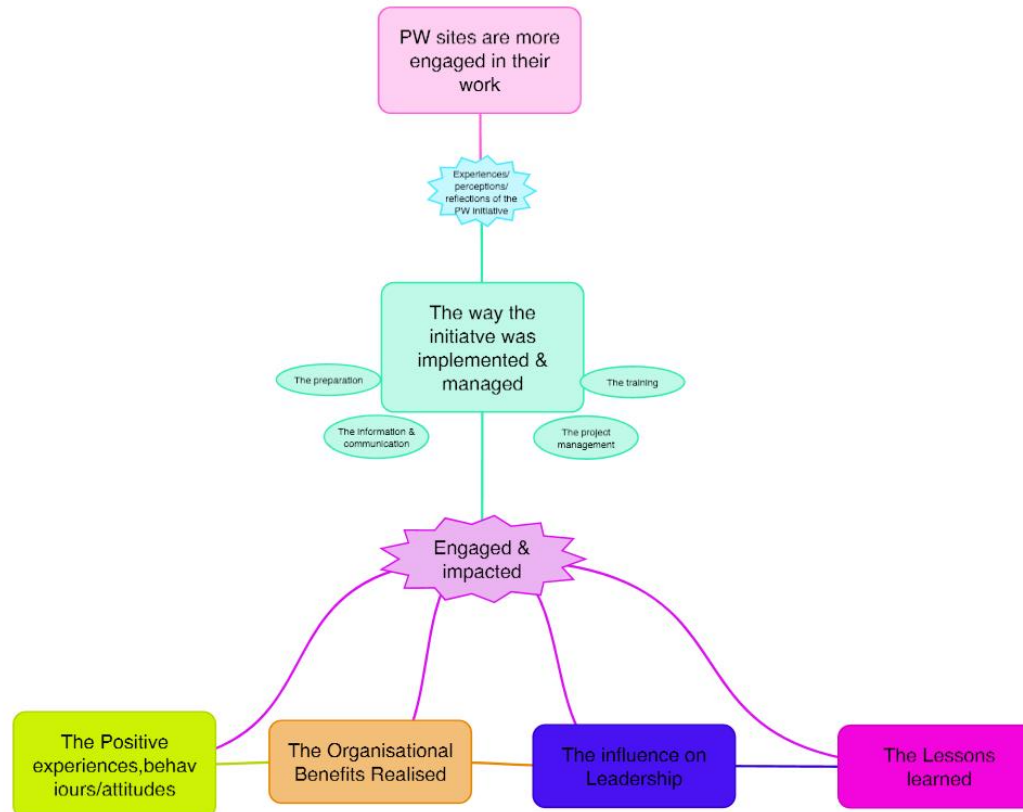
Appendix S: Further Conceptualisations



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