Development in Professional Studies (Health)

Development of a new Balanced Evaluation Framework for Service Improvement

A project submitted to Middlesex University in partial fulfilment of the requirement for the degree of Doctor of Professional Studies (Health)
IPH5180

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August 2009

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Abstract

The study of service improvement within healthcare is no longer in its infancy. A plethora of books and journal publications have presented their own interpretations of the meanings, significance and application of service improvement. Despite such endeavours, there are still few studies that look at how we measure the impact of such service improvement to quantify the practical effect of improvement.

At organisational level, organisations and project leaders often undertake evaluation in a piecemeal way, as part of a project or initiative. Whilst this can help assess the benefits or otherwise of a particular piece of work, the findings of the evaluation often remain within the project and are not disseminated across the wider organisations. This, in turn, means that opportunities for learning are diminished.

This project builds on previous work and adds a new and unique contribution to the body of service improvement knowledge. It critically reviewed existing evaluation frameworks to inform the development of a unique balanced framework for service improvement initiatives, which is accessible and usable for change agents and their colleagues to evaluate effectiveness.

The project began with an examination of the political environment surrounding the evaluation of service improvement, followed by a review of both existing service improvement evaluation frameworks. The review yielded few resources and highlighted a gap in the body of knowledge. Following this, primary data was collected from the organisation, which led to the following research questions:

- – What is understood by measurement and evaluation?

- – Are measurement and evaluation, interdependent, or mutually exclusive?

- – What elements are missing from the current evaluation models presented?

- – Could an evaluation framework model work in practice?

This led to a qualitative action research, which used focus-group meetings and one-to-one discussions to provide observation, reflection and feedback, in order to develop an understanding of measurement and evaluation, in relation to organisational improvement and to provide a robust evaluation framework for organisational use.

The findings were analysed, using thematic analysis and revealed the need for an evaluation framework that is user-friendly, replicable and incorporates the views of users and carers. On the basis of the findings, recommendations are made for the improvement of practice and also the need for further longitudinal research, in relation to embedding and evaluating the impact of the framework within the organisation.

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Chapter 1

Introduction

1.1 Background and Context

The drive to improve services and products and to achieve "improvement" in organisations that deliver them, is relentless and permeates all walks of life. Since the mid 1990s, both within the United States of America (USA) and The United Kingdom (UK), there has been increasing interest in service improvement within the healthcare sector. Following its introduction, the iterative components of improvement theory (Deming, 1994) have been adapted for use in healthcare. Early improvement frameworks were developed from manufacturing, for example, European Foundation Quality Management (EFQM, 1999) and Process Redesign (Hammer and Champey, 1993), which focused upon mechanistic processes suited to industrial settings. The adaptation of such frameworks excluded the people aspect of change, therefore, lacked evaluation. This highlights the deficiency of "fit-for-purpose" evaluation frameworks that recognise the human elements of improvement. This study seeks to address these deficiencies.

When I began working in service improvement within the National Health Service (NHS), I started to review the literature surrounding service improvement, in order to adapt and implement existing tools and techniques. The review highlighted that most of the literature focuses on the adaptation and implementation of service improvement initiatives, while limited information is available on the evaluation stage of the process. As a consequence, much of the published literature questions the sustainability and impact of service improvement at intra-organizational level (Rogers, 1995; Piredit, 2000), which has, undoubtedly, led to scepticism among healthcare professionals. Intra organisational improvement is improvement within organisations and inter-organisational change is aimed at interventions used to raise performance across different organisations and themed groups (Conner and Scott, 2005).

In May 2003, I was appointed as Service Improvement Lead (with a specialist interest in Tools and Techniques for Service Improvement) at a large regional hospital in the north of England. This was the first role of this type established within the organisation, thus, it enabled me, at a strategic level, to introduce service improvement tools and techniques. Growing expertise in this area led to

my development of a theoretical model, which is one where the initiation, implementation and evaluation (Prochaska and Velicer, 1997) of service improvement initiatives, go hand in hand and are inextricably linked. I recognised, however, that evaluation of improvement initiatives, at a local level, was, at best, ad hoc and, at worst, non-existent. This is understandable, given that evaluation is often complex, but to overlook its importance can leave many of us asking the question, "*has it made a difference*?" This led to the focus of my research, namely:

The development of an intra-organizational evaluation framework that can be used to establish the effectiveness of a service improvement initiative.

In essence, the outcome of this project is a Balanced Evaluation Framework ('BEF'), available to individuals and teams involved in initiating improvement, to aid them in achieving their goals. In this way, resources are allocated in the most effective way and each individual project is tailored to achieve its desired outcomes. Developing strategies that work effectively within an organisation is a crucial and complementary stream of work, which is necessary if transformation of healthcare in the United Kingdom (UK) is to take place (Modernisation Agency, 2002). Consequently, questions are raised relating to the meaning of service improvement in healthcare.

1.2 The History of Service Improvement relevant to the Healthcare Sector

The science of Service Improvement is a mix of disciplines, which aims to build a culture that is supportive of improvement, using principles and thinking from psychology and organisational development. The objective is to combine the tools and techniques of quality improvement with effective organisational development (Granville, 2006).

Service Improvement has its origins in the early 20th century and in the work of Fredrick Taylor (Taylor, 1911), who applied scientific theory to the study of "work", also known as "scientific management". This measured improvement as an output, using quantitative "harder" systems tools and techniques, to ensure a predictable and desired outcome, however, other than increased wages through efficient output, Taylor did not consider the humanistic needs of the worker. Mary Follett-Parker's work(1926 cited in Graham 1994) contrasted with the scientific management of Taylor, she was known for her work with groups, focused on

democratic group organisation in place of bureaucratic hierarchy. Mary Follett-Parker was one of the first to integrate the idea of organisational conflict into management theory, the social dimensions of business in Follett's writings being the contribution of managers to culture. The Hawthorne studies, in the 1930s, one study focused on a relay assembly factory (Mullins,1999) where the research highlighted that workers could be motivated by their feelings when more attention was paid to their performance (increased esteem). This was demonstrated by a particular work team increasing production when more interest was shown to them by the management. This introduced the importance of the social/humanistic dimension in motivating workers and work organisation (Mayo, 1933). Maslow (1943) considered the hierarchy of needs of an individual, in terms of motivating their performance and satisfying their needs. This links with the work of Hertzberg (1959), who provided the first investigation in to organisational motivation, job satisfaction and the concept that we cannot deal with motivation just at an individual level, but must look at the organisation. The concept of combining a scientific and humanistic approach to work organisation was developed by Trist and Bamforth in the 1960s using their socio-technical systems approach to organising the work of long wall coal mining (Trist and Bamforth, 1951). In order to understand the change or improvement fully, it may be argued that it is vital to consider the qualitative "softer" (Skyttner, 1998) humanistic theories of improvement, which considers the outcomes rather than the outputs. Given the occurrence of both technical and human dimensions in most problem situations, a hybrid of scientific quantitative "hard" systems and "soft" qualitative methodologies will give the best understanding of the impact of the initiative (Checkland, 1981; Checkland and Scholes, 1990; Kirk, 1995). Soft tools are used to explore alternative solutions (creativity, lateral thinking), harder tools used to analyse these exploratory issues to make then realistic for implementation. The qualitative "softer" approach would ensure that human dimensions are incorporated at an early stage of the process, allowing all groups to be involved in developing a solution. In the soft systems (see p70) overview, quantitative and more scientific techniques can be employed to optimise aspects of the solution and should be considered when evaluating improvement. When considering the models in relation to ideographic and nomothetic terms, in this instance nomothetic would relate to a scientific positivist approach and ideographic would suggest a concept not quantifiable in a positivist sense but nonetheless worthy of consideration from a constructivist stance; none appear to put both aspects together cohesively.

Early development in healthcare saw significant change on an individual hospital basis. Following the improvement in the manufacturing industry, healthcare improvement became nationalised and saw the start of an improvement science. The evolution of improvement methodologies throughout the 19th century was aided by the work of the Institute of Healthcare Innovation (IHI, 2001), which was driven by the growing accountability demanded by the American public and their desire to know why patients were harmed by care that was intended to help them. This led to the report, 'Crossing the Quality Chasm: A New Health System for the 21st Century' (Institute of Medicine, 2001), which described the immense difference between what we know to be good healthcare and the healthcare that some people actually receive. The project work was led by Don Berwick in the USA healthcare sector, practising paediatrician and Chief Executive Officer of the IHI, who began by examining improvement of healthcare provisions. It saw the start of system changes, both simple and radical, demonstrating great potential for positive change in the American Healthcare System (Institute of Medicine, 2001). The improvement models from this work went on to be adapted and implemented in the UK, to improve the NHS. A task force was set up by the Department of Health, which produced the NHS plan, 'A Plan for Investment, a Plan for Reform', (DH, 2000). This saw the establishment of the Modernisation Agency in April 2001, a UK counterpart of the IHI, whose role was to take a lead in making the radical and sustainable changes required to improve healthcare delivery in the UK. This saw the establishment of service improvement as a core element of business across the NHS. The NHS Institute of Innovation and Improvement (2006) defines their service improvement mission statement as:

> *a method of improving health outcomes and raising the quality of delivery in the NHS by accelerating the uptake of proven innovation and improvements in healthcare delivery models and processes, medical devices and healthcare leadership*

(NHS, 2006, p 3)

1.3 Evaluating Service Improvement

As the focus on service improvement grew, so did the need for robust evaluation. Over the century, the discipline of evaluation research has developed from social research, particularly in health and education (Inglis & Matykiewicz, 2005). Rossi and Freeman (1993) trace back its history to the 1930s/1940s, where public health and education programmes underwent rigorous assessment, using social

research methods, such as experimental and quasi-experimental methods. Post-war, the emergence of public policy and government programmes facilitated a growing requirement for evaluation methods to be used to validate, assess and review the implementation of policy. The 1970s witnessed an increasingly critical approach to evaluation theory that has continued to the present day. Different approaches to evaluation have emerged as the discipline has evolved.

There are numerous definitions of evaluation; the following definitions have been identified to make a distinction:

> ***Formative*** *evaluation is process orientated, occurring before and during programme implementation. It focuses on understanding and learning from processes, to make sense of the outcomes. It is context-specific and takes account of the environment in which evaluation occurs.*
>
> ***Summative*** *evaluation is performance-orientated, occurring at the end of a programme and, retrospectively, measuring outcomes against pre-defined objective criteria. There is less account taken of the environmental and contextual factors that may have influenced outcomes and an emphasis towards performance management.*

<div align="right">(Inglis & Matykiewicz, 2005, p 87)</div>

In the NHS, there is a tradition of using summative evaluation to inform policy, however, there is increasing recognition of the benefits of formative evaluation for learning and development. This is particularly relevant to service improvement (Bate and Robert, 2003). Laurillard (1993) offers a working definition of formative evaluation, which helps to clarify evaluation in relation to the purpose of this project:

> *Formative evaluation describes the evaluation programme with the objective of providing information for improvement during the design and implementation phases and allows for the opportunity to change the processes involved in implementation. This typically includes the use of qualitative process data*

<div align="right">(Chapter 5, p 2)</div>

In terms of *service* improvement, however, evaluation is often seen as *measurement of improvement*, as in this definition, given by the Modernisation Agency (2002):

> *Measurement for improvement: where a few specific measures, linked to the programme objectives and aims, demonstrate whether the changes are making improvements*

<div align="right">(Modernisation Agency, 2002, p 7)</div>

In asking health professionals to consider what is meant by 'measurement', it is frequently performance measurement that is quoted, such as targets set by the Standards for Better Health (DH, 2006) and the NHS Balanced Scorecard (Kaplan and Norton, 1992), which, at intra-organizational level, cannot be evidenced as delivering service improvement discussed in chapter 5. Having worked for a number of years researching and applying tools and techniques for service improvement within the health service, it is the evaluation of such service improvement initiatives that has become of great interest to me.

It has become evident that, at an intra-organizational level, there is very little measurement carried out to demonstrate that a service improvement intervention has made a significant difference to the service that patients receive. There is a need to develop tools that can be used to evaluate at a local level. Political targets are determined, to indicate the achievement of an improved experience for patients. The government has set many targets and performance-indicators, aimed at extra-organizational level, but this does not reflect the work at intra-organizational level, which can lead to distorted clinical priorities and unintended consequences. This is supported by Fitzgerald *et al* (2007), who state that:

> *evidence provides strong support for the view that targets alone do not produce service improvements*

(p 73)

This was also highlighted by Jones (2002) who examined attitudes towards quality measurement, which had been stated as a requirement of health improvement in The New NHS Plan (1997). Jones's (2002) study concluded:

> *The study identified existence of favourable attitudes toward the ethos of benchmarking …. However, there appeared to be inertia towards the implementation of benchmarking at unit and operational levels.*

(Jones, 2002, p 163)

Considering Jones's (2002) study, it would appear that from an ethical and professional perspective, we are accountable for ensuring that money not committed to direct care delivery or health improvement contributes to the development and improvement of service provision. The Department of Health: Code of Conduct for NHS Managers (2002) and professional bodies, like the Nursing Midwifery Council NMC (2002), argue that employees are dedicated to ensuring this, but feel there is little evidence available to show the impact being made on patients and carers.

When considering how to apply the work of the IHI, what is often debated amongst healthcare professionals is that market forces drive American healthcare but that the NHS is driven by public sector service values (McSherry and Pearce, 2007). Recognising this must influence our thinking when considering improvement in the NHS. Murdoch (2006) argues that the British National Health Service is a socialized medical system, which, for 50 years, has provided healthcare that remains free at the point of delivery, however, while politicians and commentators tend to draw attention to differences between 'market-driven medicine' in the USA and 'socialized medicine' in the NHS, there are remarkable similarities. Skidmore (1999) states, for example, that working Americans routinely have health insurance deducted from their salary; likewise, 'national insurance' is deducted from the pay of British employees. Another example is that of salaried GPs being paid by tariff, based on demographics in the UK, whilst American physicians are paid by patients. Whilst there are similarities, the underlying principles behind the NHS should not be forgotten when considering service improvement measures. Service improvement, as argued by Reinertsen (2005), Rogers *et al* (1999) and NHS Scotland (2006), should focus on improved patient care as the overriding aim of improvement activities. Whole-system evaluation appears to be lacking and, as a consequence, it is difficult to find evidence of success across whole services from improvement interventions. To ensure that we fulfil the notion of whole systems evaluation, the dichotomy between measurement and evaluation needs to be considered; this is the basis for this research.

1.4 The Balanced Evaluation Framework ('BEF')

It has been recognized that service improvement is vital to the delivery of patient care and at both intra and inter-organizational level, however, the literature surrounding improvement initiatives does not place sufficient emphasis on evaluation of this improvement. Measurement is an essential element of any quality-change programme, but it is problematic, particularly in healthcare, due to multifunctional elements and complexity, such as professionalism, ethics, invisible costs and human dimensions. Consequently, it is often neglected because it is complex, multi-professional, people-specific and high-risk. Data collection and analysis can be integral to the quality programmes themselves and is important in terms of evaluating their impact (Walston and Kimberely, 1997). Academics, such

as Ferlie *et al* (2002), have started to develop a methodology for defining useful quality measures within the healthcare sector, however, the work is limited, because it is incomplete and in need of further development.

According to Bate *et al* (2005), large-scale modernization and improvement of the health service is under way and there are numerous improvement projects being initiated and implemented, with many individuals involved in delivering them. There is, however, a need to ensure that evidence of improvement can be measured, not only for the organization as a whole, but also for the satisfaction of teams and individuals participating in improvement work, often in addition to a heavy workload. The development of this framework will provide a tool for such staff to evaluate improvement efforts and be transferable across the healthcare sector.

The proposed contribution of this research to professional knowledge involves offering a framework using both quantitative and qualitative measurement techniques, which, as I have demonstrated through the literature review (see Chapter 2), is the "missing link" in many intra-organisational service improvement initiatives. This often leads to the question as to whether significant and sustainable improvement has been achieved.

Not only is this project important for its contribution nationally and internationally, it also fits with the Improvement Strategy 2005/2006 (James Cook University Hospitals, 2005) for my organisation. The scope of the improvement agenda for the organization is predominantly cross-divisional and cross-directorate in nature. Each division will have its own change programme that may be necessary to help achieve local objectives. One of the key elements of this implementation plan will be to introduce measures for regular reporting that will indicate whether improvement has been effective, as described in the trust's Improvement Strategy Paper. The purpose of this document is to highlight the Trusts future direction for improvement. This framework will aid with the implementation and sustainability of improvement projects through evaluation. Royal College of Nursing stated:

> *We have to deliver value for money services and ensure financial stability...we must modernise innovate and improve...in a way that supports and sustains our NHS today and tomorrow.*
>
> (Royal College of Nursing, 2007, p 1)

Quantifiable results are important because the nature of the healthcare industry lends itself to some confusion over measurement. Many executives will say that they are sure their improvement programmes are working, but that improvements are in intangible areas such as healthier patients and improved staff morale (Breedlove, 1994). By contrast, measurement provides hard numbers that can be interpreted as fact; it can be described as a process of quantifying objects or events by assigning numbers to them in a consistent fashion. Measurement allows objects or events to be compared mathematically, either one to another, or to an established criterion.

There are a number of steps involved in any improvement work; firstly assessing and understanding the improvement idea or innovation, secondly, understanding people and the improvement environment and finally, implementation of improvement on the ground and demonstrating that improvement makes a difference (Conner & Scott, 2005). There are some improvement projects where a pilot step is appropriate. A pilot step is an opportunity to demonstrate capabilities of an improvement on a small area in a controlled manner. It can also serve to inform or resolve any issues during the planning phase, however, although this step may be appropriate to some improvement initiatives, there are some projects where it could not be applied. The implementation of the Clinical and Management Information System (CaMIS) for booking patients' dates for admittance to hospital, for example, could not be carried out as a pilot. Although small 'Plan-Do-Study-Act' cycles could be run, it was not possible to simulate the full implementation, as it was a difficult academic and applied improvement.

The proposed framework developed in this study will bring together all the steps in the improvement process, in an attempt to ensure sustainability, spread of improvement and effective practice across the National Health Service (NHS) and be transferrable to many other health care related settings.

1.5 Summary

As a conclusion to my doctoral programme, this project integrates my experience and learning into a cohesive body of knowledge that makes an important contribution to my professional development and understanding of leading healthcare improvement. It offers a new contribution to the service improvement body of knowledge by bringing together the quantitative and qualitative elements of evaluation, in order to provide a unique Balanced Evaluation Framework

"BEF'" for service improvement initiatives within the NHS. Figure 1.5 shows the connections between the major parts, which are outlined.   In this figure, the outlines of the research process are described:

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EVALUATION IMPROVEMENT

EVALUATION FRAMEWORK

CHAPTER 2
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MEASUREMENT
SERVICE IMPROVEMENT INITIATIVES

EVALUATION FRAMEWORKS

EVALUATION & MEASUREMENT

QUANTITATIVE & QUALITATIVE MEASUREMENT

EVALUATION & SUSTAINABILITY

CHAPTER 3
RESEARCH METHOD & CONSIDERATIONS
DISCUSSION PLANNING APPROACH

CHAPTER 4
PROJECT ACTIVITY & FINDINGS

CHAPTER 5
DISCUSSION OF RESULTS

CHAPTER 6
CONCLUSION & RECOMMENDATION

CHAPTER 7
CRITICAL REFLECTIONS

Figure 1.5 - RESEARCH PROCESS AND STRUCTURE OF PROJECT

Following, is a short orientation of the research process.

Chapter 1 provides an introduction to the project, looking at the history of service improvement and the theory behind evaluation. This is followed by **Chapter 2,** which presents a review of the literature and details the terms of reference and aims of the project. It consists of a presentation of research papers previously published in conferences and journals around evaluation frameworks. **Chapter 3** contains discussions on relevant research approaches and methods. The general outlines of how methods are applied throughout the thesis are presented. The planning approach is discussed. This is followed by **Chapter 4,** which discusses the project activity and findings. It presents the rationale and development of a 'BEF' for service improvement initiatives. **Chapter 5** returns to the underlying assumptions around the problem background and connects with the results discussed in chapter 4. **Chapter 6** presents an overall conclusion and recommendation for the whole project. **Chapter 7** presents a critical reflection of the project, returning to the previous chapters.

Chapter 2

Literature Review, Terms of Reference and Objectives

2.1 Introduction

This chapter reviews and critiques the literature relating to the area of study. By embarking on such a pursuit, the project was guided, firstly, by discovering the current research related to the project, secondly, outlining what and how much has been studied and finally, identification of the deficits within the literature. Besides providing a background for the study, the review provides necessary reference and support, in order for the research to be credible. The topics discussed include the aims and objectives of the study and search engines used, measurement of service improvement initiatives, evaluation frameworks, evaluation and measurement, quantitative and qualitative measurement, evaluation and sustainability.

2.2 Terms of Reference and Objectives

The project aims to critically review existing evaluation frameworks, to inform the development of a new balanced framework for service improvement (see chapter 5). It will address the following research questions:

What is understood by measurement and evaluation?

Are measurement and evaluation, interdependent or exclusive?

What elements are missing from the current evaluation model developed (see chapter 4, section 4.1.1)?

Could the Balanced Evaluation Framework model work in practice?

In answering these questions, the aim of the project is to develop a 'BEF' for service improvement initiatives (explained in section 1.5). In order to establish the latter, it is imperative to review the relevant literature. The term "balanced" pertains to both quantitative and qualitative evaluation at different stages of an improvement project, to give a thorough and fair assessment of the improvement initiative, in a quest for 'improving excellence'. The conceptual model (figure 2.1) shows the overlap of elements required to 'improve excellence' through

evaluation. The project was developed to address three research questions relating to the aim of the project.

Improving Excellence through a comprehensive evaluation of improvement initiatives using a balanced evaluation framework

Measurement Evaluation

Random Quantitative Qualitative Measures

Balanced Evaluation Framework
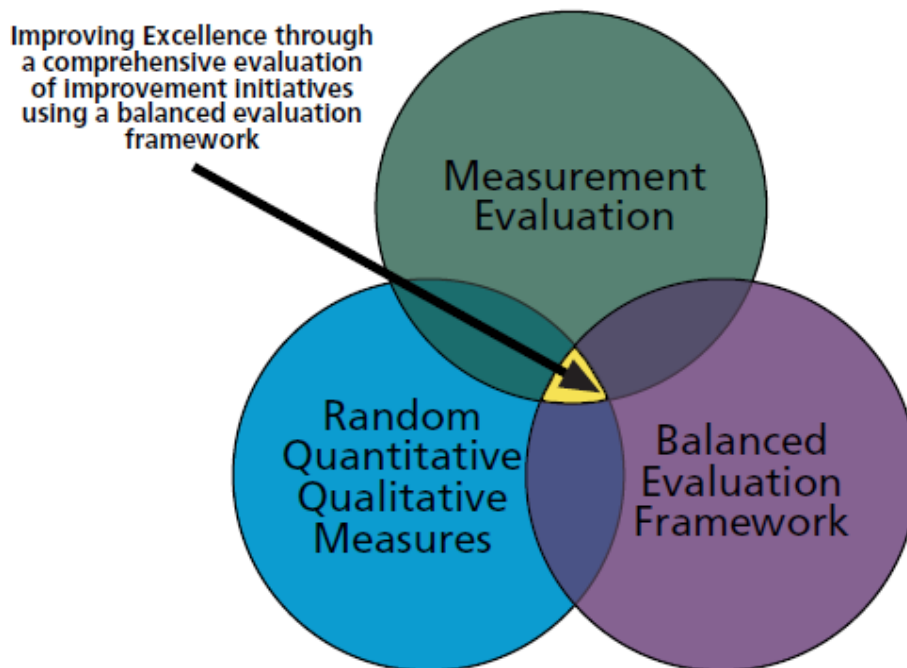
Figure 2.1 - Conceptual model of elements required to improve excellence through evaluation

The project was designed to achieve the following objectives:

To consider the political environment surrounding the evaluation of service improvement and understand the purpose of evaluation of service improvement initiatives

To review previously developed evaluation frameworks for service improvement initiatives

To develop an understanding of what is meant by evaluation and measurement

The outcome of the project being the production of a measurement framework for practitioners, which will be applicable to the NHS environment, to aid accurate demonstration of service improvement initiatives at intra-organisational level.

The research will lead to the provision of a unique 'BEF' which will incorporate the humanistic and qualitative elements of change. Enabling a systematic approach to monitoring the sustainability of improvement initiatives at intra-organisational level, thus enabling practitioners to improve their efficiency and effectiveness in practice

over time, while developing ongoing real-time learning, as they strive to implement improvement into practice.

The policy context of the NHS, like many other public service organisations, is strongly influenced by political forces. However, the current economic climate married with ever increasing public expectation, and concerns such as those raised in Mid-Staffordshire have raised the political 'heat'. This makes the relevance of reports such as the final report of the Next Stage Review (NSR) led by Lord Darzi (DH, 2008) published June 2008 all the more critical. The purpose of the report was to build on progress made by delivering the NHS Plan and the government reform agenda, to identify the way forward for a 21st Century NHS which is clinically driven, patient centred, responsive to local communities and to deliver high quality care for everyone. The Department of Health (DH) now wishes to commission a major new wave of research to evaluate the NHS's readiness to deliver the NSR, and the implementation and impact of its key elements. This provides an opportunity for an evaluation framework at both intra and inter organisational level to aid organisations their teams and individuals to ensure that any improvement can be evidence based and that there is a continual assessment of the intervention using information from initiatives such as Commissioning for Quality and Innovation payment framework (CQUIN) (DH 2009/10) and Productivity and Efficiency programmes against the DH required vision. Whichever political party is in power the need to demonstrate organisational improvement will be feature of policy context as the NHS faces up to the economic challenges it faces over the coming years.

2.3 Literature Searches

The first strategy for the review entailed using search engines, www.modern.nhs.uk and www.dh.gov.uk; secondly, electronic databases were searched, using 'Emerald' (a search engine). The search was refined from 4662 articles to 252 and finally to 14 key articles. Thirdly reference lists were checked from relevant selected documents.

Studies considered for inclusion in the review if the following criteria was met:

- English language literature

- Date of publication being between January 1980 to January 2007

- Articles which discussed evaluation frameworks within the context of the NHS or healthcare practice

If the above criteria was not met articles were excluded from the review

Undertaking a detailed critical analysis of frameworks has been a significant and difficult piece of project work as there is not a wide body of knowledge on this subject. A table was created to allow a methodical critique of each article in relation to different frameworks discussed (appendix 1). The following categories formed the table:

the use of measurement and evaluation terminology
the use of quantitative and qualitative methodologies
details on continual evaluation and sustainability

In synthesising the data, the following themes have been identified and are discussed below.

2.4 Measurement of Service Improvement Initiatives

Development of organisational service improvement initiatives have been conceptualised, using many different terms and models. The start of this work can be traced to Lewin (1951), who described a three-step large-scale change process of unfreezing, change, re-freezing, the change intervention needing both resource and time, first to change from the existing state, then re-freeze into a new position. Frequently cited in research on measuring healthcare quality (Donabedian, 1992; Burns, 1995), is Avis Donabedian's (1980) model of 'Structure, Process and Outcome (SPO). Donabedian defines structural measures of quality as the professional and organisational resources associated with the provision of care, such as staff credentials and the operating capacities process, referring to the thing done to and for the patient by practitioners in the course of treatment. Donabedian (1980) also distinguishes between two types of outcome, technical and interpersonal. Prochaska and DiClemente's (1986) trans-theoretical model concentrates on the interpersonal aspects of improvement, which builds on what Donabedian (1980) had earlier termed, 'interpersonal'. Their model involved the emotional, cognitive and behavioural aspects of change. It was made up of the following five formative stages; pre-contemplation, contemplation, preparation, action and maintenance.

In summary, the number of tools and techniques available to aid improvement are vast, such as the 'balanced score card', a strategic framework developed by Kaplan and Norton (1992), the 'European Foundation for Quality Excellence' (EFQM) and the 'TQM model' (Jackson, 1999;Stahr et al, 2000; Jackson, 2001; Langley et al, 1996), 'Plan-Do-Study–Act' (Deming, 1986), 'Behaviour-Minder' (Rubin, 2001), 'Review, Agree, Implement, Demonstrate model' (RAID) (Halligan and Donaldson, 2001) and 'Lean Thinking' (Womack et al, 1991).

Although there are a plethora of tools and models available to aid improvement, collectively, but not singularly, the tools offer the opportunity for 'double loop learning' (Argyris and Schon, 1978) and comprehensive evaluation. However, healthcare professionals in this research found it difficult to identify whether improvement is taking place and what exactly is improving, due to the complexities of its nature. This does not negate the need for evaluation to be performed (Modernisation Agency, 2005; DH, 2005). Champey (2003) reports that organisations fail to implement 70% of their new strategic initiatives. Without proper means to measure improvement projects within the NHS, healthcare professionals risk losing track of their mission, goals, objectives and, above all, priorities. This is supported by Jackson (1999), in relation to the business excellence model who states,

> *its fundamental principle that measures need to be taken in order to monitor progress means that new activities cannot be pursued until the effect of activities undertaken to address previous areas for improvement are determined*

(p 64).

In the absence of reliable measurement, this research highlights a gap in the evaluation of improvement and seeks to create an evaluation framework (see section 4.1), which will allow service improvement initiatives to be measured from initiation to implementation, to demonstrate sustainability of improvement initiatives and to maintain organisational direction, in relation to service improvement.

The literature search has concentrated on discovering what measurement tools related to service improvement initiatives there are, within the NHS, which could indicate sustainability and improvement. Synthesis of the literature indicates that healthcare professionals have experienced difficulty in identifying whether change has led to improvement and what exactly is improving, due to the complex of its nature of healthcare, but it remains an expectation of government that this be

performed (Chow, Chua and Goh, 2002). Healthcare measurement involves a variety of factors that, from research, appear to have proven difficult to be monitored (Chow, Chua and Goh, 2002). It involves more than just procedures, or a measurement of skills, knowledge and a determination of outcomes at community level, it also needs to consider the "softer" qualitative aspects of improvement (Deming, 1993), such as evaluation of human dimensions of behaviours. Work by Rubin (1992) focused on working with healthcare organisations who share a simple but powerful premise; '"*Staff" infections in the boardroom culture of a healthcare organization are as potentially lethal as "staph" infections in the culture of the organisation's treatment room'* (Rubin, 1996, p 1). The major focus of Rubin's current work was based up on the relationship between performance management, feedback systems and the creation of healthy, non-toxic, caring organisational cultures. It is often the evaluation of this human dimension of change that is lacking.

The success of a service improvement initiative in the field of healthcare should not be conducted without sufficient reliable data that should include the participation of teams, organizations and individuals. Without the proper means to measure improvement, projects within the NHS are at risk of losing track of their mission, goals, objectives, aims and, above all, priorities. In this regard, an effective evaluation framework will maintain organizational direction (Appendix 2: South Tees Hospitals NHS Trust, Trust Report, 2005). The following section will look at the evaluation frameworks currently available and highlight any weaknesses.

2.5 Evaluation Frameworks

The search highlighted that there were few comprehensive evaluation frameworks and those that had been developed were developed nationally, to be implemented locally at intra-organisational level (Chang, Lin, Norcott, 2002; Chow-Chua and Goh, 2002) rather than being developed at local level for local implementation. The literature fell into two categories, those which compared existing frameworks and those which developed new frameworks based on knowledge of previous frameworks, through critical appraisal of existing findings and building on highlighted weaknesses (Yusof *et al*, 2006; Davies and Kochar, 2000; Okumus, 2003; Chow Chua and Goh, 2002).

The literature compared frameworks, predominantly using Balanced Score Card (BSC) as a comparator. BSC is a strategic evaluation framework, developed by Kaplan and Norton (1992), which has become one of the most widely- used performance management systems within organisations, including the Department of Health and Healthcare Commission (Deffenbaugh, 2004), British Telecom and private organisations. The key principle underpinning it is a study of cause and effect. In the literature, BSC was compared with Performance Assessment Framework (PAF), Singapore Quality Award (SQA) and performance frameworks (based on BSC) for the UK, Canada, Australia and the USA. The literature highlighted that, although the BSC is used widely, it can be time-sensitive, costly and complicated. This was supported by the study of Chow-Chua and Goh (2002) that looked at combining BSC and SQA; limitations were highlighted as to the length of time it would take to implement such a framework. Additionally, it may be argued that such an approach does not measure values and beliefs, therefore, negates the impact of organisational culture, described by Deal and Kennedy (1982) as, '*the way things get done around here*'. The fact that BSC is the predominantly used tool supports the evidence that frameworks for evaluating the improvement are few.

Literature that looks at developing assessment frameworks includes those addressing clinical outcomes (Lin and Norcott, 2002) and those addressing outputs (Davies and Kochar, 2000; Rowe and Calnan, 2006; Okumus, 2003) and a few addressing both output and outcome (Yusof et al, 2006). Rowe and Calnan (2006) highlighted the need to '*understand trust and its importance in terms of its clinical impact on health outcomes*' and recognise that there are still gaps present, in terms of research into the associated outcomes, demonstrating a lack of clear evaluation of initiatives. Arah *et al* (2003) emphasise the need for further development of frameworks for health-system performance, to address some conceptual and operational issues concerning quality and effectiveness. They also state that:

> *indicators of effectiveness should be clearly linked to realistic, pre-determined and unambiguous system-wide targets or outcomes' and that 'performance frameworks should not replace actual performance but find a niche in a regulated performance environment and stimulate a culture of continuous improvement.*

(Arah *et al,* 2003, p 393-394)

Shapiro and Wilcox (1999) address outputs, predominantly, but do incorporate outcome measurements, stating that 'healthcare is one of the most problematic areas of price and output measurement' and present a framework for output measurement. Outcomes are addressed in relation to survey evidence from patients but demonstrate:

> *Substantial difficulties, leading to apparently inconsistent valuations … nonetheless owing to the scarcity of data on willingness to pay there appears to be little alternative to survey based approach.*

> *(Shapiro and Wilcox, 1999, p 335)*

Details of what was measured varied between quantitative and qualitative measurement. How measurement was carried out, in terms of tools used, was not evident.

Examination of the literature indicates that there are few frameworks for evaluation of healthcare improvement interventions and that those available are dated, or often specific to areas, for example, Health Information Systems (Mohd *et al*, 2006), rather than evaluating the whole process of implementing an improvement initiative. The literature highlights a gap, being that both quantitative measurement and qualitative measurement of service improvement initiatives did not exist within a single framework. Where qualitative measurement is incorporated, it appears to be, mainly, a questionnaire/survey-based approach.

Following this extensive review, I found myself questioning my own theoretical mental model, referred to in Chapter 1, because it did not fit with the evaluation paradigm. I was surprised, however, to find a relationship between trans-theoretical (Prochaska and Velicer, 1997) and Plan-Do-Study-Act (Associates Process Improvement, 1996), as adaptations of theories in their own right. This will be explored further in chapter 5.

My conclusion is that evaluation of improvement initiatives is not yet robust and mainstreamed. The finding from this literature search is supported by the work of Okumus (2003), who studied frameworks that were used to implement strategies in organisations. His findings state:

> *... some frameworks combine several elements under one factor whilst others refer to each of these factors and that factors can be classified differently e.g. communication can also be termed interaction (Skivington and Daft, 1991).The resources are scattered and subjective to needs and highlight a need for a comprehensive evaluation framework which considers both quantitative and qualitative measurement of a service*

improvement initiative which considers the initiative from start to end and considers continual evaluation and sustainability.

(Okumus, 2003, p 874)

2.6 Evaluation and Measurement

Organisations have been established for the sole purpose of determining 'healthcare improvement', such as the Institute for Healthcare Improvement (IHI), founded in 1990. Their intention is to make efficient healthcare improvement, not just in the United States, but also outside it. The Institute teams up with various healthcare organisations and conduct '*education, research, clinical trials and demonstration projects*', in order to set up goals that healthcare services will follow and will eventually lead to performance improvement. IHI works towards improved health status including communities through greater access to care, clinical outcomes, improvement and cost-reduction. The IHI is particularly focused on reducing the instances of waste in healthcare work and resources. They believe that healthcare problems are solved by finding and removing waste. The IHI believes in efficiency, in performance-improvement, whilst ensuring quality healthcare, by reducing waste and delay, which is caused by the mismatch between supply and demand. The IHI is successful in leading improvement projects using the collaborative models. 'Collaboratives', rely on cooperation, in order to implement and evaluate service improvement initiatives across multiple sites (New Jersey University of the Health Sciences, 1998).

What is evident from the literature are the difficulties and complexities in relation to measurement in healthcare, when compared with business organisations, where data can be easily presented, provided and recorded. Healthcare deals with situations and activities that may be difficult to record, are interpreted by the subjective mind and, as a consequence, situations are individually acquired, with idiosyncrasies unique to the human experience, rather than business organisations that will have a set of process orientated measurements with managed variance.

Although healthcare involves several factors that are difficult to quantify, measuring improvement must, nonetheless, be performed. Inevitably, the measurement of performance improvement, or service improvement initiatives, leads to quality healthcare, as well as the focus and realization of goals. The NHS emphasized that measurement for improvement is supposed to make the positive changes efficient and effective. They emphasize how objectives and measures

need to be connected and how they should reflect '*other initiatives in the health community*'. This link has been emphasized in their models of improvement (NHS, 2005).

The literature highlights the interchangeable use of evaluation and measurement. Lin and Norcott (2002) use evaluation to describe overall frameworks and measurements for the implementation, however Rowe and Calnan (2006) and Arah *et al* (2003) discuss measurement in relation to process and outcomes. Chow Chua and Goh (2002) state the need for measurement as '*a critical aid to performance evaluation*'. Nechochea and Fort (2003) believe in the capability of measurement and evaluation to '*strengthen performance improvement practices*' and assess their effectiveness of intervening in the field. They identified that measurement and evaluation of service improvement initiatives in the healthcare field is increasingly complicated and difficult, due to diversity, which they name as '*geographical settings, cultures, and health systems, coupled with a scarcity of resources*'. A primary complexity is the range of situations where healthcare is delivered; this complexity leads to variability in context and practice. An inability to utilise a single standard approach has underpinned why many individuals have been unsuccessful.

The United States Department of Health and Human Services (DHHS) (1998) states that performance measurement is a necessity, as it will '*clarify goals, document the contribution towards achieving those goals, and document the benefits received from the investment in each program*'. The DHHS emphasized how important it is to keep a record of, or track performances in the health field as a means to determine whether the set goals or the Health Service's mission and visions are being followed. The DHHS concur with Necochea and Fort (2003), in believing that measurement would not be effective or made possible if it does not have sufficient sound data that will be used '*to reliably measure public health or human service outcomes*'. The DHHS reinforces that data acquisition in health services is complex, limited and difficult at times, which is why researchers must look into other aspects of healthcare that will depend on measuring outcomes, or finding out how they had come to be. The study of procedure and the measures directly leading to such outcomes may be the most appropriate method (DHHS, 1998). As mentioned previously, what will make measurement and evaluation in the health practice possible is a set of standards (which at the same time, sets the standards), which will be performed through research on the perspectives of the service providers, as well as the patients themselves.

The DHHS report (1998) that the United States local governments have already employed a method of performance measurement. In their experience, they emphasize that measuring improvement in health service needs to be, '*specific and result oriented, meaningful and understandable, adequate in data, valid, reliable and responsive*' (DHHS, 1998). If those implementing service improvement initiatives take note in establishing these guidelines, then a credible measurement report may be established. This will allow health systems to determine if there has been progress or, in a certain sense, if goals are being met. Monitoring performance leads to several implications about the state and welfare of a nation's health system and allow them to continue improving.

Measuring individual performance and behaviour, through a test of skills and knowledge, may be an alternative way to study a service improvement initiative. Although again, it is merely studying the theory of the healthcare, rather than the practice, or the application of the theory (training, skills and knowledge), which may be studied through the evaluation of better, or high-quality care. This will take into account a health practitioner's interventions, relationships with colleagues and the environment as a whole. There are two specific considerations related to health evaluation, to ensure the robust measurement of an improvement initiative, these being the behaviour itself, as well as its outcome. While behaviour may be measured at an individual level, through the correct following of a certain order, in a clinical procedure, outcome is measured in a more 'systems and organizational level', as it will deal with the effects of the said behaviour on the patient. When one is looking at, therefore, at multi-layered measures; one may, for example, look at the impact at patient-level first, then aggregate this to look at trends at team-level, which, in turn, would inform system development at organisational level. Necochea and Fort (2003) highlight that measuring outcomes is also more complicated, as there are several factors, or 'interventions' that may affect this.

Although measurement and evaluation are used, interchangeably, to describe how we assess the benefits of service improvement initiatives, it is clear that positive change or improvement should be nurtured, in order to contribute to the continuous betterment of a working individual. With the aid of measurement for improvements, one may be able to pinpoint how changes take place, what changes are important and what are not. Sorting out changes yields benefits, especially, in service improvement. Measurements for improvement (Institute of innovation 2005) are about identifying the right information that will identify

progress, growth and development, as well as agents to help justify that improvement has occurred. Measurements of improvement confirm and quantify what, otherwise, are an abstract feeling of change. It allows those implementing the change to show, through quantitative data, that such change have, indeed, taken place and provide visual and hard data of such evidence of growth, to demonstrate a change. Measurement for improvement allows individuals to track and reward change, as well as identify the lack, thereof (NHS, 2005). The contribution of 'Measuring Service Improvement' is also, in a greater sense, for economic needs. Healthcare resources are limited, therefore, must be deployed in the best and most effective manner, such that an identifiable performance-measure ensues. 'Performance Measurement' is also a way to allow local agencies and government programmes to come together. In this way, the National Health Service may take notice and may, indeed, track progression nationally.

My critical appraisal of the literature has led to the conclusion that evaluation and measurement are crucial, but not evident in practice. There is a need to seek clarity over what is understood by evaluation and measurement, to enable a robust evaluation framework to be developed. The literature also demonstrates the lack of empirical evidence around the usefulness of available evaluation frameworks and this is an area that will need to be considered after the development of the proposed evaluation framework for this project.

2.7 Quantitative and Qualitative Measurement

Effective evaluation needs to be present at all levels of the intervention and must involve both quantitative and qualitative evaluation, to gain a true understanding of impact. The literature search identified that the notion of measurement and evaluation is mentioned, but often, subjective judgments are based on experience and lacks any detail of the type of measurement and tools to be used. An example of this is the articles by Chow-Chua and Goh (2002) and Arah *et al* (2003), where measurement was stated as critical in aiding better performance and frameworks were presented, but no details were present on what tools would assess quantity and quality. In many cases, quantitative measurement is mentioned without qualitative and vice-versa; quite often, no mention of either is present. Shapiro, Shapiro and Wilcox (1999) do mention both quantitative and qualitative measures and go into some detail about using patient surveys for

qualitative information and statistical analysis for quantitative measures, although the framework is more biased towards quantitative measurement, as it looks at specific price and output measurement. Where measurement or evaluation is considered, there is little empirical evidence about the effectiveness of these methods (Ovretiet, 2002). Many healthcare executives are familiar with the variety of improvement processes available, but few are aware of the key measurement methods that can be utilised to identify unique improvement opportunities in their organisations and assess the impact of their improvement efforts (Breedlove, 1994). In developing a robust evaluation framework, both quantitative and qualitative measurement must be incorporated.

2.8 Evaluation and Sustainability

One of the many challenges facing any organisation is identifying areas of effective practice, then ensuring all areas that would benefit from such knowledge are supported through an adoption process. My personal experience would support the evidence suggesting that all organisations are capable of delivering excellence in isolated pockets (Kaplan and Norton, 1992), but the challenge that remains is ensuring that spread is an inherent part of the improvement process (Senge, 1994), to create a learning organisation. According to Peter Senge (1990), learning organizations are:

> *… organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together.*

(Senge, 1990, p 3)

Argyris and Schon (1978) state that, for organisational learning to occur, learning agents' discoveries, interventions and evaluations must be embedded in organisational memory (see chapter 5).

Prochaska et al (1992) talk of the theoretical model of behavioural change (see section 2.4). Its stages represent ordered categories along a continuum of motivational readiness to change. They highlight that measurement issues are very important and one of the critical steps for the application of the model involves the development of short, reliable and valid measures of the key constructs. Accurate measurement requires a series of unambiguous items that the individual can respond to, accurately, with little opportunity for distortion.

From a corporate governance perspective, once a practice or service model is proven to be clinically and financially effective, it is imperative that it is transferred to appropriate areas within the organisation. This enables staff to base decisions on up-to-date evidence, thereby, improving the quality of care delivered and reducing variations in practice (Conner and Scott, 2004).

Continual evaluation and sustainability are lacking, in relation to monitoring improvement. Okumus (2003) and Shapiro *et al* (1999), appear to be isolated, regarding their work in this area, which suggests a gap in the body of knowledge, in relation to evaluation of improvement initiatives, therefore, an area for consideration in the development of a framework for service improvement initiatives to maintain steady progress. This is further supported by Breedlove (1994), who states that healthcare organisations are looking to quality programmes as a key to survival, but many financial managers are unaware of the measurement methods to quantify results of quality management efforts.

The principles of Roger's (1995) work were grounded in technology, critically analysing how ideas spread, particularly within industry and marketing. Roger (1995) places emphasis on opinion leaders, the significance they have in implementing change and how they need to be identified, to gain maximum impact. Gladwell (2002) and Shapiro (2003) have developed subsequent work, which contributes to the spread agenda emphasising the importance of both people and the environment in which spread takes place. This provides the basis for a different approach to be utilised for improvement work as, historically, it is willing, or senior people, more often described as 'champions' (Modernisation Agency, 1994) who are expected to lead and spread such work; these 'champions' are described by Rogers (1995) as early adopters.

> *Early adopters are a more integrated part of the local social system ... the early adopter is considered by many as the 'individual to check with' before using a new idea .... the early adopter is respected by his or her peers and is the embodiment of successful, discrete use of new ideas. The early adopter decreases uncertainty about a new idea by adopting it, then conveying a subjective evaluation of the innovation to near peers through interpersonal networks.*

(Rogers, 1999, p 264)

The principles of spread and sustainability (Rogers, 1995), coupled with the identified lack of consideration toward sustainability (Fraser, 2002), when undertaking improvement projects has highlighted a gap in service improvement,

which needs to be addressed, to ensure that initiatives are maintained. This gap will be addressed in the development of the 'BEF' for the project.

2.9 Summary

The research yielded few resources, most of which are dated and concentrate on specific areas, such as public participation methods (Robert and Bate 2003), rather than evaluating the whole process of implementing an improvement initiative. This implies that the 'Evaluation', or 'Measurement of Service Improvement Initiatives' in healthcare is not yet present and mainstreamed. The resources are scattered and subjective to needs. In summary, this critical review of the literature has shaped and influenced the development of the project. This research will attempt to develop a 'BEF' that may be used by various healthcare services. The research revealed that the NHS had been attempting to put efforts into Measuring Performance Improvement, however, the information relating to it remains incomplete and difficult to assess. The literature review has also identified the difficulties and complexities in the particular measurement of healthcare. It is not as easy as measuring improvement in a business organisation, where data can be easily presented, provided and recorded. Healthcare deals with situations and activities that may be difficult to record, as they pass the subjective minds therefore these situations are individually acquired and developed feature with idiosyncrasies unique to the human experience. These idiosyncrasies develop from differing personal constructs, which are developed through experiences. Benner (1984, p 3) explains experience as '… *results when preconceived notions and expectations are challenged, refined, or disconfirmed by the actual situation*'. Each individual will have differing experiences, therefore, each person will have a unique view of each experience, leading to idiosyncrasies. It is through these experiences that expertise develops; Benner (1984) describes this in relation to the expert nurse:

> *... who perceives the situation as a whole, uses past concrete situations as paradigms, and moves to the accurate region of the problem without wasteful consideration of a large number of options. In contrast, the proficient nurse in a novel situation must rely on conscious, deliberate, and analytic problem solving.... not all knowledge embedded in expertise can be captured in theoretical propositions, or with analytic strategies that go into the decision. However, the intentions, expectations, meanings of expert practice can be described.*

(Benner 1984, p 4)

In summary, healthcare involves several factors that are difficult to quantify, but measuring improvement, nonetheless, must be performed as supported by this review. Inevitably, the measurement of performance improvement, or service improvement initiatives, leads to quality healthcare, as well as the focus and realization of goals, unlike business organizations, which will have a set of measurements, beforehand, of a more objective nature.

As a by-product of the main project, the literature review led to the production of a framework for critiquing the robustness of an evaluation framework (appendix 1) and the first draft of the 'BEF' (figure 4.7). This has been an unintended, but positive additional product. This tool enables practitioners to assess evaluation frameworks, systematically and robustly. This product is of use across all health related sectors undertaking the evaluation of improvement work.

Chapter 3

Research Methods, Considerations and Discussion on Planning Approach

This chapter outlines the methodology used and the rationale for why this approach was adopted and developed for the project. Ethical issues involved with the project and the insider researcher perspective are addressed in detail.

3.1   Ontology and Epistemological Considerations

In order to conduct this project, it was necessary to position the research in a philosophical paradigm in relation to the epistemology. Guba and Lincoln (1986) suggest three categories of research epistemology, positivistic, interpretive and critical. This project will develop a 'BEF' in order to highlight variables and identify the specific elements of an improvement intervention, which are effective, sustainable and transferable. With this outcome in mind, a constructivist, interpretive, qualitative epistemology was adopted, using an inductive approach (initial thoughts on framework tested through focus groups), whereby general law is established by accumulating particular instances (Crotty,1998). In the inductive approach you would collect data and develop theory as a result of your data analysis (Saunders, Lewis *et al*, 2003). Schwandt (2000) describes interpretive as:

> *an interpretivist point of view as, what distinguishes human (social) action from the movement of physical objects is that the former is inherently meaningful. Thus, to understand a particular social action (e.g., friendship, voting, marrying, teaching), the inquirer must grasp the meanings that constitute that action.*

(Schwandt, 2000: p. 191)

Robson (2002) points out that the description, *"'interpretive research" is used by some as an alternative way of describing "qualitative" research, or "constructivist" or "naturalistic" research'*. (p 24) and reinforces the point that the words, 'constructivist', 'interpretive' and 'naturalistic' are commonly used to describe the same type of research – he says these words are used to describe '*the current state of qualitative research*' and gives not exactly a simple definition (of 'constructivism') but at least an indication of what's different about it: *"'Constructivism" is helpful because it flags a basic tenet of the approach, namely, that reality is socially constructed'* (p 27).

The constructivist approach recognises multiple social constructions of meaning and knowledge and supports the aim of the project, which is to gather multiple perspectives, interpret the thinking and synthesise this into generic useful information and principles. The multiple perspectives include me, as insider researcher, participants of the focus groups and the individual experts in service improvement. As all have '*their own understandings, their own convictions and their own orientations*', a method was sought '*to better understand the worlds of experience*' (Denzin and Lincoln, 2000). Crotty (1998) suggests that constructivism '*points up the unique experience of each of us*' in such as way as to suggest that '*each one's way of making sense of the world is as valid and worthy of respect as any other, thereby tending to scotch any hint of a critical spirit*' (p 58). In contrast, social constructionism focuses on '*the hold our culture has on us*' in shaping our experience and the way we see things, to give us a definite view of the world (Crotty, 1998, p. 58). Crotty (1994) defines the type of environment a constructivist will try to create, where learners '*are required to examine thinking and learning processes; collect, record, and analyze data; formulate and test hypotheses; reflect on previous understandings; and construct their own meaning*' (p 31).

An overview of the differing philosophical assumptions can be obtained by using a table (Table 3.1) by Vaishnavi and Kuechler (2006).

Table 3.1: Philosophical Assumptions from Three Research Perspectives (Vaishnavi and Kuechler, 2006)

	Research Perspective		
Base Belief	Positivist	Interpretive	Design
Ontology	A single reality Knowable probabilistic.	Multiple realities socially constructed.	Multiple, contextually situated alternative worldstates. Socio-technologically enabled
Epistemology	Objective Dispassionate Detached Observer of truth.	Subjective, i.e. values and knowledge emerge from the researcher-participant interaction.	Knowing through making: objectively constrained construction within a context. Iterative circumscription reveals meaning.
Methodology	Observation quantitative, statistical. Hermeneutical, dialectical.	Participation qualitative.	Developmental. Measure artefactual impacts on the composite system
Axiology: what is of value	Truth: universal and beautiful; prediction.	Understanding: situated and description.	Control: creation; progress (i.e. improvement) Understanding.

The importance of using research methods and instruments of data collection that consider the practical and real-life issues facing organisations undertaking service improvement on a day-to-day basis are being considered within this work-based project. Real-world research, according to Denzin (1989), considers outside influences and acknowledges that social research is not perfect, as opposed to scientific research, which is undertaken in highly controlled environments. It may be argued that this is less applicable to organisations that have to deal with numerous variables, which are often unpredictable. Social science encompasses a humanities tradition of research, based on systematic reading and interpretation that sometimes seems to border on speculation, as well as a scientific tradition of research with a strong emphasis on observation and collection of information, but which also includes a level of interpretation. These two approaches tend to emphasise different techniques and report findings in different ways. Kellehear (1993) summarises the differences between the two by outlining the rationales for hypothetico-deductive research design, in the scientific tradition and ethnographic-inductive research design, in the humanities tradition.

Strauss and Corbin (1990) describe a number of '*valid reasons for doing qualitative research*', which include … '*the conviction of the researcher based upon research experience* ... [and] … *to uncover and understand any phenomenon about which little is yet known* ... [and] *… to gain novel and fresh slants on things which quite a bit is already known*'. This project, as reinforced by the critique of the literature, substantiated my perception of the current state of knowledge about evaluation of improvement initiatives, that there is much known about tools and techniques for improvement and their implementation, but very little on whether they make a sustained improvement. The case for me to deploy a qualitative approach was strong. The learning that has taken place for me throughout the doctoral programme and, more specifically, from my reading and studies on methodology and methods, has led me to understand my own place in philosophical and methodological landscapes. This has been a fascinating experience.

3.1.1 Methodology and Methods

When embarking on the programme, I recognised that my understanding of research philosophy and methodology was quite limited and that I 'didn't know what I didn't know', in this field of research. My learning and instinct, however, confirmed that a 'qualitative' approach was the right research methodology.

A number of research methods were considered (appendix 4). This was narrowed down to investigating the feasibility of case study, grounded theory and action research. After following careful critical appraisal, case study and grounded theory were eliminated, the reasons being discussed below:

i. Case Study

Case study is an empirical enquiry that specifically investigates a contemporary phenomenon, especially within its real life, when the boundaries between the phenomenon and context are not evident (Yin, 2002). There are also a number of known limitations to case-study investigations, one of which being the potential for worker researcher bias, however, with action research, this bias is somewhat reduced as the researcher works closely with and involves the subjects. This is key to getting this work accepted within the organisation. In this instance, this methodology seems less appropriate to the aims of the project being discussed.

i.i. Grounded Theory

Grounded theory (Glaser and Strauss, 1967) was considered as an option, as it is an inductive technique and its outcome is a theory explaining the phenomenon under study. The research would present the theory, supported by examples from the data. It includes rigorous data collection in the generation of substantive and formal theory. Having considered the methodology, I decided that it did not remove the barrier between the researcher and the participant as much as action research would allow, which is key to ensuring the success of this project and having it accepted and implemented within the organisation.

i.i.i Action Research

After much consideration and discussion with interested parties, my chosen approach is action research, a qualitative research methodology, which would allow flexibility, due to it being designed to allow the researcher to research and

work on solving the problem at the same time. The flexibility of this approach would also allow for positivistic techniques to be incorporated, where appropriate. Action research is a cyclical process, with a crucial step in each cycle being that of critical reflection. The researcher and others involved first collect, then analyze what has already happened. Vinten (1994) describes action research as an approach in which participant observation is an integral feature. Having drawn conclusions from various data sources, the researcher then challenges the emerging conclusions by vigorously pursuing disconfirming evidence (Brink and Wood, 1989). Winter and Munn Giddings (2001) state that action research is, '*a single activity which is simultaneously a form of inquiry and a form of practical action'.* Hart and Bond (2000) define it as '*a process which alternates continuously between inquiry and action, between practice and innovative thinking'.* Action research provides individuals involved in service improvement projects/initiatives with the opportunity and right to question, change, adapt and manipulate the process, to reflect their experiences. This gives strength and validity to the individual's sense of ownership and empowerment to change elements in the improvement initiative, in a responsive and timely manner. Action research can be traced back to the sociological work of Kurt Lewin (1948). He observed that although people are often clear about 'what' outcome they hope to achieve when conducting research, or development projects, they tend not to be clear about how to reach that point. The action research process is extremely powerful in allowing them to do this. According to Lewin (1948), the process begins with the researcher setting down a 'general idea' of what he or she wants to achieve. The next step involves gathering information about the present situation, which allows the researcher to formulate '*an "overall plan" of how to reach the objective, and [to make] a decision in regard to the first step of action'* (Lewin, 1948, p. 205). This stage is followed by a series of phases, each involving 'circles' of action, evaluation, reflection, fact-finding, modifying the original plan and planning the next action. Lewin likens the process to a spiral staircase, where the steps ultimately lead to achievement of a desired outcome. Action research is ideally suited to dynamic service improvement as it recognises the complexity of human and social interactions that result in change (Phelps and Hase, 2002). Action research involves a process of enquiry, intervention and evaluation, which is most appropriate when improved practices and problem-solving are core concerns. It has been applied in organisation and community groups (Gbrich, 1999), which, as a comparator, is a similar environment to that of a large regional hospital in the north-east of England. Given the work-based nature of the

problem, an action-orientated approach has been selected. The Action Research process is cyclical and comprises four main stages, which are planning, acting, observing and reflecting (figure 3.1).

Action Research, shown in figure 3.1, is described by Lewin (1948) as an iterative process, which implies that the research process is ongoing. This process is sometimes described as a spiral, instead of a circle, in order to emphasise the iterative nature.
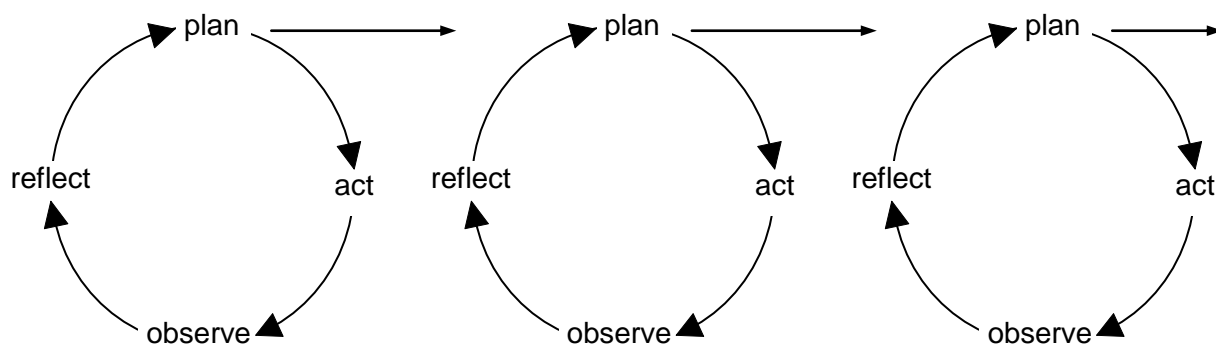
Figure 3.1: Action Research Four Stage Spiral

Cited in: McNiff et al (1996) You and Your Action Research Project. (London: Hyde)

I will use the cyclical approach of this model at each stage in the research (see chapter 4, section 4.1), which will lead, inevitably, to numerous cycles of action and reflection to reach the outcomes. McNiff (2002) states that:

> *mini cycles can develop during cycles and the 'process can be shown as a spiral of cycles, where one issue forms the basis of another and, as one question is addressed, the answer to it generates new questions' This can be seen as the 'processes of developing practice' and forms the basis of the notion of improvement of professional practice*

> *(p. 2).*

McNiff (2002) identified systematic action and the practitioner's learning as the two crucial factors to action research. A danger would be to focus only on the action and not to report and reflect on the learning process, because both factors mutually influence each other. Cousin (2002) offers a list of criteria that correlate with a high degree of success for action research projects. She organises them in line with the stages of action research as follows:

- Problem Identification/Analysis
- Planning and Preparation stage
- Action, Monitoring, Adjusting stage
- Evaluation stage
- The 'Next Steps' stage

It is essential that the critiques of action research are highlighted. Carr (1994) criticised this methodology, based on its positivist tendencies to focus on 'action', rather than research, to take into account the social dimensions that will impact on such action and the tendency to pay lip service to the process of self-reflection. Kemmis (1983) identifies reflective enquiry as crucial, to ensure the full cycle of evaluation. Another major criticism of action research has been the separation of theory from practice (O'Conner, 1993; Carr, 1994; Hart and Bond, 1995). These criticisms have been considered in light of this research, however, this method is perceived to be most effective when results emerge from the data with an emphasis on problem-solving (Gbrich, 1999). With all factors considered, action research is the methodology most suited to the dynamic of the project. Consequently, the outcome of the project being the development of a framework that can be embedded in the organisation, it will ensure that theory and practice are not separated.

3.2   Rigour in Qualitative Research: Validity, Trustworthiness, Reliability and Authenticity

My chosen methodology is action research, a qualitative approach. Qualitative research has many detractors. Peck and Secker (1999) outline many disadvantages of qualitative research, including the time-consuming nature of the data collection, the timescales involved, the inaccessibility of the style in which findings are usually published and the media in which they are published (typically academic journals).   These are obstacles to the acceptance and impact of qualitative research on decision-making, over and above the '*continuing dominance of positivist, quantitative approaches*' in the world in which these authors operate; the '*pragmatic world of healthcare management*' (Peck and Secker, 1999). Miles (1979) uses an interesting metaphor to highlight some problems and challenges:

> *The legal doctrine of an 'attractive nuisance' is simply illustrated by what happens if you abandon a car in your backyard: if neighbouring children come eagerly to play with it, you are liable for injuries. Qualitative data collected during the study of organisations fit this illustration well: there are many reasons why more and more researchers are currently seeking such data, and there are many ways they can get hurt - or at least fail to achieve their purposes, and just as most children think that driving is easy, so many researchers somehow think qualitative data present problematic methodological issues*

> (p. 590)

In light of the criticisms of qualitative research, Winter and Munn-Giddings (2001) argue that the positivist attempt to bring the human world under scientific control through the measurement of quantities, misses out essential 'qualities' of human experience. In contrast, qualitative research rejects the 'scientific' aspiration of controlling social affairs by producing general laws of 'measuring' behaviour; instead, the emphasis is on understanding social situations.

A potential criticism of research based on qualitative data is that the findings and conclusions may lack 'validity'. Winter and Munn-Giddings (2001) state that action learning has a process of continual learning at its centre that fits with modern theories of knowledge. The inquiry proceeds by continuously negotiating between differences and perspective, and its validity resides in the care and rigour of the process, not merely in the claim to have made an accurate representation of reality (the main claim of both positivism and naturalistic inquiry). Thus, part of the validity of an action research project depends on how far it seriously addresses issues of organisational and professional power.

At this level of research, It is essential that internal and external validity is considered, as it is a unique piece of research that will add to the body of knowledge, in relation to service improvement. The literature informs us that the measure of validity is often considered under internal or external validity (Gill & Johnson, 1991).

Internal validity is the recognition that, when it is associated with experimental research, it refers to both how well the study was run (research design, operational definitions used, how variables were measured, what was/wasn't measured, etc) and how confidently one can conclude that the change in the dependent variable was produced solely by the independent variable and not extraneous ones. The extent, to which a study's results (regardless of whether the study is descriptive or experimental) can be generalized/applied to other people, or settings, reflects its external validity (Huitt, Hummel, Kaeck, 1999).

An action research approach will allow continuous cycles of action and reflection to take place, to capture the changes that occur naturally within the process, therefore, constantly checking the changes that had taken place and understanding the presence of a particular theme, understanding its value and impact in relation to research and the organisation, therefore, providing internal validity.

In terms of external validity, there is potential for the resulting outcome of this work to be applied to other health organisations, to aid measurement of improvement. A study that readily allows its findings to generalise to the population at large has high external validity. It is anticipated that this research will be able to be applied to other organisations. This will be considered, in more detail, as the research emerges.

Qualitative researchers wish to find some way of justifying the interpretations of their data: some have developed alternative criteria, which are best suited to assessing the 'rigour' of qualitative research (Symon and Cassell, 1998). Symon and Cassell highlight Guba and Lincoln's (1989) 'authenticity criteria' as the best known of these. I have used this authenticity criteria as a means by which I can evaluate my research, make judgements about the quality of the design and the effectiveness of the implementation of my design, this is presented in table 3.2:

Table 3.2: Lincoln and Guba Authenticity Criteria as Guide to Project's Validity

Paradigm	Fulfilment by Project
Resonance	Have stated my epistemological position, which underpins my research – interpretive constructionist. Attention to issue of fairness ensuring all stakeholders' views, perspectives, claims, concerns and voices heard at data collection phase, so it is clear by those who read the project outcomes, that research process is transparent and understood by research participants
Rhetoric	To ensure that I articulate the arguments that arise from my findings in such a way that arguments are understood by readers and have a strong and authentic premise. This will be achieved through a robust project design
Empowerment	Empowerment through participants in their voices being heard, therefore, their thoughts facilitating change in the production of a framework.Empowerment also from my readers learning something from my findings that will allow them to take action.
Applicability	My research finding being applicable for readers to apply to their own contexts.

Adapted from: Symon & Cassell (1998, p7)

Naturalistic researchers have preferred 'trustworthiness' (Lincoln and Guba, 1985), rather than validity, which is more often used by positivists.

3.3   Sampling Methodology

I recognised that the selection of the focus groups was subjective and from a relatively small sample of the population of improvers within the organisation,

therefore, a purposive sample of participants was used for the project; a non-representative subset of a larger population was '*selected because of some characteristic that serves as very specific need or purpose*' (Weiss and Sosulski, 2003; Ovretiet, 1998, p 216). With this type of sampling, the participants are 'hand-picked' for the research. The researcher was aware of a number of people who have evaluation of service improvement knowledge and, previously, had some exposure to service improvement, therefore, because of this, they were seen as having experienced instances that were likely to produce the most valuable data. The aim of the study was to explore the quality of the data, not the quantity (Nachmias, 1996).

Dane (1990) points out that one of the advantages of purposive sampling is that it allows the researcher to focus on people, or events that have good ground for what, they believe, will be critical for the research. Instead of going to typical instances, a cross-section or a balanced choice, the researcher will be able to concentrate on instances that display a wide variety, possibly, even in extreme cases, to illuminate the research question at hand. It may not only be economical, but also informative, in a way that conventional probability cannot be (Descombe, 1998). With a non-probability sampling method, the researcher recognises that it is not feasible to include a sufficiently large number of examples in the study; this goes hand-in-hand, very much with qualitative research.

In qualitative research, the procedures are not so strictly formalised and explicated as in the case of quantitative research; the focus of the purposive qualitative research procedures is less constrained and a more philosophical approach is adopted (Mouton and Marais,1990, p. 23). It is important to recognise the limitations of any type of non-probability sampling, this being that it gives no reasonable certainty that findings will be representative of the larger population (Smith, 2004) and could cause a possible polarisation of data. Triangulation is often cited as an approach to avoiding this (see section 3.5).

3.4   Method of Data Collection

Having clarified my epistemological stance (interpretive constructionist) and broad inductive research approach (action research, through qualitative methods), the next step is to detail the design of these methods themselves.

Herr and Anderson (2005) state that the question for an insider-action researcher is, what data is available that have relevance to my study? Based on this, my sources of primary data collection was undertaken through a situation analysis, in relation to measurement of improvement, by reviewing and analysing documents to identify where we are, intra-organisationally, in terms of measuring service improvement initiatives. My dual role, as leader and insider researcher, has implications in this research. An insider researcher is defined, by Hewitt-Taylor (2002), as someone '*conducting research in an organisation or culture to which the researcher belongs*', going on to say that '*in particular, researchers need to take account of the influence their connection with the culture has on the results and how they are interpreted*'. Hollian and Brooks (2004) raise the risk of 'role conflict', highly relevant to this project, as my dual role could cause ambiguity for the participants. Coghlan (2001) raises two additional challenges for an insider researcher, pre-understanding and organisational politics. Pre-understanding gave me the benefit of prior knowledge, experience and insights. As the leader of the focus groups for this project, issues of unfamiliarity were avoided, as participants knew who I was and I was able to offer encouragement, clarify questions, prompt, probe and change the question order, to pursue interesting aspects (Robson, 2002). There was also, however, the disadvantage of prior assumption, which may cause the insider researcher to feel that they know the answer. Having another individual in the focus group take notes and observe, helped, as they reminded me of this.

The second challenge identified by Coghlan (2001) is that of organisational politics and the need for the insider researcher to remain politically astute and find ways that are in keeping with the political conditions within the organisations, without compromising themselves, or the project. This is also relevant to me, as leader of the development process of the BEM and holding a senior position in the organisation, creating issues, in terms of perceived and actual power, authority and influence, with implications of a political agenda. This presents real ethical issues and validity risks to the research process; how truthful I was in recording and interpreting the data, how willing I am to accepting criticism and how effective am I in eliminating cues that '*lead participants to respond in a particular way*' (Robson, 2000). I recognise that my dual role may have affected the responses of participants and the extent to which they were able to criticise the BEM. The risks associated with the role have been considered throughout the project.

Symon and Cassell (1998, p. 3) explore the extent to which particular techniques, such as interviewing, observation, and survey, can be used within a different number of paradigms (ontology's/epistemologies). They cite Kildruff and Mehra (1997); '*No method grants privileged access to the truth … and all research approaches are embodied in cultural practice that postmodernists seek to make explicit*'.

So, if this is the case, which methods would be best suited to the achievement of my research aims? Morton-Cooper (2000) identifies nine techniques to acquire data in healthcare action research:

> *Interviews*
> *Surveys*
> *Policy and/or documentary analysis and policy review*
> *Group discussion and clarification of values*
> *Critical incident analysis*
> *Comparison case studies/analysis of casework*
> *Comparison of outcomes related to policy or treatment interventions*
> *Discourse (conversation) analysis*
> *Critical reflection, via practitioner diaries, learning logs, learning contracts etc.*

(Morton-Cooper, 2000, p 69)

She proposes that methods and techniques need to be chosen, to suit those involved in carrying it out and the cultural norms affecting their usual ways of working. She elaborates and states that:

> *... too intensive a methodological approach in the beginning stage can only bog you down in lengthy periods of transcription which, if done straightaway can lose your study valuable momentum*

(p. 70)

Winter and Munn-Giddings (2001) state:

> *data gathering goes beyond simply asking questions and to include processes which encourage all participants to present details of their experience and their conceptions of desirable changes in practice, so that their ideas and perceptions become available for comparison and exploration*

(p. 19)

As I designed the detail of my research strategy, it was clear to me that a hybrid of iterative cycles of data collection would be incorporated into the project, these

being comparison data interviews and group-discussions through focus groups. My rationale for using these approaches are now discussed:

Focus Groups

Kreuger (1988) suggests that focus groups were born in the late 1930s by social scientists that had doubts about the accuracy of traditional information-gathering methods and stated that focus-group interviews enable the producers, manufacturers and sellers to understand the thinking of the consumer. McSherry *et al* (2002) liken focus groups to that of an open interview, as a method of data collection, but with a group of people, stating a number of advantages and disadvantages of using focus groups as a method of data collection. The issues that I am concerned with are presented in table 3.4:

Table 3.4: Advantages and Disadvantages of Focus Group for Consideration

Advantages	Disadvantages
Method is relatively inexpensive and flexible.	Can be difficult to organise and get all the group together in one place at one time
Homogeneity of the group can be planned.	Need to be cautious that you don't get polarised view
To some extent, there is quality control - there are checks and balances and extreme views tend to be weeded out. In considering this point, I believe that, providing the extreme has no common element or principle, which could expose an area for further discussion/exploration, extreme views can be a source of energy/motivation.	
Can empower some participants as they feel that they can talk at a group interview, rather than being interviewed on their own. People tend to be less inhibited in groups and researchers less inhibited to raise sensitive issues	People may be reluctant to express certain views or reveal certain things when others are there. Need to ensure that confidentiality is reinforced when inviting participants and again at the group session.
	Method requires expertise and requires two people, a facilitator and a note-taker. In considering this, I recognise my skills as a facilitator in my current role, however, I need to be cautious that I allow open discussion. Note-taker will be present.
Enables clarification and cross clarification	Problem of generalisability needs to be considered

Adapted from: McSherry, R., Simmons, M., Abbott, P., (2002 p 36)

The discussed advantages and disadvantages of focus groups in Table 3.4 are supported by the views expressed in the literature.

Focus groups generate data through group interaction. Participants are encouraged to exchange information, rather than the researcher questioning each participant in turn. This can be particularly helpful for examining both what people think and why. It is a methodology that empowers participants to work alongside the researcher, becoming active in the process of analysis. It is useful when research questions are open-ended, and concerned with elements of people's experience or values. Its exploratory nature can take research in unexpected directions. (Kitzinger 1994, 1995 and Fontana and Frey, 2000)

Fontana and Frey (2000, p. 651) suggest that '*group interviews can … be used successfully to aid respondents' recall of specific events or to stimulate embellished descriptions of events … or experiences shared by members of a group*'.

Fontana and Frey (2000, p. 651) note that '*all group interviews are often generically designated focus group interviews, even though there are considerable variations in the nature and types of group interviews'*. They review some general advantages and potential pitfalls:

> *Group interviews have some advantages over individual; interviews: They are relatively inexpensive to conduct and often produce rich data that are cumulative and elaborative; they can be stimulating for respondents, aiding recall; and the format is flexible*

(p. 652)

Although focus group research has many advantages, as with all research methods, there are limitations. The researcher, or moderator, for example, has less control over the data produced than in either quantitative studies or one-to-one interviewing (Morgan, 1998). The moderator has to allow participants to talk to each other, ask questions and express doubts and opinions, while having very little control over the interaction, other than, generally, keeping participants focused on the topic. By its nature, focus-group research is open-ended and cannot entirely be predetermined.

It should not be assumed that the individuals in a focus group are expressing their own definitive individual view. They are speaking in a specific context, within a specific culture and, sometimes, it may be difficult for the researcher to clearly identify an individual message. This, too, is a potential limitation of focus groups (Gibbs, 1997).

On a practical note, focus groups can be difficult to assemble. It may not be easy to get a representative sample and focus groups may discourage certain people from participating, for example, those who are not very articulate, or confident and those who have communication problems, or special needs. The method of focus-group discussion may also discourage some people from trusting others with sensitive, or personal information. Focus groups are not fully confidential, or anonymous, because the material is shared with others in the group (Gibbs, 1997).

The results cannot be generalized; the emerging group culture may interfere with individual expression, the group may be dominated by one person and 'groupthink' (Whyte 1989) is a possible outcome. The requirements for group interviewer skills are greater than those for individual interviewing, because of the group dynamics that are present. In addition, it is difficult to research sensitive topics using this technique. Nevertheless, the group interview is a viable option for both qualitative and quantitative research.

Denzin and Lincoln argue that:

> *Focus groups reduce the distance between the researcher and the researched. The multivocality of the participants limits the control of the researcher over the research process. The unstructured nature of focus group conversations also reduces the researcher's control, over the interview process*

(2000, p. 641)

Mays and Pope (1995) state that focus groups are particularly suited to the study of attitudes and behaviour and are more suitable for examining how knowledge and, more importantly, ideas, develop and operate within a given cultural context. As I designed my research strategy, it became clear that I would deploy a method of focus-group data collection. This would allow me to use groups of individuals to share their thoughts and ideas on the evaluation of service improvement, thus, the development of the framework.

Interviews

The next method of data collection for consideration was that of unstructured interviews with individuals who had expertise in the area of improvement. The unstructured interview is a qualitative research method, based on the phenomenological paradigm. Unstructured interviews, mainly, have open

questions, without any limitation on how the respondent should answer, these interviews usually having a schedule of questions (see chapter 2, table 2.1). Nevertheless, the interviewer may vary the order of topics, to follow the lead given by the respondent, making the interview more like a natural conversation. Marshall and Rossman (1999) confirm that qualitative researchers rely heavily on in-depth interviewing, describing interviewing as '*a conversation with a purpose*'. Most unstructured interviews are sometimes called 'key-actor', or 'key-informant' interviews. Semi-structured interviews are a combination of the two; they combine the advantages of each type, as appropriate to the various topics covered in the interview.

The researchers should clearly use the unstructured approach if they do not know the range of responses before the survey and they expect to obtain much richer data from the variety of answers they record. The negative aspect of this is that the interview and coding phases take longer and need to be administered by more experienced and knowledgeable people. In practice, the research leader often takes responsibility for the initial development of coding categories, so that he or she can get a feel for the data and how well the interview is working. The qualitative interview can yield a great deal of useful information. In a qualitative study, they are rarely as structured as the interviews conducted in quantitative study. Instead, they are either open-ended or semi-structured (Leedy and Ormrod, 2001).

Interviewing however has its limitations and weaknesses. Marshall and Rossman (1999, p. 110) point out that:

- Interviewees may be unwilling, or they may be uncomfortable about sharing everything that is on the interviewer's agenda
- They may not be aware of recurring patterns in their lives
- The interviewer's questions may not evoke the desired long narratives from participants, because of the lack of skill or unfamiliarity with local language
- The interviewer may not properly comprehend responses, or some elements of the conversation
- There may be times when interviewees have good reason not to be truthful

Huysamen (2004) recognises that the greatest disadvantage of interviews is a lack of objectivity.

Clearly, these limitations have to be borne in mind. As I designed my approach, it became evident that interviewing experts in the field of service improvement

would be a rich source of the data I was seeking. It would allow me find out what they thought about the evaluation matrix and its applicability to practice. Having less structure would allow open interviews, letting people talk about their situation and how this mattered to them. Two participants were selected for interview(discussed chapter 4). Their selection was based on their differing specialist knowledge of service improvement and organisational development, consequently, differing experiences, expectations and opinions. One was an expert in quantitative tools and techniques for improvement and the second is experienced in more qualitative softer aspects of service improvement (see chapter 4, section 4.2.1).

3.5   Triangulation of Data

In this project, the approach used to build a robust data set will be data triangulation; the combination of two or more theories, data sources, methods, or investigations, in one study of a single phenomenon, to converge on a single construct (ISNCC, 2006). This incorporates documentary searches from within the organisation, focus groups, semi-structured interviews and my personal reflections as the insider researcher, to provide the multiple sources of evidence of triangulation in this project. The relationships of the four approaches to data capture and analysis are shown in figure 3.5.
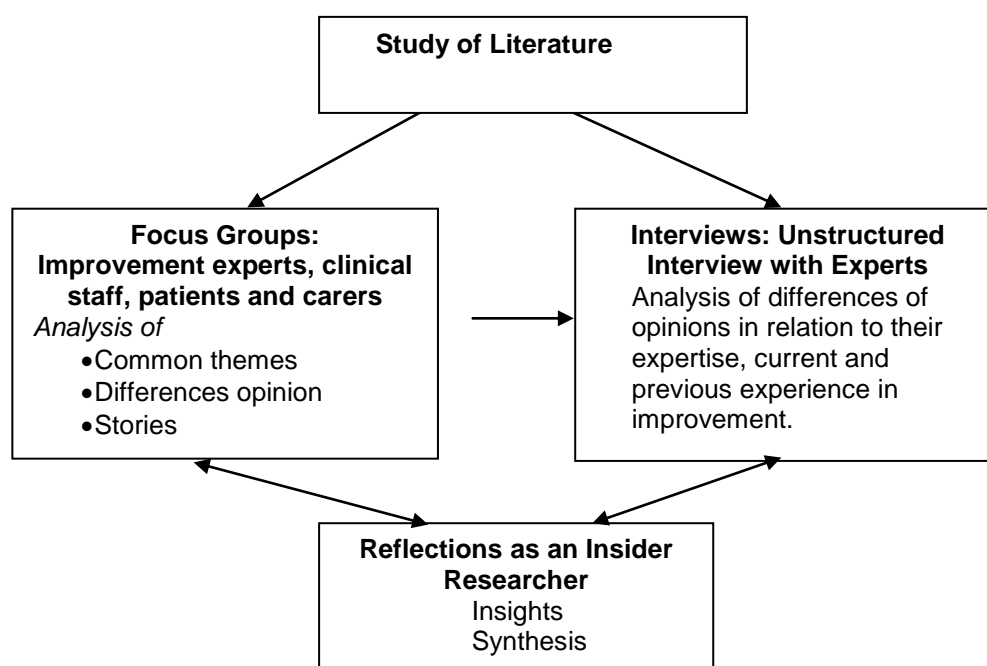
Figure 3.5: Triangulation Approaches to Data Capture and Analysis

Triangulation is the application and combination of different research methods, to overcome possible bias of data collection (Massey and Walford, 1999) and is considered one of the most significant strategies for strengthening the credibility of qualitative research (Lincoln & Guba, 1985; Miller & Crabtree, 1994). The underlying assumptions of triangulation are that if multiple sources, methods, investigators, or theories provide similar findings, their credibility is strengthened. It also needs to be acknowledged that all these approaches have both strengths and weaknesses, but that using a number of methods allows a more robust set of data to be analysed. These methods need to be applied carefully within the scope of the project, balancing time and availability of the worker-researcher and the participants against the depth of the theory that can be developed using these approaches. The multiple sources of evidence will complement each other, as neither one has advantage over another. Denzin (1989) argues that there are four main modes of triangulation of which the first three are pertinent to this project:

(1) Data triangulation, or the use of a variety of data sources

(2) Investigator triangulation, using several different researchers or evaluators to look at the same phenomena

(3) Theory triangulation, where multiple perspectives are used to interpret a single set of data

3.6   Method of Data Analysis

As I designed my strategy, a parallel consideration to the gathering of data was how the data would be used, analysed and interpreted. Data analysis is a critical and potentially difficult stage in any qualitative research project. Symon and Cassell (1998) point out that, '*despite the increased popularity and use of qualitative methods there is relatively less information available about how to conduct qualitative analyses*'.

Marshall and Rossman (1999) describe data analysis as:

> *the process of bringing order, structure, and interpretation to the mass of collected data. It is messy, ambiguous, time consuming, creative and a fascinating process. It does not proceed in a linear fashion; it is not neat.* (p.105)

They present a continuum of ideal types of analysis strategies, adapted from Crabtree and Miller (1992), who note however, that, '*nearly as many analysis strategies exist as qualitative researchers'*. The continuum at the 'technical' end are technical, scientific and standardised strategies; '... *the researcher has*

assumed an objectivist stance relative to the inquiry and has stipulated categories in advance'. At the other end are immersion strategies, '*which do not prefigure categories and which rely heavily on the researchers intuitive and interpretive capacities*'. Between these extremes lie the 'template' and 'editing' strategies. Template analysis relies on a set of codes applied to the data which may undergo revision as the analysis proceeds. Editing strategies are less prefigured, as the researcher searches the text without a template, looking for strands to generate and illustrate categories of meaning (Crabtree and Miller 1992, Marshall and Rossman, 1999). These approaches sit between context analysis (Weber 1985) where codes are predetermined and statistically analysed, and grounded theory (Glaser and Strauss 1967) where there are no prior determined codes.

Marshall and Rossman (1999, pp 152-153) identify six phases of analytic procedure:

1. organizing data

2. generating categories themes and patterns

3. coding the data

4. testing the emergent understandings

5. searching for alternative explanations

6. writing the report

Based on these six phases and my experience and understanding of research literature, my strategy needed to incorporate plans for the analysis of the data I would be collecting. The phases are detailed in table 3.6:

Table 3.6 Phases of Transcript Analysis

Phase	Detail of Analysis at Phase
Phase 1: Transcript and analysis marking	Reading the transcripts and marking for words and phrases. Data analysed using coding analysis which is a systematic interpretation and exploration for compressing many words of text into fewer content categories
Phase 2: Deriving themes	Analysis and synthesis of themes from phase 1
Phase 3: Confirming themes	Deductive process of reviewing and analysing the data from phase 1 and 2 leading to the emergence of themes
Phase 4: Verification	Outsider researcher to verify themes

Adapted from: McSherry, R. (2007,p15)

A 'template'-style thematic analysis (Bowling, 1997; McSherry *et al*, 2007) of the data collected would be the best fit with the data I would be collecting and would support my belief that the themes and findings would be allowed to emerge from the data, rather than be 'imposed' by prior identification of expected themes. Thematic analysis is a search for themes that emerge as being important to the description of the phenomenon (Daly, Kellehear, & Gliksman, 1997).The process involves the identification of themes through '*careful reading and re-reading of the data*' (Rice & Ezzy, 1999, p. 258). It is a form of pattern recognition within the data, where emerging themes become the categories for analysis and seems to fit with the needs of the project.

3.7   Ethics Associated with the Research Strategy

The term ethics usually refers to the general principles of what one ought to do (Robson, 1995). In my work, as service improvement lead, I have worked hard to ensure that all my practice complies with ethical guidance, based on notable texts (Holloway and Wheeler, 2002; Streubert and Carpenter, 1995; Field and Morse, 1994; Robson, 1993; British Psychological Society, 1991; Department of Health, 2001).   As the researcher and Service Improvement and Organisational Development Practitioner, I had to ensure that the trusted position I held, regarding working with sensitive and, sometimes, toxic data (Frost, 2003), was not compromised, as working practices would have broken down and slowed progress. I have carried this principle into my research practice and work, to ensure that staff and organisation confidentiality is never breached.

The commitment to social action, made by action researchers, necessarily, opens them up to ethical scrutiny, including the need to be able to justify action on ethical grounds. The very act of collaborating, for example, means that we are all involved in behaving ethically and are collectively (as well as professionally) accountable for the actions we take (Morton Cooper, 2000). This action research project needs to consider ethical dilemmas related to participant selection and voluntary participation, informed consent, decision-making, anonymity and confidentiality, conflicting and different needs. To ensure that all aspects of ethical issues and principles are covered, the three different sources of ethics of an action research project were considered (Winter and Munn Giddings, 2001) as follows.

1.Initial Ethical Principles of Research

These principles include those of a 'professional' relationship itself, often elaborated in codes of practice, being the duty of care, respect for the individual, irrespective of race, gender, age, disability, respect for cultural diversity, respect for individual dignity and protection from harm (Morton Cooper, 2000;, Winter and Munn Giddings, 2001). The project was considered in line with the Code of Conduct for South Tees Hospital's NHS Trust (South Tees NHS Trust, 2008).

Ethical Approval: Before commencing this work, advice was sought, regarding governance of this work, in relation to the organisation. The Head of Organisational Development, Improvement Alliance team and Director of Operations for the Trust, agreed to govern the project as the corporate sponsor. Given that this project did not involve any patients, it was agreed by the Chair of the Ethics committee that ethical approval was not required. A letter confirming this, from the Chair of Ethics, is presented in appendix 3. Also presented in appendix 3 is approval from the Research and Development Board for the organisation. With the help of Head of OD, Chairman of South Tees Local Ethics Committee and Research and Development Committee, I have considered my research in light of the Trust's policy, in which they adhere to the COREC policies and have concluded that there is compliance with the Trust's policies (appendix 3). Advice was sought from Middlesex University, as to requirement of ethical approval from their ethics board, but due to the nature of the study, it was not necessary (appendix 3).

Whilst recognising the enormous benefits, in terms of learning and improvement of the delivery of service improvement projects, the potential risks must not be forgotten, particularly, in relation to the power and influence my expert specialist knowledge may portray. I also recognise that the ability to conduct credible insider research involves the need for an explicit awareness of the possible effects of bias on data collection and analysis, as well as ethical issues relating to the anonymity of the individual participants, as discussed by Smyth & Holian (1999). As an insider researcher, there are a number of advantages and disadvantages to the action learning approach taken, these being:

Advantages:

- o The action research approach allowed effort to be concentrated in the enquiry, intervention and evaluation, in the anticipation of improving the sustainability of organisational change, through an evaluation framework, using multiple methods of data collection.
- o The approach provided advantages, particularly, relating to the personal expertise of tools and techniques for service improvement and the ability to access key people who will be able to contribute to the development of this unique piece of work.
- o There are enormous benefits, in terms of learning and the ability to aid sustainability of service improvement projects within the organisation.

Disadvantages

- o Consideration had to be given to the potential for issues arising from my dual role, in relation to bias, in terms of my preconceptions, personal assumptions and ethical issues.
- o There was potential risk, in terms of the power and influence my expert specialist knowledge may portray.
- o I was particularly aware of my ability to influence the outcome, by leading individuals and groups to the outcome I feel appropriate.
- o I was also acutely aware that this project has the potential to be influenced by senior people within the organisation and this influence had to be managed appropriately.
- o In order to conduct credible insider research, I was explicitly aware of the potential bias on data collection and analysis, as well as ethical issues relating to impartiality, when looking at documentary evidence and the anonymity of the individual participants, as discussed by Smyth & Holian (1999).

Taking the advantages and disadvantages into account, I believe that the potential bias will be offset by my professional responsibilities to both the organisation and me.

Although there was potential bias, in terms of data analysis, I have acknowledged this and used the support of an external individual from Patient Advice and Liaison Service to validate and assist with the interpretation of data, with a view to increasing the objectivity and validity of findings.

Having acknowledged my role as insider researcher, I believe that my role as a worker researcher will allow me to entrench my project in everyday issues and engage with those working within the current systems, to enable learning, reflection and action. That will further develop existing practice, by interpreting why we do what we do, then working towards making it even better. Throughout the life of the project, documenting events and thoughts in a diary will enable me

to document progress and establish some degree of objectivity, by reflecting on events and behaviours in the context in which they occur.

Another factor for consideration is the financial implication of this project to the organisation. The work-based project is incorporated into my personal objectives, which ensures that a proportion of time will be allocated. As a worker researcher, however, I feel that there may be issues around the amount of my own time required to complete the project, taking into account conflicting priorities, which is something I will need to monitor throughout the project.

Due to the nature of this project, funding was not required, as the work was part of the Trust's objectives, to deliver an improvement programme of which measurement will be a part. Due to financial pressures on the organisation, this was essential to gaining agreement for the project. It was highlighted, however, that if the toolkit is identified as something that will benefit other organisations, this would lead to a funding issue, which, it was agreed, would be addressed at the correct time, giving the real-world contextual basis for the research. From previous experience of acquiring funding for the Cancer Service Collaborative, I felt competent to deal with this, as and when it arose. The human resources in this project were planned, as I had to consider what would be required, in terms of project time resource. I planned this work within my work-plan, as it fitted with organisational aims, therefore, is built into my work-plan, along with 0.24 whole-time-equivalent administration time. The technical resources identified at this stage were:

- o accessibility to a personal computer
- o portable notebook/laptop

To ensure that I have considered all risks associated with the project, another check carried out was the completion of the risk assessment form for the University Health and Safety Office (appendix 3), which, on completion, indicates that there is no risk associated with the project I wish to undertake, as patients are not involved. This work also fits with the Health and Safety governance structure of South Tees Hospital's NHS Trust.

2.Ethical Considerations Common to All Social Research

The value of the project was highlighted as a need, in the report for organisational direction (appendix 2: South Tees NHS Trust Report, 2005), therefore, the project

will be of benefit to the organisation and the participants, in producing a framework that can be used to aid evaluation of service improvements being undertaken within the organisation. Winter and Munn-Giddings (2001) state that one ought to be able to give a positive and honest answer to any potential participant who asks, 'What's in it for me?' In an organisation, this project will benefit any individual who is undertaking a service improvement initiative.

I considered the issues relating to confidentiality, anonymity and informed consent within the project, in some detail. I recognised the need to be open and honest from the onset of the project, considering the implications for those involved and ensuring that they are fully informed as to what their roles in the project would involve. All participants were contacted via a letter, for their consent to attend the meeting, which was given via signature (appendix 7). At the start and end of each focus group, reassurance was provided that any information shared, or anything discussed, would only be used for the purpose of the project. Participants were also informed that they could withdraw from the process at anytime.

All information was collated via a laptop, which was protected from unauthorised access and any hard data collected from the focus groups were stored in a filing cabinet, for which the researcher held the key. The confidentiality of individual records was protected during and after the research; anonymity was agreed to be preserved in the publication of results. The researcher agreed that she must not use such information for his or her own personal advantage, or for that of a third party.

3.Principles of Procedure of Action Research
The principles of procedure of action research, highlighted by Winter and Munn Giddings (2001) based on work of Kemmis and McTaggart (1988), have been considered, as outlined in table 3.7.

Table 3.7: Principles of Procedure in Action Research

Criteria	How Adhered To in this Research Project
Discussions are fully documented	All discussions will be documented and, in focus groups, a second person will take notes to ensure all information is captured
Procedures for taking joint decisions need to be negotiated, ensuring that all voices of participants are heard	Ensured negotiation at start of the work with participants
Make sure work is distributed widely and checked by participants prior to circulation for accuracy	All documentation to be sent to participants prior to distribution
Allow participants to amend any contributions	Make clear at start of process and offer when any publications are written, prior to wider circulation
Ensure progress reports	Write report at start of the process, middle and end
Ensure confidential reports for wider publication marked clearly	Agreed
Negotiate rules of confidentiality with participants	Agree at sessions with participants
Ensure any reports circulated wider than the group will be circulated previously, to allow any material from participants to be withdrawn	Agreed and discuss with participants at start of work to ensure they are clear
Negotiate the right for publication of material	Agreed and discuss with participants at start of work to ensure they are clear
If participant wants to write up work as part of an assignment, this is negotiated beforehand	Agreed and discuss with participants at start of work to ensure they are clear
Principles of procedure are drawn up early in the process numbers of participants are clear and can make a choice about involvement	Agreed and discuss with participants at start of work to ensure they are clear

Adapted from: Kemmis and McTaggart (1988; pp 223-224)

Using this criterion has allowed me to ensure ethical considerations are robust.

3.8 Summary

In this chapter, I have reviewed the issues of the research philosophy and methodology and defined my personal stance, which has underpinned my approach to the research. I have identified and appraised my research strategy, explained and justified my chosen strategy and method as I designed and deployed them. The following chapters will present the research findings that have emerged from the data, my interpretations of those findings and of their

significance in the context of the existing body of knowledge, finally presenting the evaluation framework for service improvement initiatives.

If my doctoral studies had followed my completed Bachelor and Masters Degrees, my inclination would have been to adopt a quantitative approach, rooted in a positivistic philosophical stance. I may not have considered any alternatives and would have looked to the design of a questionnaire and its use in a large-scale survey as the natural and 'valid' way to determine the evaluation and sustainability of improvement initiatives. Reflection has led me to understand that there would have been several drivers for this. Firstly, my educational and professional upbringing being primarily scientific (A Levels in Chemistry, Biology and Geography), Bachelor degree being biochemistry and Masters being medical science ingrained the scientific method. Secondly, my previous roles were in research and present role involves a specialist interest in tools and techniques for service improvement, being a subset of quality management, which has its roots in operations management, therefore, a positivistic and quantitative stance is adopted.

When embarking on the doctoral programme, however, my role as Service Improvement Lead meant a shift in my thinking. As I began to work with teams and individuals within the organisation, coupled with some of the training I was privileged to receive, it became apparent that a crucial part of successful improvement within the organisation was the behavioural aspect of the work. I have gradually realised that future development and success in my subject area will depend on the spread of good practice, while service improvement depends on our ability to deploy knowledge and approaches that have been developed through the traditions of social sciences. At this point in time, therefore, my world-view is aligned to constructionist epistemology.

Chapter 4

Project Activity and Findings

This chapter describes activities undertaken and presents the findings of the study. The findings are reported by organising the chapter into the following parts; findings from primary data, emerging themes from the research question, summary of findings organised by question and, finally, representation of the framework based on the findings.

Project Activity

4.1   Development

The cyclical model (see chapter 3), described by McNiff *et al* (1996), was adapted and applied to the study, as demonstrated in figure 4.1. Each of the cycles on the diagram is detailed throughout the chapter.
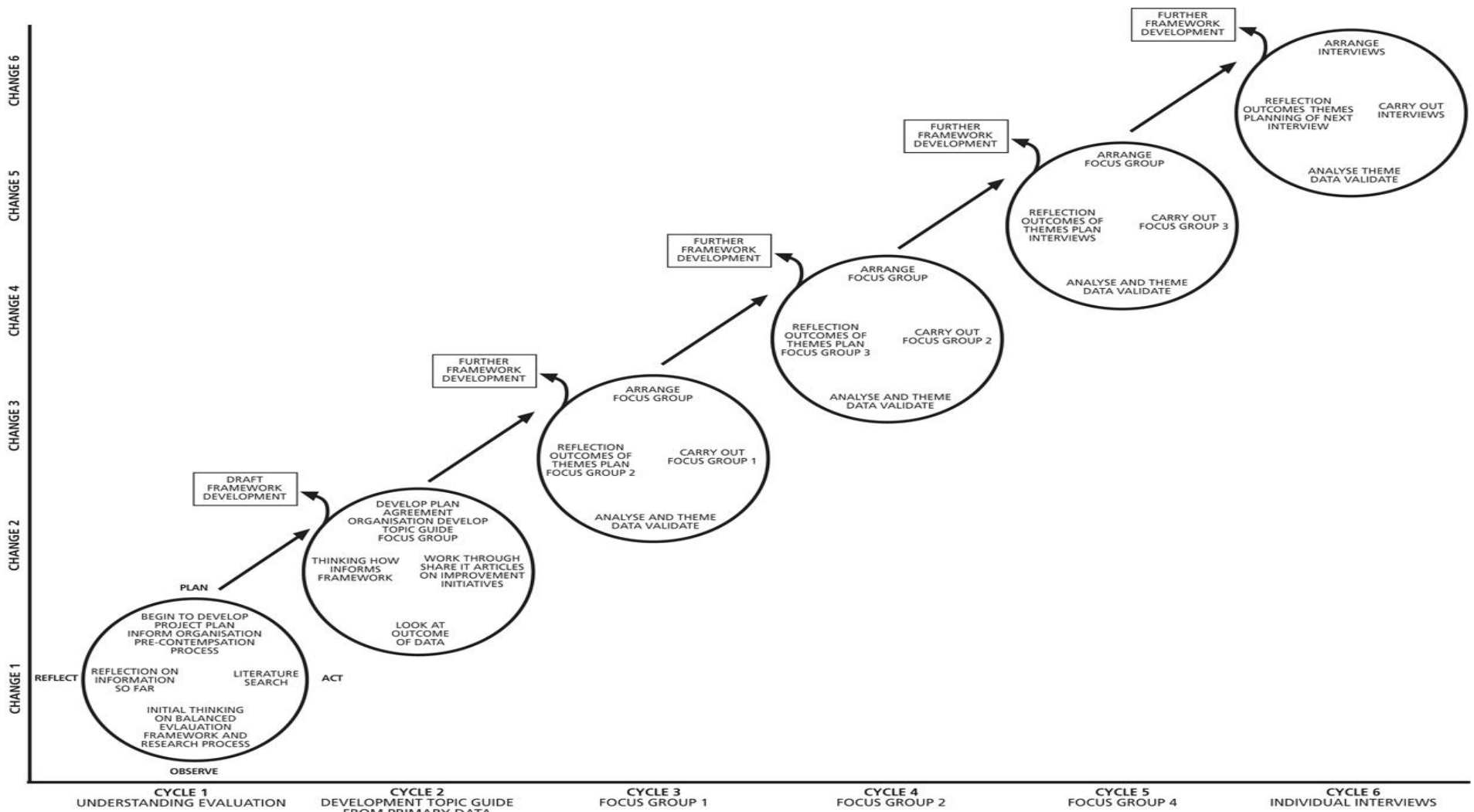
Figure 4.1: Iterative cycles of the research project
Adapted from: McNiff et al (1996)

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4.1.1 Primary Data

A review of service improvement articles (Cycle 2, Fig 4.1) from the organisation's 'ShareIT' database was undertaken, to refine my original understanding of evaluation of improvement initiatives. This information was used as primary data, to develop a topic guide (appendix 5) for the focus groups. The database holds articles that have been written up to share good practice of improvement projects that have been implemented across the organisation. From these articles, 50% (37) were randomly selected using simple randomised selection through xcel microsoft office spreadsheet; of the 37, 5 were not appropriate, as they were templates, not projects and six were missing (see section 4.4). The 26 remaining articles were reviewed, to assess the following, which had been developed based on analysis of literature and professional experience (see chapter 2, table 2.1):

- Whether evaluation or measurement were considered
- Whether specific evaluation tools were mentioned
- Whether evaluation results were available
- Whether sustainability of improvement was considered

Based on my knowledge and experience of evaluation in service improvement, coupled with the findings of the primary data, I began to develop the topic guide and the evaluation model (appendix 5 and 6). This involved developing a list of primary data articles; notes and initial thinking are presented (appendix 6).

4.1.2 Project Plan

My experience has led me to concur that ownership is crucial to the success of a project (Ovreteit, 1999; Ferlie, 2002; Cook, 2004). Writing a project plan and presenting this to key stakeholders in the project was critical, to ensure awareness and ownership of the framework from the outset, along with its adoption within and across the organisation. A project plan was developed using a GANTT chart. It ran from May 2005 to December 2006. A project report was developed giving an overview of the project, aims and objectives and time scales. It was approved by the Chief Executive Officer (CEO) of the organisation and circulated to key stakeholders. Approval from the CEO was key, as senior leadership is a powerful influence in the adoption of improvement (Rogers, 1995). This sponsorship was necessary to the organisations, if spread of improvement is to occur. On

reflection, the project ran well and remained on track. I believe that the key to its success was ensuring that the organisation was engaged and signed up to it at senior level.

4.2 Selection

4.2.1 Selection and Sample Size of Focus Groups

Three focus groups and two expert interviews were set up and would be used as iterative learning cycles, to explore the feasibility of the evaluation framework, the outcomes and opinions used to refine the model. A number of questions were posed that had been generated from my previous knowledge of service improvement initiatives within the organisation and the information gathered from the primary data. The aim of the focus groups was to consider the following questions:

- What do participants understand by measurement and evaluation?
- Do participants recognise measurement and evaluation as interdependent or exclusive?
- What elements did participants feel were missing from the evaluation framework presented?
- Could the framework be implemented in practice?

The following iterative cycles were carried out (refer also to figure 4.1).

Cycle 3: Improvement Experts' Focus Group (FG1)

The first focus group was a purposive sample of service improvement experts, consisting of eight staff members of the South Tees Internal Improvement Team and the External Consultancy Improvement Team, South Tees NHS Trust. Each group member was recruited due to their expertise and competence in service improvement and were regarded as experts in the field of organisational development and service improvement.

Cycle 4: Clinicians' Focus Group (FG2)

The second focus group was a purposive sample, which consisted of 12 clinical practitioners, all female. Each member was individually invited, based on the knowledge I had of their previous involvement in the leading and implementation of service improvement projects within the organisation.

Cycle 5: Patients' and Carers' Focus Group (FG3)

At the design stage of the project, I received feedback from the programme panel about considering the patient in the project; I sought advice from the Patient and Public Involvement Lead for the organisation and a representative from the National Patient Safety Agency. The discussions involved how the patient could influence the development of the evaluation framework and what level of detail was required from the patients, when introducing them to such a concept. A forum was already in place for the organisation, therefore, it was suggested that this group be used. The group was homogenous.

Cycle 6: Interviews with Individual experts (IE)

In the initial project plan, I had not considered meeting with individual experts. This emerged through my reflection, following the first focus group, where the framework was opened up to critique. I recognised the need to iterate and critique the framework with known experts, allowing me to gain some constructive feedback and adding in a level of professional challenge, to enable further development of the framework and my own personal development.

I arranged to meet two external service improvement experts, who agreed to be named; Dr Irwin Rubin, Organisational Development Consultant to private and public organisation in the United States, Australia and New Zealand (Founder, Temenos Inc, http://www.temenosinc.com) and Dr David Yarrow, Honorary Lecturer, Northumberland University, Development Manager, Comparison International. These meetings were set up as informal interviews in anticipation of further refinement and development of the framework.

Having access to the two experts who I felt had the experience/expertise I needed, were prepared to give me some time, helped me to interpret the outputs from the focus groups and shape the next steps in my research. Another consideration was that there was only a certain amount of time I could spend on this, before moving on to the next stage of my research. In the real world, every researcher has to make judgement calls about when enough is enough, how best to spend their time and every researcher is working within the reality that there are only 24 hours in the day and has to 'budget' their time accordingly.

Table 4.2.1: Summary of Number of Participant Selection Invited and Those who Attended the Focus Groups

Cycle	No. Participants Invited	No. Participants Attended	Sex of Participants Male (M)/Female (F)	Ethnicity/Age
Cycle 3 FG1	8	8	4M/4F	Caucasian 30-50
Cycle 4 FG2	12	9	9F	Caucasian 30-50
Cycle5 FG3	7	5	3F/2M	Caucasian 50-70
Cycle 6 IE	2	2	2M	Caucasian 40-60

(FG=Focus Group, IE=Individual Expert)

The size of the focus groups concurs with Krueger *et al*'s (1998) view that 6-10 participants enable a more rounded discussion. Literature would suggest that numbers of up to 12 participants, with two moderators is appropriate (Yin, 2003; Mansell *et al*, 2004). On reflection, the number of participants were adequate, as it created a valuable discussion, while a larger group would have been more difficult to manage, in terms of capturing the debate. Although it may have been useful to run more focus groups, to capture any differing views, time did not permit, however, having the three groups did ensure that different views were captured and that several distinct population segments were investigated (Morgan, 1988;Mays and Pope,2000).

I was mindful of potential bias, due to all participants in FG2 being female. Some research studies have indicated that single-sex groups allow females to be more fully involved in the tasks of the group (Edwards, 1994; Holden, 1993). Other studies have shown mixed-gender groups to be more conducive to the learning of female students in a cooperative setting (Joiner, Messer, Light, & Littleton, 1998; Pryor, 1995; Solvberg, 2003). With this in mind, there is a need to note that the group selected was homogeneous (all being nurses from within the organisation, thus, reducing bias of hierarchy), with knowledge of service improvement, allowing people's shared views and experiences to be capitalised (Kitzinger,1995).

In the focus groups, a number of questions were posed, which had been generated from my previous knowledge of service improvement projects within the organisation and information gathered from the objectivity data. The role of the focus groups was to consider the following and give feedback to the wider group:

- What was understood by measurement and evaluation?
- Was measurement and evaluation interdependent or exclusive?
- Were elements missing from the evaluation model presented?
- Could the model work in practice?

4.2.2 Recruitment of Participants

Each of the participants in the groups was formally sent a letter of invitation, explaining the objectives of the focus group (appendix 7). A week prior to the group meeting, an agenda was circulated to those attending (appendix 7). The meetings of focus groups 1 and 2 were arranged at a mutually convenient time. Participants for the patient group had already been recruited for the organisation's patient forum and through liaison with the chair of the group. I attended one of the meetings, which was agreed by the group, all participants who attended were patients. Individual experts were recruited by telephone conversation, due to my link with them through work, as Service Improvement Lead.

4.2.3 Environment and Facilitation

Focus Groups:

The clinical and patient meetings were held at times convenient to the participants. The experts' meeting was held at 10am, as requested by the participants, due to the distance that some had to travel. Each focus group was planned to last no more than 2 hours, due to time constraints on staff attending. A quiet room was found within the organisation for the focus group, to ensure interruptions were avoided, but also to be near the participants' workplace. Refreshments were provided to encourage attendance, a view supported by Beyea and Nichol (cited in Mansell *et al*, 2004, p. 3). Although this proved beneficial, it could be seen as inducement and introducing bias, if considered from a positivistic research perspective (Patton & Appelbaum, 2003).

In both groups, my role was to facilitate the groups, guide their discussions, determine their views on measurement and evaluation, as well as getting them to think about the evaluation model developed so far. A separate note taker was recruited to assist with documentation, with a role of service improvement lead within the organisation. This was to ensure that a true representation of discussions took place and to avoid bias of one note-taker. Kreuger *et al* (1998)

sees this role as a '*recorder, observer, analyst or consultant*'. In this project, the second person recorded and observed the groups and their discussions.

It was necessary to consider the validity and reliability issues of the data capture, in an organisational context and the limited resource-pool available to the researcher. The lack of audio equipment available, which would have been preferable, meant that flipcharts were used to make notes of discussions and ideas. Participants were also asked to play a part in documenting the issues discussed, by recording on flip charts when discussions were taking place and a second person made notes throughout the whole meeting, recording observations of group dynamics and the discussion. This enabled me to guide the discussions and probe at the appropriate time, free from needing to record what was happening. This strengthened and enhanced the quality of the recording, therefore, I was able to stay 'present' and respond reflexively to comments and observations preferred by the group (see chapter 5). This would also allow expectations and perceptions of the users of 'BEF' to be captured, aiding in the success and acceptance of the 'BEF'. This is supported by Winter and Munn-Giddings (2001), who state '*ask participants to make notes ... a neat way of immediately generating different perspectives*' (p. 233). The focus groups followed the following format:

- o Introduction and objectives of the study
- o Offer the opportunity to withdraw from the study
- o Request permission to take notes with guarantee of anonymity
- o Opportunity to consider each question in turn
- o Opportunity for final comments and confirming recordings on flipcharts
- o Discussion on what would happen next, with the study and its findings

Interviews

The interviews with experts were organised via a telephone conference call at a time and place convenient to the participants (Denscombe, 2007) and scheduled for an hour and half. I organised a quiet room within the organisation, an environment with no intrusions or distractions, to minimise interruptions and maximise my listening skills. I started each interview with a few minutes social conversation to establish rapport and re-engage with the participants. The pre-existing relationships I had built were a benefit, as no introductions and explanation of my role were necessary.

I encouraged the participants to talk freely and openly by allowing them time to speak and putting the questions forward in a non-threatening way. Each participant was thanked for their time and co-operation. I also asked the participants if the informal interview had worked and if the questions were applicable, based on the objectives of the study. These feedback loops helped to reassure me, as the researcher, of the construct validity of the interview process (Robson, 2002). The interview followed the same format as the focus groups (see focus groups above).

4.3   Data Collection and Analysis

Careful consideration was given to the appropriate method of data collection and analysis. At the outset of the project, I considered using the QSR (Qualitative Software Research) N6 tool, formerly known as 'NUD*IST' (Non-numerical Unstructured Data Indexing Searching and Theorizing), as I had previous experience of using this. Atherton and Elsmore (2004) present an eloquent and detailed 'dialogue and dialectic' examination of the pros and cons of using software such as QSR N6 in qualitative data analysis. They express concern that the use of standardised protocols and software could '*further de-contextualise the data (placing the data most firmly into the community of the researcher and removing it -permanently - from the community of the researched)*' (p. 4) and could exacerbate the 'risk' and 'leakage' of the research methodology. The risks identified are that the context and meaning of the research are not communicated through the process and that meaning is misinterpreted or distorted, consciously or not, by the researcher. Research is said to be 'leaky' in that '*all research processes lose part of the meaning and significance of the conditions and phenomena they are examining*', however, they also present arguments in favour of the use of software packages and protocols … '*as a complementary and ... valid approach to organizing, examining, therefore, understanding data'*. With the recognition that there are positives and negatives regarding the use of such a tool and that the tool was not available at the time, I proceeded, therefore, with manual coding. I also took advice from the research lead of the organisation who felt that the package was excessively time-consuming and would add another step. The data was collected, collated and analysed, using principles of thematic analysis described by Bowling (1997) and McSherry *et al* (2006), but adapted for the

situation (see chapter 3, table 3.6). I found that the developed themes, emerged quite naturally from the detail of the transcripts.

Phase 1: Transcript /Analysis Marking

This stage involved reading the transcripts and marking them for words and phrases. The data was analysed, using coding analysis, which is a systematic interpretation, exploration and replicable technique for compressing many words of text into fewer content categories, based on explicit rules of coding (Berelson, 1952; GAO, 1996; Krippendorff, 1980; Weber, 1990). This was done manually, therefore, it is recognised that this could affect validity and reliability, however, it was anticipated that using a second person, described by Morton Cooper (2000) as an outsider-verifier, to take notes and transcribe, would increase the reliability and validity of the research. Following this summarising, the information was categorised into emerging themes and meanings, which are presented in appendix 9 and 10.

Phase 2: Deriving Themes

From the analyses and synthesis of the data outlined in phase 1, it was possible to confirm the emergence of themes, such as, 'interdependence', as expert and clinical groups felt that measurement and evaluation were interdependent, as detailed in section 4.4, table 4.4.1.

Phase 3: Confirming the Themes

Following this deductive process associated with reviewing and analysing the data outlined above, in phase 1 and 2, it was possible to confirm (McSherry *et al*, 2006) the emergence of primary themes (appendix 9).

Phase 4: Verification

The trustworthiness of the data (Lincoln and Cuba, 1985) was further clarified by involving an outsider-verifier (Morton Cooper 2000) to see if they agreed or disagreed with the findings. This was done, using an independent person from the Patient Advocacy and Liaison Service who had an understanding of qualitative analysis, but, to reduce bias, had not been involved in the project. The same thematic process was followed and resultant themes were compared. The resultant themes aided the refinement of the model, as presented in the results section.

Activity and Findings

4.4   Findings of Primary Data

The findings from the 26 'ShareIT' articles are presented in table 4.4.1 below:

Table 4.4.1: Findings from ShareIT Articles
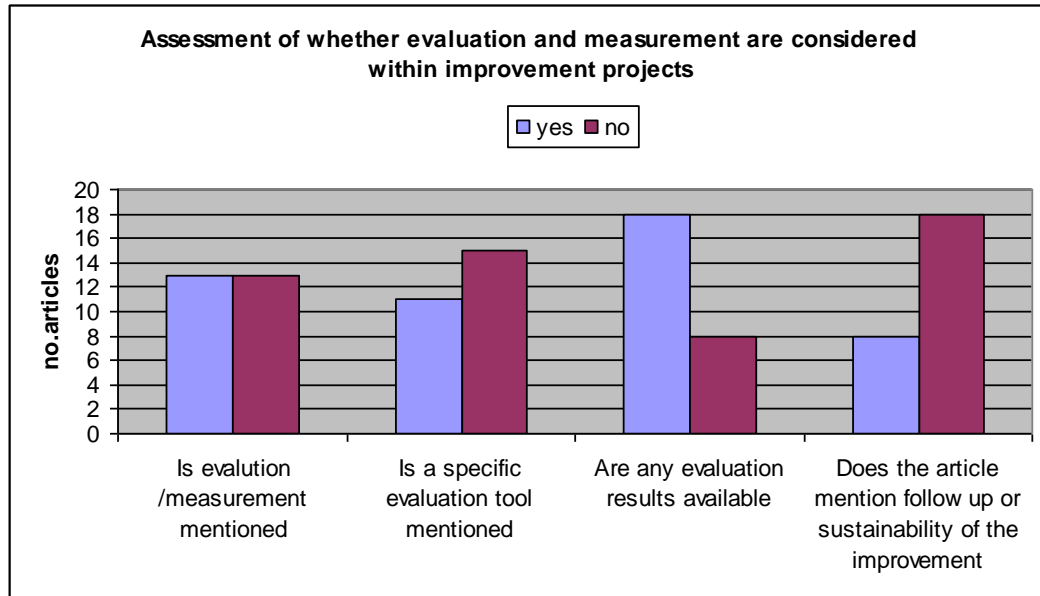
The above findings from the 26 articles highlighted the following:

– 50% (13/26x100) articles mentioned evaluation and/or measurement

– 42% (11/26x100) mentioned a specific evaluation tool

– 69% (18/26x100) had some form of evaluation data

– 30% (8/26x100) mentioned follow up or sustainability

Consequently, these findings supported my original observations, that a significant number of improvement initiative are not evaluated and that sustainability and follow up are often neglected. This information was useful in initial development of the framework, which would be refined throughout the project, to produce a comprehensive evaluation framework

4.5 Results of Themes of Expression from Focus Groups

The actions cycles set out to answer the research questions (see section 4.2.1) to gain refinement of the evaluation framework and agree its feasibility based on the outcomes and opinions. The findings from the groups are presented under the question headings and pseudonyms are used to maintain anonymity of participants:

Action Cycle 3: Focus Group 1 (FG1)

- What they understood by evaluation?

When the participants (see Table 4.2.1) were presented with this question there was an initial period of contemplation. Six members of the group expressed their understanding as "assessment of impact". Other words used were feedback mechanism (4 members of group), judgement (1 member group), reviewing (4 members of group), interpretation (5 members group) notes from the focus group presented (Appendix 8). These words appeared to be clear descriptors used by the participants in terms of their understanding of evaluation

The data was analysed using coding analysis (see section 4.3) which is a systematic, interpretation and exploration replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Berelson, 1952; GAO, 1996; Krippendorff, 1980; and Weber, 1990) which was applied to all focus groups and interviews. Due to not having access to a computerised programme this was done manually and it is therefore recognised there could be some bias in results however it is hoped that using 2 people to take notes and transcribe may have reduced bias to some degree.

- What do you understand by measurement?

The feedback was varied between the participants with all participants except on describing measurement as a quantity (90%) or value and in some cases linked it to collection of data and calculation, excludes people feelings, opinions. This was reinforced by comments, such as, '*measurement brought statistics to my mind'* (Sally, Service Improvement Lead,FG2) and, '*more scientific a measure of how effective an intervention has been'.* (Dawn, Service Improvement Lead,FG2). One participant did not define it as capacity or value described it as " seeing that

something has made a difference at some point, I think a lot of teams measure" rather than a more quantitative description which other participants used however using the word measure (amount, extent or size: oxford dictionary 2006) indicating a more quantitative understanding .

In themes that emerged would indicate that the group saw evaluation as an assessment of impact rather than a quantitative value. This would fit with the initial thoughts behind the framework that there is an element of evaluation required when determining an improvement initiative but also an element of the harder figure driven assessment of impact. The feedback from the group reinforced the thinking behind the framework that evaluation is recognised as an assessment of impact and a softer measure rather and that measure is often depicted as a hard figure driven assessment of impact.

- Are measurement and evaluation interdependent or exclusive?

Again participants took time to reflect on this question, the thought evaluation was interdependent, exclusive or both. This question raised great discussion and led to the supposition that previous exploration of this issue has not raised and/or considered this aspect, one participant commented

"You are making me think about it, I would say they are/should be interdependent as one without the other is only giving half the picture. However, previously I have not really thought of them as inter dependent but more exclusive, I am now thinking both exclusive and inter dependent on the situation" (Sally, Practice Development Lead,FG2)

From the response to the question and perceptions of the group discussions and responses that the question asked was well formed and recognised it as an area not considered but of significant importance. The coding results show that 6 (75%) people thought evaluation and measurement could be interdependent and exclusive with 2 (25%) members of the group seeing measurement and evaluation as purely interdependent. Results indicate that evaluation can be both interdependent and exclusive dependent on what is required, this reinforces the thinking behind the evaluation framework that an element of evaluation and measurement if required in understating the impact of an improvement initiative,

however that the type and level will be dependent on the nature of the improvement therefore will vary from initiative to initiative.

- •What elements are missing from the evaluation model presented?

The evaluation model was presented to the group on a flip chart this generated much discussion. One participant put it into the context of a diabetes feedback mechanism and how a feedback loop of evaluation is necessary in the control of diabetes and how this is likened to continual evaluation of improvement. This led to logical explorations of the feedback mechanism in relation to the framework and demonstrated the resonance and face validity of the participants in relation to the framework.

One participant linked the model to spread and sustainability:

> *There is a clear link to sustainability of improvement initiatives and the contemplation stage of the framework as change may take place over time as the environment may change over time and there is a need for a continual loop of contemplation and cycles of evaluation* (Helen, Improvement Facilitator,FG1).

Another participant commented that it:

> *Would be great to have something like this in practice but not sure I understand the link of the four continual cycles?" Maybe needs more clarification* (Sam, Assistant Director Learning Alliance,FG1).

This comment caused me to reflect further on additional clarity between the 4 stages and between each cycle, to ensure that the links were clear. This led to thinking about the development of a guidance pack, to aid the use of the framework (see guidance pack developed).

- •Could the model work in practice?

All 8 participants having had the detailed discussion with added recommendations from the group that the model could work in practice. One participant linked the model to spread and sustainability:

> *"There is a clear link to sustainability of improvement initiatives and the*
>
> *contemplation stage of the framework as change may take place over time*
>
> *as the environment may change over time and there is a need for a*

continual loop of contemplation and cycles of evaluation." (Anne, Service Improvement Lead, FG2)

Another participant commented:

"Would be great to have something like this in practice but not sure I understand the link of the four continual cycles?"Maybe needs more clarification" (Mary, Improvement Lead, FG3)

Following the focus group discussions, significant time was spent reflecting on the results of the session in relation to the model. It became apparent to me that my thinking in terms of the framework having an evaluation and measurement aspect had been correct. However there was a need to build in a feedback mechanism somewhere for if the initiative failed at a certain stage. A number of rough diagrams were produced to aid the development of the framework based around the results of the focus group (appendix 10). Using the comments from the group and my learning from the process the model was adapted (see figure 4.7) and presented at the clinical focus group

Action Cycle 4: Focus Group 2 (FG2)

- What do you understand by measurement?

The participants had 30 minutes to discuss there understanding of measurement and evaluation and then fed back to the group. The following descriptors were used in terms of measurement Quality and counting (3 participants) protocols (7 participants) Skills and standards (3 participants), justification (3 participants), strengthen (2 participants), results (5 participants). The results indicating that the group saw measurement as more of a quantitative account this was reinforced by comments such as *"measurement brought statistics to her mind"* and *"more scientific a measure of how effective an intervention has been"* (Sally, Practice Development Nurse, FG1)

- What do you understand by evaluation?

Feedback from the group was as follows:

Qualitative 6

Conclusion 9

Progress   5

Measures of success 5

Subjective 5

Experience 5

Summary 2

The group used more describing words for the understanding of evaluation such as "experience "a softer measure of impact. To ensure that the information being captured was a true representation of the group's thoughts the group were asked to flip chart the words they felt described evaluation and measurement to try and reduce bias in the transcribing of the data.

The results again reinforce the thinking behind the evaluation framework which uses evaluation in terms of some of the softer elements of assessing impact of an initiative.

- Are the two interdependent or exclusive?

   The views of participants on measurement and evaluation in being interdependent, exclusive or both were captured. 77% thought that measurement and evaluation could be interdependent or exclusive depending on the context and 22% felt interdependent described measurement and evaluation. (FG2, Grp1).

- Could the framework work in practice and what factors are missing?

Participants responded that the framework (Figure 4.7) could work in practice; all have their own reasons for it being feasible in practice such as:

   Encourages a thinking section of improvement (FG2, Grp 2 response)

This indicates that current approaches are mechanistic, rather than necessarily considered, which this framework would allow:

   Model looks robust (FG2, Grp 2 response).

   Framework would help teams think about the process and how to evaluate and if they are ready to take on a service improvement (Anne, FG2, Grp2).

   The diagnostics stage of the framework is important as it makes people think about what they need to do; we never seem to do this (FG2, Grp1 response).

The pressure is on teams to do improvement even if the time is not right. By working through this model, it would provide the team with a framework to demonstrate it was not the correct time if the appropriate tools were applied

100% responded that the framework (Appendix x) could work in practice, all have their own reasons for it being feasible in practice such as:

"Encourages a thinking section of improvement"(Gp1)

"Model looks robust"(Gp1)

"Framework would help teams think about the process and how to evaluate and if they are ready to take on a service improvement"(Gp2)

"The diagnostics stage of the framework important as it makes people think about what they need to do, we never seem to do this"(Gp1)

" pressure on teams to do improvement even if the time is not right, by working through this model it would provide the team with a framework to demonstrate it was not the correct time if the appropriate tools were applied"(Gp2)

The comments highlighted the need for the framework but one key comment which was agreed and supported by the rest of the group was:

" DoH not good at considering evaluation at the outset e.g. Calman –Hine"

Because the group were very open, keen to share information and grasped, very quickly, what the framework was aiming to achieve, participants were then asked if they thought that an evaluation framework be beneficial. One of the patient's comments on the framework was as follows:

> *Firstly, I think it is vital for patients to be involved from the start of processes such as these, as we all want to see successful improvement. In terms of this model, patients need to be involved at the contemplation and initiation stage, so they can see improvement* (Ann, Ward Sister , General Surgery, FG3).

Reflections following this meeting in relation the comment made in relation to evaluating from the outset led to another adaptation to the model this being a stage of pre-contemplation which is often not acknowledged but can be a big influencing factor in the decision to initiate an improvement . This led to another *iteration of the model* (appendix 10) *which incorporates a pre-contemplation stage.*

Action Cycle 5: Focus Group 3 (FG3)

The evaluation framework was taken to one of the Trusts patient and Public Involvement meeting to get a patient perspective how we should evaluate improvement and whether the framework would be valuable. The session was kept very open to allow patients to speak freely.

The evaluation framework was introduced with explanation about why it was being evolved so that the participants had an understanding of why they were being involved. Number of methods of evaluation and measurement were raised by the patient group they all felt that patient diaries would be beneficial at the start of any patient journey and the end so that weak areas could be investigated and improved. One participant then raised his concerns about patient questionnaires:

> *"questionnaires fall down, but what did work was the comments box in the clinic he attended, unfortunately there was always a shortage of cards to write on, but it was a great idea as patient like to be hear and give their opinion. Would be nice if improvements patients suggest are written on a board if it has been carried out so can see if an improvement is made"* (Simon, Cardiothoracic Patient,FG3)

Another participant felt that:

> *"Best results are from focus groups, and the results of this group are very positive"* (John, Cardiothoracic Patient FG3)

Due to the fact that the group were very open and keen to share information and grasped very quickly what the framework was aiming to achieve participants were then asked if they thought in terms of improvement would an evaluation framework be beneficial. All participants agreed it would be useful a participant's comment on the framework was as follows:

> *"Firstly I think it is vital for patients to be involved from the start of processes such as these as we all want to see successful improvement, in terms of this model patients need to be involved at the contemplation and initiation stage so they can see improvement"* (Ann, Carer, FG3)

This indicated that patient involvement in terms of service improvement is still minimal and the involvement of patients in such a framework is unique.

Action Cycle 6: Meeting with Individual Experts(IE)

Individual Expert 1: Dr Irv Rubin

The meeting with Dr Rubin took place prior to the clinical focus group. The evaluation Framework (appendix 10) was discussed at length. Dr Rubin felt that the evaluation framework was crucial to sustainability of service improvement and that it was "continual evaluation at each stage of the process" was crucial. Dr Rubin felt that this work had a resemblance to the infinity loop, more commonly known as the DNA helix and that the link was the need to be able to replicate service improvement within and outside the organisation. Discussions took place about the numerous tools that are available to service improvement and that both quantitative and qualitative measurement was vital as had been discussed in the expert focus group. Dr Rubin suggested that the table of tools that supports the framework as an example of tools that could be used at each stage be divided into quantitative and qualitative tools. These discussions led me to further refinement of the framework in terms of the thinking around the continual replication loop and the move of initiative outside of the organisation (Appendix 10).

Individual Expert 2: Dr Dave Yarrow

The meeting with Dr Yarrow took place shortly after meeting with Dr Rubin. At this stage the framework had been amended in light of the previous discussions. Dr Yarrow agreed that the contemplation, initiation, implementation and sustainability aspects of the framework were the crucial steps; this reassured me that all I had met so far had agreed these steps were correct. A discussion took place about tools that could be used at the contemplation stage, Dr Yarrow reinforced the thinking about the need for benchmarking at the contemplation stage as he felt "contemplation" is the stage often missed. He expressed his thoughts that it was "*crucial to benchmark at this stage so we can see a if an improvement has taken place over time, so often never have this initial information and cannot really see if an improvement has been successful*". Much of the discussion was around the feedback mechanism of the framework, Dr Yarrow summarised his thoughts about the feedback stage of the cycle being "when in equilibrium in terms of the change this can lead us to ask what can we now do to make it even better", explaining this

as once the improvement had been visibly sustained the it would be time to move the initiative to another level whether that be in the same area that instigated the initiative or whether that be moving it outside of the initial site to be adopted elsewhere. This led to discussions about loops 1 being evaluation at intra organisational level and loop 2 being at extra organisational level. Discussion were about loop one being service improvement initiative "in the system" and loop 2 extra organisational being "on the system" as the initiative progressed therefore moving outside the organisation and used within other organisations (appendix x).

The final cycle was to share the iterations of the model with Dr Yarrow to investigate the impact of the changes made on the model. Dr Yarrow felt that this looked to be a "robust model". This meeting led to discussion about the loops in the framework that we had discussed previously. Both felt that that there was a need to refine the loops. Dave helped by putting the loops by likening it to the colostomy improvement I had talked through in previous discussions. This led to understand that the first loop was the initial improvement initiative loop and if this was sustained it would be "pulled" or "pushed" to be used in another instance but that the learning from the first cycle would be there. This led to the adaptation of loop 1 being initiative loop and Loop 2 being improvement loop and it would loop 2 that was continually replicated.

Dr Yarrow also made me aware that the feedback mechanism that we had discussed previously and had been reinforced by the groups needed to be made clearer. This led to the final adaptation of the model (Figure 4.7)

The discussions with Dr Yarrow reassured me that the framework was a unique and needed element of service improvement and could work in practice. However the discussions led me to spending significant time thinking through the "on system" although I could see how this applied in practice had reservations about how this would be understood by those using the framework in the future. This led to a re thinking the two cycles (appendix 10), and actually likening it to the improvement of colposcopy service for the organisation to see if it would demonstrate improvement (section 4.7) the outcome being an intrinsic cycle and extrinsic cycle.

4.5.1 Overall Findings of Focus Groups

What do you understand by 'evaluation'?

The themes that emerged were assessment, qualitative, judgement and summary. The participants saw evaluation as more of a 'qualitative' account of determining if improvement had taken place. The results clarified that the participants saw evaluation as the 'softer' measure of the impact improvement, where 'softer' referred to the data being collected as subjective, rather than objective (figures and statistics). Group 1 likened it to, '*more about things like satisfaction questionnaires … think of it in terms of patient involvement*'. This also supports the work of Deming (1993), who describes this 'softer' information being the evaluation of behaviours. In terms of the descriptors used, it would indicate evaluation is a qualitative indication of improvement.

What do you understand by 'measurement'?

A collective theme emerged from this question; all group participants consistently regarded the notion of measurement being quantitative rather than qualitative. The feedback also clarified that measurement is seen as a hard, numerically-driven impact, which needs to be considered. The results reinforced the thinking behind the framework that there is an element of evaluation required when determining an improvement initiative, but also an element of a harder, numerically-driven assessment of impact.

Do you think 'evaluation' and 'measurement' are interdependent or exclusive?

The emergent opinions from the group were that the categories, 'evaluation' and 'measurement' are considered to be 'interdependent', or 'interdependent and exclusive', but no participants chose mutually 'exclusive'.

The results indicate that 'evaluation' can be both interdependent and exclusive, determined by the nature of the change being implemented; this reinforces my initial thinking behind the development of an evaluative framework for impact measurement. Evaluation and measurement are required, to understand the impact of an improvement initiative; however, the type and level will depend on the nature of the improvement, therefore, will vary from initiative to initiative. This appears to be a significant and new insight into this area of improvement practice.

What elements are missing from the framework and could it be used in practice?

A number of categories came out of this question, in relation to changes that could be made to the framework and its applicability to practice.

The results of the study indicate that, in terms of the framework, there was a need to consider the notion of a 'feedback mechanism' (Group Consensus, FG1), such as, in the case of diabetes (appendix 10). This led to logical explorations of the feedback mechanism in relation to the framework and demonstrated the resonance and face validity of the participants, in relation to the framework.

> *When the evaluation framework was introduced to the Patient Group, the group raised a number of methods of evaluation and measurement. They all felt that patient diaries would be beneficial at the start of any patient journey and at the end, so that weak areas could be investigated and improved.*

The emergence of the themes from the focus group evidence was derived and verified (see appendix 9). The analysis of the focus groups are presented in table 4.5.1 below and used to refine the evaluation framework.

Table 4.5.1 Themes emerging from the focus group

Focus Group	Question 1: What do you understand by evaluation?	Question 2: What do you understand by measurement?	Question 3: Do you think evaluation and measurement are interdependent or exclusive?	Question 4: What elements are missing from the framework and could it be used in practice?
1	Assessment Judgement Summary Qualitative	Quantitative Figures useful	Interdependent Interdependent and/or exclusive	Feedback mechanism User friendly contemplation
2	Assessment Judgement Summary Qualitative	Quantitative Qualitative	Interdependent and exclusive	Contemplation stage Reduce failure of improvement initiatives Shared top down
3	Assessment Qualitative Subjective	Quantitative	Interdependent and exclusive	User involvement Focus groups

4.5.2 Findings from Expert Interviews

Unstructured face-to-face interviews were held with two experts in service improvement to discuss the evaluation frameworks. The themes that emerged from the discussions (appendix 9) were as follows:

Replicability

Quantitative

Qualitative

Guidance pack

4.5.3. Summary of Themes Emerging from Focus Groups and Interviews

Following the generation of the themes from the focus groups and interviews, the emergent themes have been condensed into table 4.5.3.

Table 4.5.3 Themes from Focus Groups

Question	Theme
What do you understand by evaluation?	Assessment
	Judgement
	Summary
	Qualitative
What do you understand by measurement?	Quantitative
	Qualitative
Do you think evaluation and measurement are interdependent or exclusive?	Interdependence
	Interdependent and/or exclusive
What elements are missing from the framework and could it be used in practice?	Feedback process
	User Friendly
	Replicability
	Contemplation

Following the above evidence being generated, in relation to identification of themes, a definition was sought for each theme using Oxford Dictionary, Thesaurus and Word power guide (Soanes *et al* 2001), to allow incorporation to the evaluation framework; see table 4.5.4.

Table 4.5.4 Definition of Terms

Theme	Definition
Assessment	To judge the worth, importance, to estimate the value of
Judgement	The faculty of being able to make critical distinctions and achieve a balanced viewpoint
Summary	A brief account giving the main points of something
Qualitative	Involving or relating to distinctions based on quality or qualities
Quantitative	Involving or relating to considerations of amount or size; capable of being measured
Interdependence	Together, mutually or reciprocally
Exclusive	Excluding all else; rejecting other considerations,

	possibilities, or events
Feedback Process	To return part of the output of a system to its input
User-friendly	Easy to understand, easily operated and understood by means of a straightforward guide in jargon-free language
Contemplation	Thoughtful or long consideration, or observation
Replicability	To make an exact copy of (DNA)
User Involvement	The involvement of service users in the management, design and delivery of services

Table 4.5.4 informs the research throughout the remainder of this document.

4.6   Re-presenting the Framework

As a result of feedback from the iterative cycles of focus groups and individual experts, the initial evaluation framework was modified.   The rationale and modifications to the model are as follows:

Cycle 3: Focus Group 1 (FG1)

Following FG1 discussions, significant time was spent reflecting. It became apparent to me that my thinking, in terms of the framework having an evaluation and measurement aspect, had been correct. There was, however, a need to build-in a feedback mechanism, somewhere, in case the initiative failed at a certain stage. A number of rough diagrams were produced, to aid the development of the framework, based around the results of the focus group (appendix 9 and 10). Using the comments from the group and my learning from the process, the model was adapted (see figure 4.7) and presented at the clinical focus group.

Cycle 4: Focus Group 2 (FG2)

Reflections on feedback from FG2, in relation to the discussions about 'evaluating from the outset', led to another adaptation to the model, this being a stage of pre-contemplation, which is often not acknowledged, but can be a big influencing factor in the decision to initiate an improvement. This led to another iteration of the model (Figure 4.7), which incorporates a pre-contemplation stage.

Cycle 6: Improvement Experts

Discussions with Dave took place about the numerous tools that are available to service improvement and that both quantitative and qualitative measurement was vital, as had been discussed in the expert focus group. Dave suggested that the table of tools that supports the framework, as an example of tools that could be used at each stage, be divided into quantitative and qualitative tools. These discussions led to further refinement of the framework, in terms of the thinking

around the continual replication loop and the move of initiative outside the organisation (appendix 10).

Irwin felt that it is:

> *crucial to benchmark at the contemplation stage of the model, so we can get an initial feel for where things are at the start of the initiative and, in turn, see if an improvement has taken place at the end of the improvement. So often, [we] never have this initial information; it is not collected and we cannot truly see if an improvement has been successful.* (Irwin, 2005, discussion)

This highlighted the need to ensure that data is collected from the outset, so that improvement can be demonstrated over time, that is, formative evaluation (see section 1.3). This needed to be emphasised in the guidance pack, so that anyone using the framework begins by evaluating from the outset.

 Much of the discussion was around the feedback mechanism of the framework. Irwin summarised his thoughts about the feedback stage, being:

> *when in equilibrium, in terms of the change, this can lead us to ask what can we now do to make it even better.* (Irwin, 2005, discussion)

He explained this as:

> *Once the improvement had been visibly sustained, then it would be time to move the initiative to another level, whether that is in the same area that instigated the initiative, or whether that is moving it outside of the initial site, to be adopted elsewhere.* (Irwin, 2005, discussion)

This led to discussions about loop 1 being evaluation at intra-organisational level and loop 2 being at extra-organisational level (appendix 6). Discussions were about loop 1being a service improvement initiative 'in the system' and loop 2 as extra-organisational, being 'on the system', this being the movement outside the initial organisation where the improvement took place, to another organisation (appendix 10). This concept of 'equilibrium' and 'loop' led to discussions about the links to the balance of risk and benefit, in that many improvement projects do not move to loop 2, as there is a risk of destabilising the improvement already made, therefore, a safer option is to stay put in loop 1. This, however, would appear to be a stumbling block in much organisational improvement, because it is not moved on, to loop two and becomes stagnant. Discussions led to the concept of 'push' and 'pull' between cycle 1 and cycle 2, with this creating the equilibrium. This led me to re-think the model and building in 'push/pull' equilibrium (discussed further chapter 5,appendix 10).

The need to consider a feedback mechanism within the framework was an area I spent time reflecting on. This led me to recalling the Soft Systems Methodology (SSM) approach, developed by Checkland (1981), for analysing and problem-solving complex, messy, human and organizational system situations, further developed, in the context of information systems, in Wilson (1990). The premise is that systems analysts need to apply their craft to problems of complexity that are not well defined and that SSM attempts to understand the fuzzy world of complex organisations. SSM takes a real situation and moves it to an unreal situation, to look at what is possible in complex systems. Checkland (1981) talks of using CATWOE (Customers, Actors, Transformation, Weltanshaung, Owners, Environmental constraints) as a checklist for problem or goal definition. The transformation element of the checklist looks at what the system does to inputs, to convert to outputs. At this stage, qualitative and quantitative measures can be built. Measurability of the transformation is through the '3 Es' (Efficiency, Efficacy and Effectiveness)(Checkland, 1981, Wilson ,1990). SSM uses systems thinking in a cycle of action research and recognises the need to model a monitoring and control feedback loop that observes the performance of the system providing feedback control via the criteria setting activity, as necessary. These elements and cyclical processes are considered and likened to the proposed evaluation model (Cook, 2008).

The discussions with Irwin reassured me that the 'BEF' was unique, needed an element of service improvement and could work in practice. I recognised, however, that this was Irwin's view and was mindful that I needed to ensure that I maintained a balanced view of the feedback from the individual experts. The discussions led me to spend a significant time thinking through the concept of 'on system', which, although I could see how this applied in practice, I had reservations about how this would be understood by those using the 'BEF' in the future. This led to re-thinking the two cycles (appendix 10) and actually likening it to the improvement of the Trust's colposcopy service, where the service was redesigned to reduce waits, by training nursing staff to take on a nursing consultant role. This is described in the following vignette (section 4.7).

4.7 Vignette: Developing the Colposcopy Service in a Large NHS Trust

In 1996, a number of incidents in UK hospitals put the spotlight on the quality of cervical screening. Their reliability was questioned. In South Tees, the service had achieved some Patients' Charter standards, but the colposcopy team felt that a better service was possible from the resources available. Some improvements had been achieved, but the service was a bit of a Cinderella; management was concerned with larger issues. The team was determined to make their colposcopy service better.

The Trust was already adopting the EFQM Excellence Model (Stahr *et al*, 2000). Three pilot projects, in 1996, had shown that significant innovative change could be achieved. The colposcopy team and lead consultants decided that the way forward was to apply the EFQM Excellence Model to colposcopy.

The team, including a local GP and every member of staff who had a role in colposcopy care within the Trust, developed a project plan. This had nine steps, using the EFQM model as a framework for the work:

Step 1 was to identify the scope of the work. The next steps helped them to understand the service then provided.

Step 2 involved establishing a full picture of the service, using a benchmarking approach. Benchmarking showed a service that was in need of care and attention. Some of the main points were:

- 13.5 days to generate an appointment
- 13-18 weeks, for initial and treatment appointments
- High rates (20%) of 'did-not–attends'.
- Poorly organised, overbooked clinics
- Delays of six to eight weeks from smear being reported and the GP referring the patient
- Poor quality, confusing, patient information
- 35% of nursing time finding results and preparing notes

Step 3 involved describing local processes; mapping how the service operated. Mapping was challenging, because it demonstrated how little some people knew about the overall process. It enabled the team to understand its problems. The whole team identified the main steps and small project groups produced detailed maps for the individual process steps.

Step 4: identified what patients wanted from the service and the issues of concern to them. Patient focus groups contributed to fact-finding, ensuring that professionals were fully aware of the issues of concern to patients.

Step 5: consisted of designing the new service, which involved the whole team identifying the ideal requirements for the new service, such as, minimal waiting times for patients, greater choice for patients, improving communications to patients and GPs, appointments generated from abnormal smear results, reducing inappropriate care and, finally, a service improving on national standards.

The guidelines, in *Standards and Quality in Colposcopy*, from the NHS Cervical Screening Programme, provided a basis for developing local standards. Three groups undertook the redesign, looking at pre-attendance administration and care, attendance and post-attendance administration and follow-up care. Coherence between the separate stages was important, to ensure that each activity added value to the overall service. Key features of the new service would be:

- direct referral from cytology,
- introduction of see and treat, that is, offering patients with severe abnormal smears treatment at their first visit and therefore eliminating a further clinic visit,
- longer consultations for patients, supported by high quality information,
- introduction of a default management strategy to ensure consistent action when patients failed to attend and elimination of inappropriate referrals to the clinic.

Step 6: involved appraising the implications of the new service, which was important, because some radical changes were required. A number of new roles had been defined to respond to frustration among team members, for example, providing an extended role for nurses, to free doctors' time. One of the more radical proposals was to use abnormal smear results as a referral trigger and eliminate about eight weeks of delay from the process. This challenged the traditional responsibilities of GPs, so the team talked directly to all practices, to convince them that this was the right way forward. GPs were content, so long as monitoring systems were put in place.

Step 7: was planning implementation, which focused on training, to ensure that staff understood their roles in the new service. It was estimated that 40% less clinic time would be required, but, at the same time, providing twice as much time for each individual patient.

Step 8: involved the senior nurse leading the implementation stage of the project plan.

Step 9: was the redesigned service being implemented in June 1997; the team put evaluation measures in place, as the final part of their project plan. Any emerging problems can be identified and acted upon promptly. This involves regular team reviews, continuous audit and discussion with primary care teams, the health authority and service users. Results are presented in table 4.7 below:

Table 4.7 Results of EFQM Excellence Model Applied to Colposcopy Services in South Tees

Activity or measure	Benchmark before review	Target	December 1997 6 months	June 1998 1 year	June 1999 2 year
Time from smear result being available and receipt of referral letter	6 weeks	To have direct referral from cytology within 24 hours of results being reported	24 hours	24 hours	24 hours
Time to generate appointment letter	13.5 days	3 working days	24 hours	24 Hours	24 Hours
Waiting time for new referrals	Maximum 18 weeks	Within 6 weeks with prioritisation system	13 weeks	7 weeks	7 weeks
Clinic defaulter rate	20%	10% in year 1 5% year 3	12.60%	11.50%	11.50%
Consultation time	Average 10 minutes	30 mins per patient	Target Achieved	Target maintained	Target maintained

This work saw significant improvement and has been rolled out across the region, this being an example of movement from within the organisation to outside the organisation.

This led to the cycles in the model being an intrinsic cycle and extrinsic cycle. Much discussion took place over this, due to the feeling that the cycles needed to be much simpler. We discussed this, at length, the outcome being:

> *Cycle 1: Evaluation of initiative (referring to implementation of a new initiative.*
>
> *Cycle 2: Evaluation of improvement (referring to continued improvement, or even adaptation and roll-out of the improvement) see figure 4.7.*

Focus Group 3 (FG3)

Following the feedback from the Trust's patient-user group indicated that patient involvement, in terms of service improvement, is still minimal and the involvement of patients in such a framework is unique and must be clearly visible, when applying this framework to improvement initiatives.

4.8   Summary

The majority of participants viewed evaluation as a method of assessing and summarising outcomes through qualitative methods. All saw measurement as quantitative, with one participant stating that it could have qualitative aspects.

In relation to evaluation and measurement as interdependent and/or exclusive, no participants felt that it was exclusive only, highlighting that measurement and evaluation are required, to demonstrate the impact of an improvement. It may, however, vary from initiative to initiative.

Other factors for consideration were the need for a feedback loop, replicability, user-friendliness and the need for a guidance pack, to aid those wishing to use the framework.

The research has resulted in the development of an evaluation framework, made up of two cycles, which would aid continual evaluation of improvement initiatives and their potential roll-out, With each cycle having the following stages of evaluation; Contemplation, Initiation, Implementation and Sustainability.

Following the feedback from the groups and the themes highlighted above from the discussions, the final iteration of the framework was developed as presented in figure 4.7.

Figure 4.7: Final Version of evaluation framework

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Following the first focus group, I reflected on how I had managed them. My reflections revealed that I did not offer opinion or responses that were emotionally based; I kept my responses to reflect on their dialogue. I was pleased with this learning and continued to keep reflecting on my actions, to minimise researcher bias. Previous learning through the doctoral programme had highlighted the importance of empathy and active listening skills. In this project, I have now demonstrated that I was actively selecting these approaches, rather than using an instinctive approach.

Chapter 5

Discussion of Results

5.1 Introduction

The intent of this chapter is to summarise the findings of this research study. The challenge of this project was to develop and introduce a 'BEF' for service improvement initiatives. This work builds on the current knowledge around service improvement and takes it to the next level through the development of a framework.

The literature research yielded few resources on the topic; those that were available were dated and concentrated on specific areas, such as public participation method, rather than evaluating the whole process of implementing an improvement initiative. The research revealed that the NHS had been attempting to put efforts into measuring performance improvement (see section 2.2), however, the information relating to it remains incomplete and difficult to assess. The literature also indicates the difficulties and complexities in the particular measurement of improvement in healthcare. It is not as easy as measuring improvement in a business organisation, where data can be easily presented, provided, and recorded.

After the start of the project, a more recent literature search still highlights the lack of evaluation, reflection and review, underlining that typical NHS organisations concentrate on planning and implementing change, yet underestimate the importance of continuous review for embedding and sustaining improvement (Hardacre and Spurgeon, 2006). With most literature concentrating on the use of specific tools for service improvement, rather than the use of multi-method tools for improvement, as a paper by Health Evidence Network (2006) re-iterated, no studies examined whether tools were used properly, or effectively. The lack of literature available on evaluation of improvement initiatives linked with improvement being high on the agenda and the financial constraints within the NHS reinforced the need for this work.

The product of the project has been the development of a comprehensive evaluation framework for service improvement initiatives, based on **five key** elements:

i. Pre-contemplation
ii. Contemplation
iii. Initiation
iv. Implementation
v. Sustainability

Each stage is considered when embarking on a change project. Each element has been underpinned with key questions to be asked, to ensure that the correct tools are applied and to ensure that evaluation is present, to demonstrate improvement (see Guidance Pack and 'BEF').

5.2 Influences in Thinking

The framework builds on the Improvement Methodology (Associates for Process Improvement, 1996) and the Transtheoretical Model (Velicer, Prochaska, Fava, Norman and Redding, 1998). The improvement method, which was based on three questions and a 'Plan-Do-Study-Act' cycle of improvement (figure 5.2), is a model, which has two parts:

Three fundamental questions, which can be addressed in any order

The Plan-Do-Study-Act (PDSA) cycle, to test and implement changes in real work settings. The PDSA cycle guides the test of a change, to determine if the change is an improvement

Setting Aims
Improvement requires setting aims. The aim should be time-specific and measurable; it should also define the specific population of patients that will be affected.

Establishing Measures
Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting Changes
All improvement requires making changes, but not all changes result in improvement. Organizations therefore must identify the changes that are most likely to result in improvement.

Testing Changes
The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Figure 5.2: Basic Improvement Methodology (Associates Process Improvement, 1996) Implementing Changes

After testing a change on a small scale, learning from each test and refining the change through several PDSA cycles, the team can implement the change on a broader scale, for example, for an entire pilot population, or on an entire unit.

Spreading Changes

After successful implementation of a change, or package of changes for a pilot population, or an entire unit, the team can spread the changes to other parts of the organisation or in other organisations.

The basic improvement model (Associates Process Improvement, 1999) uses rapid cycle tests of change, to create improvement. This is a clear model, which does mention 'quantitative measurement', but no qualitative measurement and is only, mentioned at one stage in the model, which enabled me to consider further models that had this element.

The Transtheoretical Model of behaviour change (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992; Prochaska & Velicer, 1997) is a model of intentional change. It is based around the emotions, cognition and behaviour of change, something that appears to be lacking in the Improvement mode. It is made up of five stages; table 5.1 sets out the stages in the two models and what each stage involves:

Table 5.1: Comparison of PDSA and Transtheoretical Model

Steps in Model	PDSA Model	Transtheoretical Model
STEP 1	3 Preparatory Questions: What are we trying to accomplish? How will we know if a change is made? What changes can we make that will result in improvement?	**Pre-contemplation** is the stage in which there is no intention to change behaviour in the foreseeable future. Many individuals unaware or under aware that a problem exists
STEP 2	Plan: Plan the change that is intended to be introduced. Clarify the aim. Agree information necessary	**Contemplation** is the stage in which people are aware that problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action
STEP 3	Do: Put the change into practice and measure its impact by collecting the agreed data	**Preparation** is the stage that combines intention and behavioural criteria. Individuals in this stage are intending to take action in the next month and have successfully taken action in the past
STEP 4	Study: Review and analyse the data	**Action** is the stage in which individuals modify their behaviour, experiences or environment in order to overcome their problems. Action involves the most overt behavioural changes and requires considerable commitment time and energy
STEP 5	Act: Change the plan to what did or didn't work go back to the 'do' stage	**Maintenance** is the stage in which people work to prevent relapse and consolidate the gains attained from the next six months and intermediate period past the initial action

The transtheoretical model considers the pre-contemplation stage, in which people are not intending to take action in the foreseeable future, but may be measured for a period of time, until change is instigated. This stage often appears to be missed, or not formalised, when embarking on service improvement initiatives. Although the stages are clear, the sustainability and spread aspects of improvement appear to be missing, along with a clear indication about evaluation throughout the process.

Table 5.2 Comparison of the Strengths and Weaknesses of the Two Models

Criteria	Improvement Model	Transtheoretical Model
Easy to follow	Yes - Clear pictorial diagram to explain working of the model. Appears that it could be used on any improvement methodology. No clear guidance on when it is to be used or not used.	Clear steps but uses lots of words to describe, but no clear examples alongside model. Aimed at much softer evaluation such as behaviours, made clear it is for behavioural change.
Measurement	Yes- Mentions quantitative measurement/scientific measurement	Yes- Mentions measurement at stages, not clear what measurement. How do we measure behavioural change?
Evaluation	No clear mention of evaluation	No clear mention of evaluation
Details tools to aid improvement at stages of model	No	No
Similarity of steps in the model	No overt mention of a pre-contemplation step, but the three preparatory questions could be classed as contemplation. Clear action step Does highlight the need to continuously go through the cycles and reflect	Clear contemplation and pre-contemplation stages Clear action steps The notion of continuous reflective cycle is lacking

Synthesis of the two models has led to the development of a new 'BEF' for service improvement initiatives that considers all aspects of service improvement evaluation, to aid sustainability and spread of initiatives. The new evaluation framework encompasses quantitative and qualitative evaluation. In terms of stages in evaluation, it incorporates pre-contemplation and spread of effective practice.

The findings from the project initiated discussion around initial thoughts on the framework and went on to the development of something new. The learning and findings that have emerged throughout the research have been incorporated into the development of a unique framework, from which the findings may be considered as follows:

5.3 Understanding of Measurement and Evaluation

The project participants identified that evaluation was a 'softer' qualitative measure of improvement and that measurement was a quantitative, figure-driven assessment of impact. This is supported by the available literature, which suggests that measurement and evaluation are different things (Kizlik, 2006). Measurement, referring to the process by which we measure, generally uses some standard instrument to determine how big, tall, heavy, voluminous, hot, cold, fast, or straight something actually is. Standard instruments refer to instruments such as rulers, scales, thermometers, pressure gauges, etc. We measure to obtain information about what is. Such information may, or may not be useful, depending on the accuracy of the instruments we use and our skill at using them. It may be argued that there are few such instruments in the social sciences that approach the validity and reliability of, for instance, a 12" ruler (Kilzik, 2006). The definition provided on the ADPRIMA website (Kilzik, 2006) for the behavioural verb, **'**measure', is '*to apply a standard scale or measuring device to an object, series of objects, events, or conditions, according to practices accepted by those who are skilled in the use of the device or scale*'.

Evaluation, however, is probably the most complex and least understood of the terms. Inherent in the idea of evaluation, is 'value'. When we evaluate, what we do is engage in some process that is designed to provide information that will help us make a judgment about a given situation (Kizlik, 2006). Generally, any evaluation process requires information about the situation in question. A situation is an umbrella term that takes into account such ideas as objectives, goals, standards, procedures and so on. When we evaluate, we are saying that the process will yield information regarding the worthiness, appropriateness, goodness, validity, legality, etc., of something for which a reliable measurement or assessment has been made.

The feedback from participants and the available literature quite clearly support the definitions on evaluation and measurement provided in chapter 1, indicating that a comprehensive evaluation framework for service improvement initiatives must consider aspects of both evaluation and measurement. The findings of the project add further to this understanding.

5.4 Evaluation and Measurement – Interdependent and Exclusive

The themes emerging from the participants identified that evaluation and measurement were 'interdependent', or 'interdependent and exclusive', depending on the requirement. None of the participants felt that they were mutually exclusive. In relation to service improvement initiatives, this information demonstrates that evaluation and measurement are clearly linked, but it is perhaps useful, sometimes, to think of them as separate, but connected processes. In evaluating service improvement, ensuring that both evaluation and measurement are considered is crucial to its success. Due to its ongoing nature, measurement can serve as an early-warning system to management and as a vehicle for improving accountability. Performance measurement focuses on whether a program has achieved its objectives, expressed as measurable performance standards. Program evaluations, typically, examine a broader range of information on program performance and its context than is feasible to monitor on an ongoing basis (GAO, 2005). This supports the thinking and development behind the evaluation framework.

5.5 Could the framework be used in practice and is there further development

The need for an evaluation framework was clearly supported by the feedback from participants in the project, the literature review and more recent literature, which highlights the lack of a robust evaluation framework for service improvement.

The feedback from participants and experts supported the thinking behind the need for the framework. Participants felt that it was robust and comprehensive. They felt that pre-contemplation, contemplation, spread and sustainability were vital and, often, a missing link when undertaking improvement, thus emphasizing to the researcher that the framework would be a useful tool for service improvement.

A number of primary categories for development were drawn out of feedback from the groups, which are discussed below:

a. User-Friendly

Usability refers to the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use. (ISO, 9241-11).

Often, in large organisations, we appear to be inundated with large, bulky, hard-to-understand documentation, which are too complicated to use in practice. Participants highlighted a need to ensure that the framework was clear and that 'clarification' of the model was required. This resonates with the principles of plain English, which consists of '*any message, written with the reader in mind that gets its meaning across clearly and concisely so the reader can take the appropriate action*' (Word Centre, 2005). This was highlighted by Jackson (1999), in the use of the excellence model, stating that, '*there were times when the model was problematic. In particular at inception when the language was difficult to understand*' (p. 62).

Over the last two decades, a 'culture of clarity' has been gaining ground in many large organisations around the English-speaking world. In the United Kingdom, government departments, banks, insurance companies, local councils and others have come to realise that clear communication is actually a good idea. Instead of writing to impress or confuse, they are now writing to inform and explain. They are using plain English to do this (Word Centre, 2005).

Based on the literature and feedback from participants, the researcher used a technique, suggested by the Word Centre, to ensure that the evaluation framework was easy to understand and developed a plain English guidance pack (see guidance document) to aid the user.

b. User -Involvement

There is now good evidence that trusting and respecting the user/patient, at a number of levels in the system, significantly, improves health and well-being. The Health and Social Care Act, legislative framework, which came into force on the 1st January 2003 (DH, 2003), placed a duty, for the first time, on Strategic Health Authorities, Primary Care Trusts and NHS Trusts, to involve and consult patients and the public. The statutory duties of the Health and Social Care Act bring the voices of patients and the public into the heart of the NHS debate (DH, 2003).

Involving patients and the public is a cultural change and a challenge to current cultural norms within the health sector (see section 5.5). As the organisation culture is the sum total of the pattern of day-to-day choices that individuals make about how to behave toward one another, this requires involvement for all the staff. The shift, from a medical prescriptive and diagnostic model, to an inclusive facilitated model, will underpin the future success of improvement. The users will own services, with providers acting in the capacity of servant.

The patient and public involvement factor is becoming increasingly important with each new government publication. Teams should ignore the Health and Social Care directive at their peril, as, without appropriate involvement of stakeholders, any piece of work could be floored. The act states that patients and the public must be involved for new and ongoing planning of services and at the very beginning of the consultation.

The feedback from patients demonstrates their willingness to be engaged in improvement activities from their inception and highlights the lack of involvement, in relation to service improvement, in the past. Patient participants highlighted that the mechanism of involvement needs to be in the form of focus groups and questionnaires, to capture patients' views, at the contemplation stage of an improvement initiative. This aspect needs to be made clear in the guidance information for the framework.

c. Feedback Mechanisms and Equilibriums

Feedback is a word to describe a situation in which a part of the output of a process is added to the input and, subsequently, alters the output. In this way, feedback can influence how the process operates. The notion of feedback has been a long-standing idea in biology *and* in mechanics (Tortora and Anagnostakos, 1990). Temperature regulation, for example, is a feedback process, to maintain internal body temperature. Similar in function, a thermostat either turns on, or turns off the air-conditioner, based on the temperature of the room. In both cases, it is the control mechanism (temperature) that determines how the system reacts and, if required, feeds back information to the system to stop acting.

This notion of feedback was raised by the expert focus group and was described in relation to biological feedback mechanisms; diabetes was used as an example (appendix 10) and there was a need to ensure that, at each stage of an

improvement initiative, a feedback mechanism was in place, to confirm that chances of failure are reduced.

The research brought out a new concept for me to consider this was the notion of 'equilibrium', was influenced by discussions with the expert panel. Equilibrium can be described as:

> *A condition in which others, resulting in a stable, balanced, or unchanging system, cancel all acting influences.*

Or:

> *The state of a chemical reaction in which its forward and reverse reactions occur at equal rates so that the concentration of the reactants and products does not change with time* (Free Dictionary, 2005).

This concept, of equilibrium being a state of balance, fits with the notion of the framework. If we can fulfil the 5 steps in loop 1 of the framework, the feedback mechanisms built into the framework will aid equilibrium and the improvement initiative will be maintained, through continual evaluation. This state of equilibrium has often not occurred with improvement initiatives, as evaluation throughout has not been maintained and no feedback mechanism has been clearly identified to maintain improvement. Once maintained at loop 1, the next leap is to disturb the equilibrium and move to loop 2 of the framework, which may be developing the original initiative further, or moving outside its original arena. This begins to add an element of risk and disruption to the equilibrium, to which individuals will find hard to adapt, when working on the improvement. It is acknowledged that individuals become comfortable with how they are working and change is hard to accept (Tushman, 1988). The evaluation framework aids this process by putting markers in place, to ensure that improvement is maintained when the equilibrium is disrupted. In developing the SSM (see chapter 4), Wilson (1990), talks of feedback control in systems; feedback control should ensure self-regulation, in the face of changing circumstances, once the control system has been designed and installed. The essence of feedback control is to be found in the idea of homeostasis, which defines the process, whereby, key variables are maintained in a state of equilibrium, even when there are environmental disturbances. Control is normally exercised within a system through some form of feedback. Control outputs from the process of a system are fed back to the control mechanism. The control mechanism then adjusts the control signals to the process, on the basis of the data it receives.

Feedback has two major forms; positive and negative feedback. The terms, 'positive', and 'negative' feedback should not imply any value-connotation. We may also distinguish between those feedback processes involved with regulation (single-loop feedback) and those involved with adaptation (double-loop feedback)(Schon 1983).

The notion of equilibrium also raised the concept of 'push and pull', which originates from 'lean manufacturing', being a generic process management philosophy, based on the history of Japanese manufacturing techniques used to reduce waste in the system (Womack *et al*, 1991). The 'lean' principles have been applied in many environments, including healthcare for some time now, with staggering improvements in quality and efficiency. The underpinning values of removing activities that don't add value, along with respect for people and society, lie at the heart of healthcare. 'Lean' is a philosophy and a tool for aiding change. Although the tool has been adopted in healthcare, the philosophy is still lacking. Bevan (2005) says that approaches to spreading good practice have largely focused on 'pushing' (spreading, disseminating, rolling out, scaling up) change in the system, often being seen as a way to save money in organisations. The future emphasis needs to be on 'pull', because sustainable change cannot be pushed externally, it is an internal process that starts at the level of the individual. The concept of evaluation and the 'BEF' recognises push/pull. Loop 1 is the evaluation of initiative stage; once adopted, to ensure that evaluation is maintained, loop 2 needs to be adopted and maintained through push/pull equilibrium (see figure 5.5).

The notion of 'push/pull' to gain 'win-win' relationships (Rubin and Campbell, 2003), looks at how, with greater awareness of our behaviours and their consequences, we can, through push and pull strategies, gain 'win-win' relationships. In relation to service improvement, 'pull' can be described as arising when workers come to understand the benefit of improvement for them and commit themselves to improvement effort, independent of management support (Shaffer and Thompson, 1992). Research (Rubin and Campbell, 2003) suggests that developing 'employee-pull' is essential to sustaining improvement efforts, therefore, could be seen as a method of maintaining equilibrium (see vignette 5.4 below). Improvement programmes, which are brought into organisations at high level, require a certain amount of management push to gain commitment. These pushing techniques may include training, demonstrating

support, providing incentives and clarifying the need to improve. The concept, 'push/pull', needs to be considered in light of the evaluation of an improvement initiative. At the start of the evaluation process, if we want sustainability of the process, then to 'push' would only hinder the process, as people will feel that it has been forced upon them. 'Pull' needs to be developed by those embarking on the improvement feeling the need to measure the impact. Once teams/individuals have recognised this need, built it into their improvement initiative and achieved sustainability, then at this point, 'push' may be adopted, to disseminate the learning throughout the organisation and/or the wider NHS. With this in mind and to ensure that evaluation is considered throughout the implementation of improvement initiatives, the 'push/pull' concept has been incorporated into the framework.

5.6 Vignette: Demonstration of How Push/Pull is Used in the Implementation of Improvement

A Review of a Medical Physics Department

Support was requested (**pull** strategy) from head of medical physics, with regard to independent assistance in reviewing the skill mix and working practices of the Medical Physics Department within a large acute Trust.

Discussion took place regarding the organisational structure of the unit and how it is part of a regional unit. The HR function related to the personnel in the team, which is based at a neighbouring large Trust.

The Medical Physics department sees approximately 2500 patients per annum. Working practices within the department differ from other centres across the region, in that the staff work extended days, therefore, a 4-day week. Part-time staff work this on a pro-rata basis and have devised a rota to accommodate these hours on either a 4 or 5-week cycle. This practice is historical and has been in place for approximately 10 years. There was a perception from other units that this may be an ineffective use of staff and have an impact on productivity, which has led to some external criticism**.** Performance within the unit, however, is perceived as 'good'.

Issues Highlighted:

- o There were concerns (both externally and internally) that there is inflexibility within the workforce and that productivity may be affected as a result of working patterns.
- o Annual leave can be a problem in Feb/March
- o No time-logs are kept by staff, or monitored by managers
- o There is a perception that little work occurs beyond 5pm, which impacts on productivity
- o There was variance in lunch breaks (30-60mins) depending on T&Cs
- o There was dependence on peripatetic staff to help cover service
- o There was concern that working practices are causing problems, in relation to clinical governance, related to minimal staff levels, health & safety, QA (some duplication required for checking purposes for QA)

Desired Outcomes:

- o Demonstrate whether unit is working to maximum productivity and efficiency (P&E)
- o Determine whether extended hours have a detrimental effect on P&E
- o Modelling of staff hours to present options and identify a model which maximises P&E

Work Carried Out:

A process review was carried out, which looked at processes in the unit, staffing rotas, staff views, complaints, capacity and demand. All data was analysed, and fed back to the staff and an action plan developed.

Outcomes:

- o There was a move to flexible working, rather than an extended working day. This would allow for training to be built in and ensure staff-cover at times of sickness and annual leave. It would also allow for flexible working patterns, based on demand. Proposals were produced. (**push** and **pull** strategy).
- o An electronic scheduling system was implemented, to ease the pressure of booking patients and allow ease of auditing. It was recommended that the slots be built up into 20 minutes for the morning and 30 minutes for the afternoon sessions. The Improvement Team agreed to work with a member of staff to help get this up and running, if required (push strategy).
- o A clearly identified rota was made available.
- o Annual leave calculations were addressed, to fit with Trust policy.
- o The team requested a team development day looking at the softer elements of leadership, to be led by HR and/or Improvement Alliance, to improve team dynamics and communication (**pull** strategy).
- o Following this review, the improvement team asked for support to redesign Urodynamic Services, using lessons learnt from the Medical Physics review (**pull** strategy).

5.7 Re-Presenting the Framework

5.7.1 Creativity and Communication

The challenge of this work has been in the creation of something new. Creativity can be defined as happening when someone improvises or undertakes original activity, the very nature of the evaluation framework. Creativity requires the release of human potential, which is at the heart of innovation. Creativity is important and relevant to leadership and organisational development, staff development, culture, innovation, increased productivity and growth (Bass and Steidlmeier, 2006). In order for the framework to be developed and cascaded into the organisation, it was necessary to lead this creativity. This was achieved through nurturing the idea through the supportive environment and championing of leaders. This began by communicating with the Chief Executive and Operational Director of the organisation, to ensure that senior management were engaged in planning and executing change from the outset, to improve the chances of a successful implementation. This was followed by communication with the focus groups and individual experts, to allow them to connect with and aid the further development of a framework fit for the purpose. Communicating effectively was crucial in the development of the project and took place through various mechanisms, from using verbal communication, to written communication, but needed careful consideration prior to delivery. People in organisations, typically, spend over 75% of their time in an interpersonal situation (Jenkins, 2006), thus, it is no surprise to find that poor communication is at the root of a large number of organisational problems. Effective communication is an essential component of organisational success, whether it is at the interpersonal, inter-group, intra-group, organisational, or external levels. Fitzgerald *et al* (2008) state that, in relation to diffusion of new knowledge, the most complex model is the communication feedback model, but the feedback loop from users is an additional success factor.

Rich (1997) reviews the issues in developing measures of knowledge utilisation and suggests that variance in knowledge utilisation can be explained by differences in types of information, as well as by differences in the needs of users. These models, however, only provide a limited explanation of the processes of interpretation of evidence, in situations of ambiguity, where, drawing on Weick's ideas (1995), one would anticipate such 'sense making' to occur. One of the key aspects of communication of innovative work is the ability to 'sense make'. Weick

(1995) is adamant that sense making is not a metaphor and should be understood literally. The concept, at its simplest, is 'the making of sense'. In an organisation, sense making is about words in action (Weick, 1995) and links with the action-research approach, used in this project. It can be seen from many perspectives, such as structuring the unknown (Waterman, 1990), explaining surprises (Louis, 1980), or the interaction of information seeking, meaning ascription and associated responses (Thomas *et al*, 1993). This sense making approach, when thinking about, implementing and communicating the research, is essential to implementation and sustainability of change. Using leaders, focus groups and experts has allowed this sense-making process to develop an evaluation framework that can be understood by its user. What must be considered is that this process of sense making is ongoing, which must be continued, to ensure that it is embedded at both intra-organisational and inter-organisational level.

The development of the framework has implications at a strategic level. The NHS Plan (2000) sets the scene for improving services, on which to build. The plan states that the NHS will work continuously to improve quality services and to minimise errors. Developing and considering proposals for changes in the way those services are provided (Health and Social Care Act, 2001) has become a key feature in healthcare, however, what has become apparent is that local evaluation, to indicate that improvement is implemented successfully and sustained, is often the missing link. Although there are targets set, nationally, for Trusts to meet, local evaluation of improvement is lacking. More recently, the publications of the NHS Operating Framework 2006-2007 (DH, 2006) sets out the service priorities for the year and states that all organisations will need plans in place to implement changes and deliver benefits, highlighting the needs to be able to demonstrate the improvement. Ashburner *et al*, (2001) argue that a weakness in much of the literature on organisation transformation is that it proceeds at a highly general level and does not define an empirical assessment criteria for judging whether change has occurred. They go on to say, '*no criteria for assessing the extent of change have been established*' (p. 6). This supports the need for an evaluation framework to be available to organisations that will aid the demonstration of improvement. In light of the policies that have been introduced at national and local level, it would appear that the time is right for such a framework to be embedded in change policy.

5.7.2 Culture and Power

Organisational culture is often invisible and hard to define (Schein, 2000), but most definitions agree that culture is created by the members of the organisation and outlines a basic understanding of how the world is and of how the organisation (and its members) should be in the world. In understanding how the world is, people take complex reality, select important elements of that reality and configure them to create a meaningful picture of the world. 'Normal' behaviour around power, diversity and use of time are often so integrated into everyday life that they are taken for granted, yet they guide the behaviour of members of the organisation and are a powerful factor in how work gets done. Any significant change in any formal, visible element of the organisation will need to be accompanied by changes in the way that organisational members enact their often 'out of awareness' response to change of the organisation's culture. Gabriel (1999, p. 195) cites Schein (1968/1988), who argues that individuals respond to organisational socialisation processes in one of three ways:

- o Conformity – the individual accepts the organisation's culture, absorbs its norms and values.
- o Rebellion – the individual rejects the organisation's culture and rebels against it in tacit or overt ways.
- o Creative individualism – the individual selectively accepts and rejects the organisation's culture, adapting it to his or her own personality.

Change of culture in the organisations is very important and inevitable. People often resist changes for a number of reasons, including fear of the unknown, loss of power or rewards, or deskilling (Senior, 2002, p. 252), hence, it is the duty of the management to convince people that gain will outweigh the losses. Effective organisational change, such as implementation of the 'BEF', invariably, requires effective leaders. Burman and Evans (2008) argue that it is 'leadership' that affects culture, rather than 'management'. They describe the difference and point out that these leaders are of a specific type. These leaders successfully navigate periods of change, encourage and facilitate difficult negotiations adopting a truly authentic leadership (Bennis,1994) style taking into account the needs of the organisation, group, individual the model and to themselves. They are prepared to disrupt existing patterns of organisational behaviour, create and highlight conflicts and challenge institutional taboos. They also recognise their own role in creating and maintaining the status quo, therefore, are prepared to accept a loss of control and a measure of ambiguity about the future, as the price for increasing

innovation and engagement. This may mean letting go of personal control over the hierarchy, or loosening the structures and rules within the organisation that aim for consistency and uniformity (Clarke and Ramalingam, 2008). Where other frameworks and models for change use a transactional philosophy the 'BEF' uses a transformational philosophy recognising there is a strong link between leadership and transformational change. In relation to the 'BEF', senior leaders will need to create a culture for change, embracing change, supporting the emotional costs of change at individual and group and task level and evaluating through transformational leadership (Kouzes and Posner, 2003), thus allowing managers to undertake the transactional leadership (evaluation of task) (Kouzes and Posner, 2003), leading to double loop learning, through feedback on the results.

Clarke and Ramalingam (2008) compare an organisation to a human mind, with emotional and reflective capacities; we can begin to appreciate the role that emotion plays in making decisions about organisational change. The metaphor is an interesting one, as it helps us to understand why change is often accompanied by powerful emotional responses.   These emotional responses can be understood, broadly, at two levels, evoked by a perceived threat to the wellbeing of, either the individual, or the organisation. At the individual level, the people in an organisation have emotional needs for control, inclusion and emotional closeness (Schutz, 1958). When the status quo of an organisation is threatened, individuals feel confused about whether these needs will be met in the future. Organisational changes may lead to a gain, or a loss of power (control), for managers or units within the organisation, or may create the need to dissolve old working relationships and create new ones, upsetting existing groups and relationships. Unsurprisingly, people may feel excited, but also confused and threatened, under these circumstances. At the organisational level, the emotional component is more profound. People tend to invest their organisation with meaning; participation in an organisation's culture means that individuals internalise a specific way of seeing the world (at least, when they are at work). This, in turn, creates a strong emotional bond with the organisation. Any change in the organisation – even a fairly minor change – can be interpreted as a threat to that world-view and to the meaning of the organisation. Such changes, typically, create emotional confusion and distress, which, in turn, leads to resistance to the change. It is important to recognise that this sort of resistance is a necessary and

useful element of how organisations work. It preserves the culture of the organisation, prevents bad ideas being implemented and allows the organisation to retain some stability and continuity in a changing environment. In short, it is a natural mechanism that has evolved in organisations, in order to make change difficult (Nevis, 1988; Maurer, 1996). 'Traditional' approaches to change, which begin with the assumption of the organisation as a machine and which depend on assumptions of rationality, are not designed with resistance in mind. Change programmes that are embedded in rationality tend to ignore resistance, downplay it as a selfish, emotional response, or attempt to engage with it through rational debate. This is supported by Tran (1998, p. 99), who proposes that emotionality and rationality co-exist in organisational settings and that the acceptability of emotional expression, as a fact of working life, is gaining credence. She also poses an interesting theory, asserting that, for an organisation to learn, be creative and grow, there must be an environment where an emotional climate is allowed to arise, evolve and be maintained.

Fineman (1996) suggests that emotions are:

> *... intrinsic to social order and the working structures, conflict, influence, conformity, posturing, gender, sexuality and politics. They are products of socialisation and manipulation. They work mistily within the human psyche, as well as obviously in the daily ephemera of organisational life (Fineman, 1996, p.1)*

As a result, emotions often end up as victims of resistance; ignored, shelved, or used selectively. Thinking of the organisation as a mind opens one further important perspective. While the human mind resists change, particularly change that is externally imposed, it can change itself through the process of learning. Writers, such as Peter Senge, suggest that organisations, like people, can learn. Organisational learning certainly requires that the members of the organisation learn, but '*individual learning does not guarantee organisational learning*' (Senge, 1990) and other conditions are also necessary. Of course, some change programmes will inevitably cut across the things that motivate people. This is particularly the case where a change will mean that certain individuals or groups stand to lose power, or influence; power, or at least status, is a very important motivator for many people. Where a change is taking away things that people hold as important, this should be made explicit, however, implicit within the criterion of effectiveness is timeliness. From my reading and understanding of the literature, I recognise that, to change an aspect of the culture of an organisation,

one has to take into consideration that this is a long-term project. Corporate culture is something that is very hard to change and employees need time to get used to the new way of organising. With this in mind ,the implementation and change of thinking that the 'BEF' will bring about will take time and I need to be conscious of this.

Based on the feedback from the participants and its implications on service improvement within the NHS, the framework has been refined to incorporate the recommendations made. The iterations for the framework are presented in appendix 10; the final framework is presented in figure 4.7.

5.8 Unintended Consequences

As with all projects, there was a degree of uncertainty as to whether focus groups and experts would be available to meet and whether they would engage with the concept of the evaluation framework, however many fears did not become reality, as focus groups were arranged and attendance and interaction were good. What has emerged from the project, however, is some unintended consequences both positive and negative, which are discussed below.

5.8.1 Unintended Positive Consequences

The feedback collated from the participants highlighted the support and need for such a framework to aid their delivery of service improvement at organisational level. This was pleasing as, although my belief was that this was important, it was reinforced by the participants.

The request by the participants for a framework to be circulated for use, once complete, again reinforced the need for evaluation of improvement and highlighted that, at present, there was nothing available to them, at this point, which would allow them to assess the impact of their improvement efforts.

Participants highlighted the need for senior management to use the framework, when thinking about improvement being cascaded. It was felt that, often, improvement projects are instigated from senior management, but that they have not thought through the impact of the change or, indeed, how we evaluate this change, which often leads to the project not being completed. To aid with ensuring the feasibility and sustainability of change all levels of staff should be encouraged to apply the model before embarking on a change initiative. The project has demonstrated the importance of evaluation of improvement, from inception to completion. In turn, this has led to the development of a framework that can be used by my organisation, other NHS organisations and, potentially, any business wanting to implement change successfully.

I had not anticipated that this work could be written up for publication. It was my mentor who suggested that I submit it to the *Journal for Organisational Change Management*. My contribution, in this field, has been recognised by the acceptance of the article that I submitted, which has delighted me. I have agreed with the journal editor to submit it on completion of my doctoral programme.

5.8.2 Unintended Negative Consequences

Due to work pressure, time was a limiting factor. It would have been useful to run focus groups for longer periods of time and, possibly, one more focus group, to reaffirm thoughts. The discussions were very lively and challenging, with good interaction among all participants (appendix 8). The sessions could have run longer, as there appeared to be a lot to discuss but, due to pressure of time, the session only ran for just over an hour and a half. I spent significant time reflecting on this and recognised that I had not anticipated that this topic would create such enthusiasm. This left me wondering if enough time had been given to ensure saturation of the themes (Glass and Strauss, 1967). Had time allowed, it would also have been a valuable exercise to feed back the data for validation (Eisenhardt, 1989). This is something that I will build into future projects, as I feel that it adds rigour to the findings and provides an additional level of validity, by reducing subjectivity to the overall results.

There was a lack of equipment available for focus-group recording, as audio equipment was not available, which would have been the ideal choice and the literature suggests it to be the preferred option (Robson, 2003). Flip charts were used to make notes of ideas and all participants were asked to play a part in documenting the issues discussed. This enabled me to guide the discussions and probe at appropriate times (see section 3.4), however, it also slowed discussions and, in some cases, prohibited the detail of discussions from being documented. It was often difficult to facilitate conversations and ensure key points were documented, as I relied on participants being able to identify what areas were relevant. However, it was also recognised that the use of an audio tape if it had been available would have also presented its own problems such as not knowing who in the group was making the statements. Tape recorders do not record the non verbal communication in the group that's s important for knowing group consensus/disagreement on a particular point. Having a separate note taker was important, as it allowed them to record important information by taking careful notes, of what the tape recorder would not pick up.

There is a clear statement that service improvement forms part of a contract, from the employees' perspective, through the knowledge and skills framework (KSF) (DH, 2004). What is not stated is how the employees' agreement to that part of the contract is actually negotiated; with whom it is negotiated, how it is measured,

or the consequences of a breach. How it is enacted, therefore, remains in the psychological realm, that is, open to interpretation, until it is stated. Only then will it move to a psychological contract (Argryis and Schon, 1960). To ensure that the evaluation framework is embedded in the organisation, this needs further addressing.

Chapter 6

Conclusions and Recommendations

6.1   Terms of Reference

The report has addressed the objectives set out in chapter 2 of the research report. I have reviewed and critically appraised the literature, in relation to previous frameworks developed, to evaluate service improvement, gained an understanding of what is understood by evaluation and measurement in relation to service improvement, developed a 'BEF' and guidance pack to support the framework.

This project has focused on a gap in service improvement, that of evaluation. The identified gap has been an important one to me, as it represents a void that exists in the field of service improvement, as practitioners and teams try to initiate improvement and want to experience sustainable improvement, for their own satisfaction, the good of patients and organisational performance, as a whole. The overall aim of this work-based project was the development of a balanced evaluation, to demonstrate the effectiveness of service improvement initiatives. In delivering this aim, I have engaged with key people from across the NHS, to facilitate discussion and debate. In the discussion sections, I have identified key factors required for the framework. I have also critically reflected on the development of the framework and chronicled a stimulating, yet challenging journey.

6.2 Overview of Significant Findings

The literature review highlighted the need for a comprehensive evaluation framework for service improvement initiatives. The most significant points that came out of the review were:

  o That the review yielded few resources, most of which were dates and concentrated on specific areas, such as public participation, rather than the whole systems process of implementation of an initiative.

  o The implication that evaluation and measurement of service improvement initiatives are not yet present and mainstreamed.

  o That some effort was being put into performance measurement, but was incomplete.

- That the literature recognises the difficulty and complexities of evaluation measurement in healthcare.

- That, inevitably, measurement of performance improvement, or service improvement, leads to quality healthcare, therefore, a need to evaluate effectively.

From the literature review and the collection of primary data, the following topics were investigated:

To Understand what we Mean by Evaluation and Measurement

The literature did not discuss evaluation and measurement, in relation to its link with evaluation frameworks. Indeed, this aspect was implicit, rather than explicit. Inglis and Matykiewicz (2005) describe evaluation as:

> *Process orientated, occurring before and during programme implementation. It focuses on understanding and learning form the processes to make sense of outcomes.*

With measurement described as:

> *A few specific measures, linked to the programme objectives and aims, demonstrate whether the changes are making improvements (Modernisation Agency, 2005).*

The results of the focus groups further supported this as they viewed evaluation as:

- Assessment
- Qualitative
- Subjective
- Summary

Moreover, measurement is viewed as:

- Quantitative

This highlighted the need to ensure that both evaluation and measurement were incorporated into the evaluation framework, to capture both outcomes and outputs in relation to service improvement.

Investigate Whether Measurement and Evaluation are Interdependent or Exclusive

The results clearly highlighted that measurement and evaluation were seen as both interdependent and exclusive, therefore, in order to get a complete picture of

the impact of an improvement initiative, both 'hard' measures and 'softer' measures need to be considered.

Determine What Elements are Missing from the Framework and if it could be used in practice

The focus group feedback demonstrated that the framework could be used in practice. It was felt, however, that a feedback mechanism should be developed for the framework to ensure sustainability. A user-friendly guidance pack should also be developed, to support the framework and its implementation.

Based on the feedback from the groups the framework was refined to reflect discussions.

The project has led to the production of a **'BEF' for practitioners homogenised to the NHS environment to aid accurate demonstration of service improvement initiatives at intra-organisational level (Fig 4.7)** (figure 4.7) that can be used by practitioners and teams, when implementing a change initiative. A guidance document has also been produced, to support the framework.

6.3   Conclusions and Recommendations

This piece of research has identified a gap in the body of knowledge, this being the evaluation of service improvement initiatives, which led to the development of a 'BEF'. The action research approach has been an effective method, as it has allowed for reflection and learning to take place and, in turn, aided the development of the framework, through iterative cycles.

The research highlighted that measurement and evaluation are often not considered, in detail, when embarking upon change, but they are both important to understand the impact of a change initiative. It also highlighted that the framework needed to be user-friendly, be replicable, involve users and carers and that it needs to be embedded, top-down, in the organisation. It is anticipated that the resultant framework will affect health policy, by first, raising the profile within the organisation so that people become aware of the need to evaluate change initiatives. Secondly, the use of the framework will build capability within those leading improvements as they consider the implications generated by the application of the framework in practice.

The recommendations from the research are as follows:

- o There is a need to embark on additional longitudinal research, to test the effectiveness of the framework on service improvement initiatives being instigated for sustainability
- o To further develop the tools and techniques website for service improvement for the organisation, incorporating the model into the site
- o To spread and evaluate the impact of the framework within the organisation
- o To build the framework into the Service Improvement Master Classes for the organisation

6.4   How Does this Research Inform the Future?

Healthcare operates in a challenging environment, where practitioners need to continually drive the improvement agenda forward, hold the gains from success and ensure that improving practice becomes the norm.   Users have come to expect a service that is responsive to new knowledge and that can respond, timely, to innovations across healthcare, putting an end to unnecessary variation. The most valuable asset that healthcare has, is the knowledge of those involved in developing and delivering the services; that is what needs to be nurtured for future success.

In this project, I have demonstrated the importance of evaluating service improvement initiatives, understanding what the terms evaluation and measurement mean to those working in or using the service and in doing so have developed a 'BEF' with a guidance pack to aid its use.

My contributions in this field have been recognised, by being asked to write three chapters for a book contract (Cook 2005), in relation to tools and techniques for service improvement, which was launched May 2005.   I have also had an agreement to submit an article on the evaluation framework, to the *Journal for Organisational Development*.

This project has enabled me to focus on the work I want to build upon, throughout my career, which is to build capacity and capability for the implementation and evaluation of service improvement initiatives. The project has given me great satisfaction and has enabled me to develop my knowledge and understanding of research and its application, within South Tees Hospitals and within the broader remit of the National Health Service.

Chapter 7

Critical Reflections

This project has been exciting, demanding, difficult and rewarding. It represents a huge personal success, as I have developed a unique framework for the evaluation of service improvement initiatives, within organisations. This work is important, at an individual level, to participants, but also as part of the national and local development, to demonstrate effective service improvement within the National Health Service (NHS). I have been with the project from inception to completion, in my role as a leader and can categorise my critical learning from this project into a number of areas:

- o A personal critique of the work
- o My role as worker researcher
- o My own learning through the project
- o Contribution as a leader
- o Spread of the framework
- o Ending the doctoral programme

7.1   A Personal Critique of the Work

The participants in the project have made an important contribution to the development of the evaluation framework. I am indebted to them for their open and honest contribution. All the participants engaged in discussions and were happy to discuss and debate the initial drafts of the framework, with very little, if any, previous knowledge of what I was trying to do. What stood out, for me, was the fact that all the participants were happy to be involved with the design of the framework and adopted the framework positively. All expressed enthusiasm, personal learning and the feeling of adding value to service improvement. I will always be thankful for their faith and belief in me.

7.2 My Role as the Worker Researcher

The delivery of this project has provided me with a new and rich learning experience, which, in turn, has developed my confidence and knowledge as an insider-researcher. An insider-researcher has different dynamics to the external action researcher, because the researcher has intimate knowledge of the process under study and wishes to maintain a relationship with the organisation, as an employee, when the research is complete (Coghlan, 2001). I have considered this throughout the project and it has proved to have its advantages and disadvantages. The advantage is, that previous knowledge of the organisation and access to staff in the organisation has helped with the progression of the project and being able to run the action cycles. The disadvantages of this, however, are that having previous knowledge can often lead to pre-conceived ideas, leading to making assumptions, rather than questioning further. Having considered the role of the action researcher from the outset of the programme-planning of the project, the use of external experts has helped to reduce some pre conceived ideas and led to more in-depth discussions, which has aided the refinement of the model. This is a process that I will endeavour to apply in future work, to ensure that bias is reduced when being an insider researcher. This work has also highlighted the necessity to consider the role of the researcher, whether it is insider or external, when working on such projects, as it can be fundamental to success. A final observation of the worker researcher is that, as a work based researcher, I never felt 'off-duty'. I have learnt that this role can be very effective, but quite exhausting; it is not easy to feel that you are constantly questioning, listening and observing. My learning from this is that I need to try to build-in mechanisms to maintain my energy levels when in this role and this is an area I will continue to explore.

7.3 My Own Learning During the Project

This project, more than any other that I have undertaken in my career, to date, has made me stop and consider the duality of action and research. I have learnt a lot about my own presence in a project, as a leader and person with credibility and passion. I am aware that the initial workings of the framework, which was shared with the focus groups, came about because of my own drive and my enthusiasm for evaluation of improvement. This is, undoubtedly, a strength that I possess,

however, I recognise that it is also a limitation, if the bias that I create is not well managed. I feel that I managed this well, by ensuring that all views were captured in the focus groups and that an independent scribe attended the meetings to limit my influence.

When reflecting, I am also astounded to realise how patient I have become. My interest in this work commenced a number of years ago, with ideas being shaped in 2003, with completion four years later. This is a significant achievement as, although I am a natural completer/finisher, I have the tendency to rush for completion (Belbin, 1993) and miss vital steps. This project, coupled with the whole doctoral programme, has taught me that sometimes time is required to ensure success. Both friends and colleagues have supported me on this and helped me to step back, to allow me time to think and the project to evolve. I now know that I can take on longitudinal work projects and complete them, without great frustration and stress, which is helping me to look at both my career and life, in general, as I strive to allow more time for reflection and move away from the urgency to get things finished.

7.4   Contribution as a Leader

My leadership skills have developed, significantly, since taking up Service Improvement Lead Role, combined with embarking on the doctoral programme. The importance of strong leadership was very apparent from this work. I had observed many teams undertaking improvement initiatives, but struggling to demonstrate the value of them, highlighting to me the need for a good leader, to reinforce the need for this and aid followers to lead, on evaluation of improvement in their areas. It has led me to reflect on what behaviours are required to be an effective leader, at this level in an organisation. Good leaders can be described as people who know themselves, are willing to commit, are committed, know that they do not need to know everything, are open to change and go the extra mile (Dewey, 2004). I will go on to take each of these qualities and explain the resonance it has with my learning, throughout the doctoral project.

On reflection, when I embarked on the doctoral programme, I was on a steep learning curve, in terms of moving from a manager to a leader. My learning through Leadership Effectiveness Analysis (LEA) highlighted key areas that I needed to work on, to be an effective leader, one being empathy, an area that I

had struggled with in the past but have now put markers in place, such as asking for regular feedback from colleagues, to determine if my empathy has become visible. The feedback has been very positive and indicates that I am progressing towards being more empathetic in my daily work. I have achieved this by ensuring that I listen to others' points of view, even if they are not my own view. This has been crucial to the delivery of the project, in terms of working with patients and groups of staff, when discussing the framework, as it has allowed me to listen to some of their issues about service failures and react in an empathetic way, which assisted the discussion of the framework.

Knowing oneself is necessary, when faced with day-to-day leadership challenges, communicating with others who have different ideas, making decisions and identifying sources of satisfaction (Dewey, 2004). I have spent significant time learning about myself from others and from participating in feedback, using leadership tools, such as Myers Briggs Type Indicator (MBTI) (Briggs Myers and Myers,1995) and LEA (Honey and Mumford, 1982). This has highlighted my areas of weakness and I continue to work on them to ensure that I remain self-aware. This has a significant impact on my thinking, in terms of leading people and has assisted in the delivery of a unique framework for evaluation of improvement. Without this awareness, I would have struggled to communicate effectively, when leading and implementing the framework.

Commitment is an area I have always managed well and this has been reflected in my commitment to the completion of this project. This could be linked with my personal style being a completer-finisher, therefore, keen to commit to completing tasks. This is an area that I am able to maintain with relative ease, but I need to avoid becoming too controlling, in a quest for completion.

This is a notion that I have often struggled with, as in the past, not knowing has often felt like failure. Through my learning, I have now recognised that not knowing is acceptable; it's being honest about not knowing that counts and maintains credibility. Good leaders create the foundation of trust that is essential to cooperation and long-term personal and interpersonal growth (Covey, 2004). This has been invaluable learning for me and, in turn, has contributed to my ability to develop the evaluation framework. The very nature of this project lies in its 'uniqueness', therefore, had many unknown factors. Understanding that leaders do not know everything, helped me throughout the discussion and action cycles,

as it allowed me to be open to other thoughts, essential to the development of the project. By allowing myself to admit to not knowing all the answers put people at ease and they become more responsive in discussions. Having reflected on my career, I recognise that, in the past, I have often tried to look for the answers, to ensure that I had them when others asked. This could, actually, have stifled people sharing thoughts, leading to the wrong answers, which in turn, could have left others disenchanted. An example of this was my early days as organisational development adviser, when most of the work was process redesign; I had little knowledge of this methodology and found myself using redesign, which, in hindsight, was not the correct intervention. A classic example of this was a redesign that I was involved in for Chemotherapy Services; the tools were questioned, but I defended their use. The project was never implemented and, on reflection, it would have been more beneficial to explore people's doubts about the tool, agree that it may not work, but agree to look at other tools that may have been more appropriate. My learning from this was applied from the inception of the project and I was cautious, throughout, to listen to others and admit to not having all the answers.

Change is one of life's most obvious factors, yet remains one of the most strongly resisted.   As Senge (1990), an expert on managing organizations, says, '*everything is in motion, continually changing, forever adapting*'. Senge's 'Fifth Discipline' details his model of a learning organisation, which he defines as '*an organization that is continually expanding its capacity to create its future*'. His Fifth-discipline of systems thinking supports the rationale for the development of an evaluation framework. Effective leaders recognize the value of change. As a change leader, this is a concept that I continually reflect upon. I would say that I am able to embrace change and recognise that I have developed the ability to implement and support others through change, however, this is not without exception. The past three years of my career have involved significant change within the team, due to reduction of staffing. I recognise my development, in terms of change, from this process. Although I have been through the 'confusion', 'integration' and 'acceptance' stages of personal change, I have not been through the resistance cycle. This recognition has highlighted that I need to be mindful of the stages of change in future work, as I believe that, if the human dimensions of change are neglected, it will hinder the roll-out of the evaluation framework.

Some leaders have a lifetime of small acts of leadership as extraordinary encouragers, strong organizers, good persuaders, or charismatic speakers. When it comes down to it, *how* we lead is a reflection of the characteristics and values that define *who* we are. As Juliette Low's brother, G. Arthur Gordon, told his audience, at the 21st annual Girl Scout Convention, in 1935, "*Life revolves itself principally into what we do and what we are, the former largely controlled by the latter'*. I have continued to use my skills in being organised, conscientious and honest in my role as a leader. I believe that, due to these characteristics, people have followed me. one of my strongest skills, however, is my willingness to put that extra effort into supporting and helping the people I lead. In doing this, I hope that the framework will be widely accepted and implemented.

7.5   Communication and Spread of the Framework

I have spent a significant amount of time reflecting on my ability to communicate in various forms and demonstrate how I have developed skills and expertise in this area. Communication is an area where I have experienced difficulties, as identified previously. Although it continues to stretch me and requires a great deal of energy to appear confident and engaging, due to my introvert personality style, I do see that I have made significant progress and will continue to do so.

On reflection, I can follow my progression in the context of communication, as running parallel to my career. In early roles, my communication skills were adequate for one-to-one and small-group contact, as required when dealing with individual staff and small-group contact with project boards. It was not until I was thrust into a very different arena, as project Manager for the Cancer Services Collaborative that I began to struggle. I was working at national level and presenting to large groups, when I felt that my skills were inadequate. My response to this was to make sure that I put myself in my discomfort zone and presented as much as the opportunity arose.

From there, my learning became a more observational approach. I attended many national and organisational meetings and presentations. I remember thinking how the speaker captured me. This was due to the depth of knowledge held by the speaker, which fitted with my own style of needing depth to be credible.

My recent work, including this research project, has forced me into the spotlight and I have had to communicate, effectively, with people often senior to myself. Although this has felt uncomfortable at times, I have used my learning, in relation to needing depth of knowledge and having meaningful discussions, to help me cope with these situations. This learning has helped the success of my final project, as it has allowed me to communicate the project, effectively, at all levels, which has assisted implementation.

I aim to expand on three areas of learning, to demonstrate my progression of personal learning, in the skill of communication:

The doctoral programme and, more specifically, this final project, have made me critically evaluate my approach to presenting. I ensured that the information and my presentation style would appeal to the target audience, by being clear, concise and persuasive. I incorporated changes in tempo, altered the body language, appropriately, as I had to present to senior and junior members of the organisation and to a different organisation. Presenting this work started in the early stages of the project, when gaining agreement from the chief executive of the organisation. It continued throughout the project, when working with staff and patients and, at implementation when sharing with the university and feeding back to the organisation. Due to the work being presented to different groups at different stages of development, I learnt that formal presentation is not always required. In the early stages, with the chief executive, I had prepared a detailed presentation but, actually, what came from the meeting was an informal, but excessively valuable conversation, about where this work fitted within the organisation. I need to consider that presentations do not always require formal 'PowerPoint' presentations and that the information shared can sometimes be more valuable when a table discussion takes place; it is about the information being clear and concise. This learning prepared me for the rest of the project, as many of the sessions were informal discussions and, on reflection, this led to more fruitful discussion than formal presentations would have led to.

I now recognise how powerful effective communication skills can be, when attempting to influence people and the need to consider this in future work.

Throughout my career, I have been required to write various reports and articles, most of which have required me to translate complex information into a simple, easy to understand format. On reflection, throughout this project, I began to

question the effectiveness of this means of communication, in improving services. I can now relate this to the knowledge I have gained, in share and spread of effective practice and the difference they have on changing behaviours. Fraser (2002) states that it is a two-way nature of communication that shapes behaviour. In the past, I have sent information but not engaged in the receiving and implementing the aspects of communication. I recognised the need to ensure effective, two-way communication to ensure the success of this project. My preferred style would be to lead the project and circulate reports, just for information, but recognised that the success in the development and sustainability of this framework would be in effective communication. I achieved this by varying my methods of communication to be appropriate to the forum, such as one-to-one meetings, team meetings and project reports. I now see that this was effective in the successful implementation of the project and a much more proactive and engaging means of communication, as opposed to sending information and expecting people to comment and be engaged.

7.6   Ending the Doctoral Programme

The final point in my reflections on the impact of this final project, is a theme of ending the programme and moving on. I have undertaken a number of academic programmes and have found this one most difficult, but most rewarding and want to reflect on what I take with me from this and move on.

I have always embarked on programmes, wanted it to be finished, then vowed that I would never start anything else. This project and, indeed, the programme, have been very different. As this project reaches a close, I recognise that there is still more that can and needs to be done, to allow the framework to succeed. I feel frustrated to be writing a conclusion, when it feels incomplete, as there are things I need to understand and do, to ensure sustainability. I recognise my completer/finisher (Belbin, 1993) and theorist tendencies (Honey and Mumford, 1982) in the behaviours displayed. On occasion, things cannot be wrapped up neatly and I have had to watch for this tendency, in phase 2 of this work, which has been hard for me.

I have recently been given the opportunity to lecture at the University of Teesside, as an honorary lecturer in Service Improvement for the 'Leader with a Purpose Programme' and the 'Institute of Innovation Change Management Programme'. I

was very pleased about this, as I felt that it was recognition external to the NHS, who could see my contribution. I feel strongly that this is going to be important for my future career development. It has also given me the opportunity to link with academic people, who will challenge my thinking, from which I know I will grow. The programme and the learning journey it has taken me on, has left me better equipped to achieve the best from this opportunity and any others that I am fortunate enough to experience.

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Appendices

Appendix 1: Framework of Critiqued Articles

Title and Author	Frameworks discussed	Evaluation/measurement	Quantitative measures	Qualitative measures	Continual evaluation and sustainability
The NHS Performance Assessment framework. A "balanced scorecard" approach. Chang, Lin and Norcott (2002).	Balanced Score Card Performance Assessment Framework Compares BSC with PAF. BSC being broad performance measurement system, PAF being more refined version of BSC. Thought that BSC is timely and costly and complicated, where as PAF concern concept may not be understood. Still lack of empirical evidence to explore usefulness of the frameworks	PAF-outcomes and process measures assumed to exist-Health Service Deliver (Process measures) Health Improvement indicators(Outcome measures) BSC –Process and outcome measures made clear they are necessary Both strategic management tools, BSC classed as a strategic management tool. Evaluation terminology used for the overall frameworks , measurement for its implementation	Quantitative measurement appears in both frameworks and seen as important , no detail on how and which tools to use	Clearly states PAF not just about reducing death rates but also emotional and spiritual health these sorts of activities not captured in PAF	Still lack of empirical evidence to explore usefulness of the frameworks

Framework for evaluating		States that performance management and measurement are critical. Aid better performance evaluation	Framework to assess quantity no detail on how and which tools to use	Framework to assess quality no detail on how and which tools to use	NO mention sustainability and continual evaluation
performance and quality improvement in hospitals. Chow-Chua and Goh (2002)					
	Balanced Score Card (BSC) and Singapore				

	Quality Award (SQA)-looks at combining the two in an attempt to aid organisations to monitor their quality progress and measure performance. Limitations over time taken to implement.				
Trust relations in healthcare: developing a theoretical framework for the "new" NHS. Rowe and Calnan (2006)	Framework developed to understand trust and its importance in terms of clinical outcomes	Performance measurement discussed and how can be made credible-what indicators could be used to recognise trust in health care organisations		Clearly discusses a softer element – qualitative concept of Trust, need for qualitative measures to evaluate trust	
A framework for the selection of best practices. Davies and Kochar (2000)	Describes the development of a conceptual framework for selecting best practices which will improve operational performance in manufacturing planning and control				

Conceptual frameworks for health systems performance: a quest for effectiveness, quality and improvement. Arah, Klazinga, Delnoij, Ten Ashbroek, Custers (2003)	Looks at the conceptual bases, effectiveness, effectiveness and its indicators as well as quality improvement dynamics of performance frameworks of the UK, Canada, Australia, US, World Health Organisations and organisation for Economic Co-operation and Development. UK-Balanced Score cared and PAF	Talks about importance of measuring, monitoring and monitoring performance through management through conceptual frameworks to ensure effectiveness, equity, efficiency and quality. All frameworks talk about performance indicators. Clear table to indicate which Country/ Organisation against type of measure mix of process and outcome measures	Benchmarking used in Frameworks Canada and Austrailia No details on other tools used for measurement	All frameworks mention quality, Indicators of effectiveness in these frameworks appear to be more outcome than process measures, this is discussed in the discussion section of the paper	Continuous improvement is mentioned but no detailed discussion about continual evaluation and sustainability
Towards a framework for health	Introduction of a new framework for evaluation of Health	Evaluation being discussed as valuable and serving a number of purposes-as a potential to	Output measures developed into the evaluation framework.	Rather than qualitative talks about evaluation of human	No mention of continual evaluation or

information systems evaluation. Mohd, Yusof, Ray and Lampros (2006)	Information Systems (HIS) having critically appraised the existing finding on HIS and IS evaluation studies. Highlights the weaknesses in other evaluation frameworks in attempt to develop a new robust framework.	improve NHS by using past experience to identify more effective techniques or methods , investigate failure and learn from previous mistakes, in health informatics has been used has potential to improve the quality of care and its costs and to determine safety and effectiveness of HIS. State evaluation still has barriers in HIS as evaluation still in its infancy and unclear as to what constitutes good His is unclear, but that this can be overcome by new methods and extensions. Raises the question of human and organisation being able to fir	Using clinical outcomes such as a measure such as morbidity and mortality	factors such as training, personnel, personal attitudes, ergonomics and regulations affecting employment. Quality measures such as user satisfaction as a system to measure system success. Discusses fact that Human "softer" elements and organisational and technical elements all important to ensure effectiveness.	sustainability
A framework to implement strategies in organisations. Okumus (2003)	Aims to identify the factors which play a significant role in implementing strategies and to propose a framework a framework for strategy implementation	Author highlights fact that in the frameworks critiqued that implementation is mentioned but evaluation of implementation factors and the impact is lacking and has been considered in the development of the framework in this article	No detailed debate on quantitative measures or tools that could be used to measure improvement	No details of qualitative tools mentioned although softer elements of evaluation mentioned covertly in describing the framework and link to culture , people and communication no detail how to	Monitoring before and after the implementation mentioned in the control and feedback of the framework no detail of how

				evaluate this qualitative information	
Quality Improvement in health care: A framework for price and output measurement. Shapiro, Shapiro and Wilcox (1999)	This paper presents a framework for studying how the demand for durable medical treatments is affected by changes in the technology of treatment. It then suggests how this framework can guide construction of prices indexes for healthcare that take into account changes in quality treatment.	Discusses how health care interventions might be measured in order to make adjustment for quality. Looks at development of a framework for measurement. Considers several methods for evaluating net benefits: Willingness to pay, Survey evidence from patients, Expert knowledge, Uncertainty and Heterogeneity	Discusses measurement in terms of pricing and the fact that statistics are collected in the bureau of labour statistics for pricing . Recommends the need to develop standard metrics for for adjusting the prices of treatment for the changes in quality. The need to link statistics with clinical assessment of how new treatments affect outcomes. These assessments not being simply expressed as a set of possibilities with probabilities assigned to different paths of outcomes.	Discusses survey evidence from patients to value outcomes (See quantitative as this article does consider qualitative and quantitative information)	No detail of continual evaluation and sustainability and change is implied statistics are continually collected but not specifically detailed.

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DISCUSSION PAPER ON INTEGRATING THE TEN HIGH IMPACT CHANGES INTO AN IMPROVEMENT STRATEGY FOR SOUTH TEES TRUST

SECTION 1: EXECUTIVE SUMMARY

This paper is presented to the Board for discussion as a first stage in developing an improvement strategy for the Trust in 2005/06. One of the major influences on improvement priorities is the publication of the Modernisation Agency's '10 High Impact Changes' report. This document represents a summation of the high impact changes that organisations in health and social care can adopt to make significant, measurable improvements in the way they deliver care. The work resulted from the consistent conclusions of the MA's work with thousands of NHS clinical teams and was published in mid September 2004.

The Trust already had in place a comprehensive improvement strategy for 2004/05 supported by the 'Improvement Alliance' team within the Directorate of Operational Services. However, at the end of the financial year it is important to re-evaluate this strategy and incorporate the recommended changes from the '10 High Impact Changes' report.

An initial gap analysis has been conducted to map the Trust's position in respect of the recommended best practice set out in the '10 High Impact Changes' report. This gap analysis has been used to identify the areas for improvement that should form the priority programme during 2005/06.

It is important that, during a phase in the Trust's history when financial turnaround is a key focus, management time spent on reform and improvement activity is prioritised and focused. This paper attempts to set out the priority areas and, therefore, by implication to suggest that we do not get involved in other improvement initiatives, pilots or other reform programmes outside of this prioritised programme.

The scope of the improvement agenda set out in this paper is predominantly cross-Divisional and cross-Directorate in nature. Each Division or Corporate Directorate will have its own change programme that may be necessary to help achieve its local objectives. But the programme proposed by this paper should be

seen as essentially the corporate cross-Trust work that should be delivered in 2005/06

The intention is that Management Group and Trust Board should debate this paper and either agree to the proposals or suggest amendments, so that the whole Trust commits to working to the same improvement agenda.

Having agreed the priority issues the Directorate of Operational Services will work with operational managers and clinical leaders to agree the management arrangements to deliver this reform and improvement programme. These management arrangements will need to combine the efforts of Divisions and Corporate Departments with improvement resources available in the Trust, within the SHA patch and nationally.

SECTION 2: WHAT WE MEAN BY SERVICE IMPROVEMENT

Improvement science may be defined as activity which:

- Encourages flexible, innovative re-thinking of processes and systems
- Works constructively with the human dimension of change
- Exposes processes to mapping, analysis and redesign
- Applies engineering concepts of flow, capacity, demand and waste reduction
- Sets up measurement to demonstrate impact and gain insight into variation

Improvement science is deployed in order to achieve and support successful care delivery systems, which:

- Prioritise and focus limited development resources on the key issues and leverage points in the system
- Continuously increase capacity by improving effectiveness and efficiency
- Deliver evidence based care in a timely, effective and caring manner
- Create seamless working across all types of boundaries for the benefit of staff and patients

Service improvement is effective when we see whole systems, and study the variation in systems, processes and practice with the aim of designing safe, standard, patient-focused pathways of care.

Our strategy for service improvement should, therefore, be a set of priorities for change that will need these approaches in order to be successful. Where perhaps usual general management efforts and organisational systems will not be

effective, but where specific, coordinated and focused service improvement effort is required.

SECTION 3: THE 10 HIGH IMPACT CHANGES FOR SERVICE IMPROVEMENT AND DELIVERY

4.3.1. The National Report

The document '10 High Impact Changes for Service Improvement and Delivery' was issued by the Modernisation Agency (MA) in mid September 2004. This document represents a summation of the high impact changes that organisations in health and social care can adopt to make significant, measurable improvements in the way they deliver care. The work resulted from the consistent conclusions of the MA's work with thousands of NHS clinical teams.

They claim that the learning is rooted in the day-to-day experience and achievements of thousands of frontline clinical teams across the NHS and are evidence based.

The main benefits of adopting the principles across the NHS are described as:

- Improved patient experience due to more appropriate and timely care
- Hundreds of thousands of clinician hours, hospital bed days and outpatient appointments saved
- Clinical quality and outcomes tangibly improved
- Easier to attract and retain staff due to more enjoyment and pride at work

5.3.2. Context for Trust Boards

The guide is aimed at NHS Boards, Chief Executives, Executive Teams, clinical leaders and directors. The changes are intended to support the aims set out in The NHS Improvement Plan and the Health and Social Care Standards and Planning Framework 2005/06-2007/08.

Yet there is no definitive statement of expectation regarding whether Trusts will be <u>expected</u> to implement these changes, no recommended timetable and no indication that they will be assessed as part of any performance management framework.

The introduction to the report states that:

> *"Local communities, NHS Boards and PEC's may consider incorporating the High Impact Changes into their local improvement and delivery strategies. They may wish to set up their own 'Board level improvement project' with clear strategic aims for improvement, a delivery plan and a set of system-level indicators that measure progress across the whole organisation or community"*

A clear steer perhaps, but not a statement of requirement.

The likely route for external leverage is the role of PCT's in setting expectations about the delivery of these changes. The report states that "Commissioners could build the 10 High Impact Changes into their service agreements" and a specific PCT guide exists to help them apply the changes. The Trust has already been asked to provide information on progress against the recommendations as part of the current LDP negotiations. Information gathered and reported on in this board paper will also form the basis of the response to PCT's.

A clear expectation arising from the recent final feedback session from Sir Ian Carruthers is that there will be a major focus on the 10 High Impact Changes, since perceptions formed during the review were that the Trust needed to reform and become more efficient along these lines.

There is, of course, a compelling case for the Trust to pursue these changes regardless of whether we are required to by PCT's or the SHA. If they offer the potential benefits claimed then they represent an opportunity to find efficiency in our operation that could help deliver improved care and financial sustainability.

6.3.3. Summary of the 10 High Impact Changes

The ten recommended changes are as follows:

1. Treat day surgery (rather than inpatient surgery) as the norm for elective surgery
2. Improve patient flow across the whole NHS system by improving access to key diagnostic tests
3. Manage variation in patient discharge thereby reducing length of stay
4. Manage variation in the patient admission process
5. Avoid unnecessary follow-ups for patients and provide follow-ups in the right care setting
6. Increase the reliability of performing therapeutic interventions through a Care Bundle approach

7. Apply a systematic approach to care for people with long-term conditions
8. Improve patient access by reducing the number of queues
9. Optimise patient flow through service bottlenecks using process templates
10. Redesign and extend roles in line with efficient patient pathways and retain an effective workforce

10 High impact changes for service improvement delivery: a guide to NHS leaders (2004) describes the 10 changes in more detail, by summarising the content of the national report (Modernisation Agency, 2004).

SECTION 4: INTEGRATING PRIORITIES INTO AN IMPROVEMENT STRATEGY FOR THE TRUST

The need for managed improvement of management or clinical processes can be identified from a number of different perspectives. This section identifies which areas for improvement action are required from the perspectives of:

- Trust level priorities
- Gaps in delivery of the 10 High Impact Changes
- Other national and SHA priorities

By combining all perspectives, a fully integrated set of priorities has been developed. This integrated programme is set out in full in section 6.

7.4.1. Trust level priorities based on current challenges and priorities
Meeting key targets and challenges

- Delivering changes in service delivery and capacity that achieve significant progress towards 18 week total waits
- Achieving cancer 31 day and 62 day targets
- Delivery of service reform following conclusions of the Cancer peer review
- Re-orientation of delivery of children's services to achieve NSF milestones
- Organisational reform to achieve consistent delivery of 98% A+E 4 hour waits (including 'Making Best Use of Beds', 'Checklist for wait for a bed' 'Checklist for wait for a specialist')
- Meeting MRSA targets

Improving efficiency and effectiveness of existing processes

- Improvement in theatre utilisation to Audit Commission benchmark standard
- Review of bed management policy and improved organisation of bed management
- Review of waiting list management policy and reform of waiting list management processes to achieve more effective delivery of elective workload

- Increased day case management to best in class levels
- Reform of outpatient clinic booking and cancellation to maximise utilisation of OPD clinic space and maximise patient throughput.
- Service changes arising from benchmarking work as part of the recovery programme
- Improvement in coding performance

Supporting nationally driven change programmes

- National Orthopaedic Project implementation and delivery of 6 month waiting time target
- Move to new booking processes in line with the Choose and Book agenda
- Business Process change associated with new information systems delivered as part of NPfIT

8.4.2. Gaps in matching expectations of the 10 High Impact Change

A comprehensive gap analysis of the Trust performance against these recommended changes was carried out (available on request). This is based on assessments by the clinical divisions and the Improvement Alliance team.

Contributions identifying good practice and suggesting areas for further work were received from the Improvement Alliance team and from the Divisions of Surgery, Anaesthetics and Theatres, Clinical Support, Radiology, Neurosciences and Cardiothoracics.

This analysis allows us to map where we have already implemented some of the recommended changes but also where we have more to do. Having conducted this gap analysis we can determine where the Trust now needs to focus it's efforts to bring more ways of working in line with this best practice.

A common theme is that there are often several examples of good practice consistent with the recommendations within the 10 HIC's. These have often been driven within clnical Divisions. In addition the Trust has actively participated in implementing good practice guidance such as via the Improvement Partnership for Hospitals (IPH), the 'Making Best Use of Beds' guidance, Action On programmes and STEPS guidance.

However, there are also some significant gaps where action needs to be taken on a Trust wide basis rather than leaving delivery up to individual clinical Divisions.

The proposed Trust improvement programme set out in section 6.

9.4.3. Other national Modernisation Agency continued schemes and SHA priorities

The national Modernisation Agency will be wound down on 31 March 2005. The majority of resources are being devolved to SHA health communities. A range of national programmes that are ongoing will be hosted by a variety of SHA's and national organisations.

In County Durham and Tees Valley SHA a Service Improvement Team of improvement specialists is being created to work across the patch. Initially these people (some posts are not yet filled) will be hosted by Hartlepool PCT but will be an SHA-wide resource.

The SIT will be directed by an Executive Steering Group, made up of senior managers, clinicians and improvement specialists from the SHA and Trusts. The Executive Steering Group will decide priorities for improvement activity based on identified needs and not on the basis of bids.

The Executive Steering Group will be supported by a sub-committee known as the Development Advisory Group, focusing on leadership and organisational development.

Priorities for 2005/06 are yet to be set. However, at the first meeting of the Executive Steering Group in February 2005 the existing work programme was identified. Of those that have some impact on acute services we can identify the themes that need to be incorporated into our programme:

- Improvement Partnership for Hospitals (IPH) in all three acute Trusts: Work on the outcomes from this programme is South Tees will continue within work on theatre utilisation.
- Supporting the achievement and sustainability of the A+E target at CDDAH: However, the recent deterioration in South Tees' performance may be included. This is already identified within our own local priorities.
- Supporting the orthopaedics action plan following visits by the National Orthopaedics Team (including more general work on waiting list management)
- Hospital theatre utilisation within Project Plenitude: This is already an identified priority within local proposals. Follows on from IPH work.
- Support to developing the long term conditions agenda, including stock take of medicines management collaborative: An agenda being driven at SHA and PCT level and also identified within the 10 HIC gap analysis. The Trust will need to identify people to participate in this work.

- Work on the ideal cataract pathway and Eye Care Steering Group pathways: Not otherwise arising in local priorities: To be incorporated in the Division of Surgery work programme.

Overall it is clear that South Tees are already appropriately involved in the existing work programme of the Service Improvement Team in CDTV SHA. We will need to review our priorities when the Executive Steering Group determine the SHA priorities.

10.4.4. Healthcare Commission standards and Service Reviews

The Healthcare Commission have identified a number of service improvement reviews for implementation in 2005/06. Although the extent of involvement of each individual Trust is not clear at this stage we should anticipate the need to devote resources to improvement work in these areas during the coming year. The reviews listed, and affecting acute services, are:

- Heart Failure/implementation of NICE guidance
- Children's hospital services (including Ofsted-ledJoint Area Reviews)
- Older People's services (with CSCI and Audit Commission)
- Admissions to Hospitals (Acute Hospital Portfolio from Audit Commission)
- Diagnostic Services (Acute Hospital Portfolio from Audit Commission)
- Medicines Management (Acute Hospital Portfolio from Audit Commission)

Whilst much of the good practice within the Audit Commission AHP work will be covered by local priority work identified, we should still expect that these reviews would be additional pieces of work driven by the Healthcare Commission.

Reviews of Medicines Management from the AHP and Older Peoples services would suggest specific additional areas for improvement work locally within our programme.

Over the next 5 months a comprehensive gap analysis will be undertaken within the Trust against the core standards in preparation of public declaration of compliance in September 2005. During this work, and particularly following the declaration, areas where fundamental improvement is required may be identified. It is recommended that this improvement strategy is reviewed and updated at the end of September 2005.

SECTION 5: IMPLEMENTATION AND MANAGEMENT OF IMPROVEMENT PROGRAMME

Following debate of the proposed priority programme in section 6 within the Trust, an implementation programme will need to be developed. It would be premature to do this prior to agreeing the priorities. However the key elements of this implementation plan will be:

- The number of people and management arrangements for improvement leads within the Trust
- The management arrangements for involving improvement leads from within the SHA level Service Improvement Team
- Management arrangements within the Trust for delivering and monitoring the improvement projects
- Project leads and timescales
- Measures for regular reporting that will indicate whether improvement has been effective

This implementation plan will be approved at an operational level within the Trust.

SECTION 6: PROPOSED PRIORITIES FOR SERVICE IMPROVEMENT ACTION IN SOUTH TEES HOSPITALS NHS TRUST IN 2005/06

11.Meeting key targets and challenges

- *Meeting MRSA targets.* Needs coordinated work of infection control and cleaning services. It may be possible to apply techniques from the Care Bundle approach in HIC No.6 to treatment of MRSA patients to ensure consistent application of effective interventions/patient management.
- *Delivering changes in service delivery and capacity that achieve significant progress towards 18 week total waits.* Work here on HIC No.2 on diagnostic waits will make a major contribution in this area. HIC NO.8 on reductions in multiple queues will be critical to progress and work should be a major priority in 2005/06.
- *Achieving cancer 31 day and 62 day targets.* Techniques from HIC No.2 on diagnostic waits should also be a key element in delivery of these targets.
- *Delivery of service reform following conclusions of the Cancer peer review.*
- *Re-orientation of delivery of children's services to achieve NSF milestones.* Integrate with the Healthcare Commission improvement review as necessary.
- *Organisational reform to achieve consistent delivery of 98% A+E 4 hour waits* (including 'Making Best Use of Beds', 'Checklist for wait for a bed' 'Checklist for wait for a specialist'). Work involving techniques from HIC No.2 regarding diagnostic services will make a contribution to sustaining performance in this area.

12.Improving efficiency and effectiveness of existing processes

- *Improvement in theatre utilisation to Audit Commission benchmark standard.* This work needs to incorporate results of the IPH programme and linking with the project within Project Plenitude across the SHA
- *Review of bed management policy and improved organisation of bed management.* Integration of best practice from HIC No. 4 on admission processes is important here.
- *Review of waiting list management policy and reform of waiting list management processes to achieve more effective delivery of elective workload.* Reform consistent with HIC No.4 relating to admission management is also relevant here. This work should also link closely to recommendations from HIC No.8 relating to queue reductions and pooled referrals and waiting lists.
- *Increased day case management to best in class levels.* Build on recent work in the Trust to adopt the recommendations of HIC No.1. Sub project needed related to consistent approach to pre-admission assessment and adoption of Trust wide implementation.
- *Reform of outpatient clinic booking and cancellation to maximise utilisation of OPD clinic space and maximise patient throughput.* Application of analysis and best practice from HIC No.5 relating to minimisation of routine follow-ups will play a critical part in achieving improvements here. Systematic review and reduction of queues for outpatient services as recommended in HIC No.8 will be a fundamental part of this work.

- *Service changes arising from benchmarking work as part of the recovery programme.* Should length of stay and rates of admission for some long term conditions be identified as an area for potential efficiency gain, involvement of the Trust in HIC No.7 regarding long term conditions could become a high priority for action.
- *Improvement in coding performance*

13. Supporting nationally driven change programmes

- *National Orthopaedic Project implementation and delivery of 6 month waiting time target.* Systematic review and reduction of queues for outpatient and inpatient services as recommended in HIC No.8 will be a fundamental part of this work.
- *Move to new booking processes in line with the Choose and Book agenda.* It is vital that new booking arrangements are implemented in a way that achieves the aims of HIC No.4 on admission management and does not in fact lead to less Trust control over variability in admission patterns.
- *Business Process change associated with new information systems delivered as part of NPfIT*
- *Collaborating with PCT led drives to improve the management of patients with long term conditions, incorporating recommendations of the Audit Commission AHP report on Medicines Management.* This work will be informed by the recommendations within HIC No.7.
- *Undertake a mapping exercise to gauge the extent of new role development in South Tees compared to good practice identified by the Modernisation Agency throughout the NHS as outlined in HIC No.10.* This study may identify possible solutions to capacity or efficiency issues within the Trust.
- *Provide local support to the Healthcare Commission improvement reviews in relation to:*

  - o Older People's services (with CSCI and Audit Commission)
  - o Admissions to Hospitals (Acute Hospital Portfolio from Audit Commission)
  - o Diagnostic Services (Acute Hospital Portfolio from Audit Commission)
  - o Heart Failure/implementation of NICE guidance

Neil Permain

Operational Director

Appendix 3:
Ethical Approval Information (Trust Policy/COREC/Risk Assessment)

South Tees Hospitals NHS
NHS Trust

Academic Division
Directorate of Research and Development
The Academic Centre
The James Cook University Hospital
Marton Road
Middlesbrough
TS4 3BW

05 May 2005
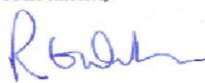
Mrs S C Cook
Service Improvement Lead
The Improvement Alliance
Academic Centre
The James Cook University Hospital

Dear Mrs Cook

ID: 2005026 - Development of an intra-organisational toolkit to demonstrate the delivery of service improvement initiatives.

The Research Approval Board met on 4th May 2005 and discussed your study as detailed above. We do not think that we need to be involved at the stage of the development of the toolkit and we have no problems with you proceeding with that. We would, however want to point out that approval would need to be sought from the Board should you wish to come back to us for consideration of the validation process that would undoubtedly be necessary before implementation of such a toolkit could be applied within the organisation.

Yours sincerely

Professor R G Wilson
**Research & Development Director/
Chairman of Research Approval Board**

SOUTH TEES LOCAL RESEARCH ETHICS COMMITTEE
1st Floor, Academic Centre
The James Cook University Hospital
Middlesbrough
TS4 3BW

Tel No: 01642 282451
Fax No: 01642 854768

JD/CC

29 April 2005

Suzy Cook
Service Improvement Lead
The Improvement Alliance

Dear Suzy

Re : Your proposed study, requesting ethical opinion

Thank you for your email dated 27 April 2005.   I have now had a chance to speak with
Dr Drury, regarding your proposed study. Your submission was considered to be audit.

All data has been gathered as part of the patient's normal NHS care. You are not required to
submit your proposal to the research ethics committee. It must comply with the data protection
legislation and confidentiality should be maintained.

Yours sincerely,

(Dictated, but not signed)

Dr J Drury – Chairman
South Tees Local Research Ethics Committee

South Tees Hospitals **NHS**
NHS Trust

- 5 MAY 2005

RESEARCH PROJECT REGISTRATION/APPROVAL FORM

R&D Registration No. 2005026 (office use only)

	Yes	No
Please indicate whether or not you would be happy for details of your research project to be shared on the R&D intranet website	yes	

SECTION 1: PROJECT INFORMATION

1.1 Project Title

Development of an intra-organisational toolkit to demonstrate the delivery of service improvement initiatives.

1.2 Area of activity (where will the research be undertaken)

Improvement Alliance South Tees NHS Trust

1.3 Project Timetable

Proposed Start Date	Proposed End Date for Recruitment	Proposed End Date for Project	Duration
May 2005	N/A	December 2006	20 months

1.4 Principal Research Question

The project will aim to critically review existing evaluation frameworks to inform the development of a balanced evaluation toolkit for service improvement. This will be a new concept for monitoring improvement initiatives at an intra organisational level

1.5 Methodology

- A critical review of literature to date to identify current evaluation tools
- Consider the political environment surrounding the evaluation of service improvement and understand what the purpose of measurement of service improvement initiatives.
- Consider social research against scientific research and the reflections on moving from a scientific to social paradigm
- Production of an evaluation tool kit for practitioners homogenised to the NHS environment to aid the measurement of service improvement initiatives at intra-organisational level using action research as method for developing the toolkit

Version 2 – October 2004

3.	Power point presentation	Power point presentation to brief Trust of the work going on in line with the Trust improvement programme	To ensure that communication of the work is maintained within the organisation	Can communicate complex or contentious information effectively to a range of audiences in academic, work and other related fields. Consult and collaborate with others appropriately in order to formulate ideas, plans and conclusions Is sensitive to the complexities of ethical issues and the influence of values, is able to work from a sound theoretical base towards practical resolution issues. Seeks out and uses appropriate professional and legal frameworks and guidelines Displays effective use of human, technical and financial resources in the selection and operation of work
4.	Toolkit	A toolkit that will evaluate/measure service Improvement initiatives at intra organisational level	To ensure transfer of new knowledge and learning to and measurement of service improvements	Can communicate complex or contentious information effectively to a range of audiences in academic, work and other related fields. Consult and collaborate with others appropriately in order to formulate ideas, plans and conclusions Demonstrates the ability to interpret existing knowledge and to create new knowledge and new applications. Such knowledge is expected to be both discipline specific and interdisciplinary in order to reflect the complex nature of professional work
5.	Case Study/Article	Peer reviewed journal	To ensure the academic transfer of new knowledge and learning	Can communicate complex or contentious information effectively to a range of audiences in academic, work and other related fields. Consult and collaborate with others appropriately in order to formulate ideas, plans and conclusions

1.9 Please describe any user involvement in the study (e.g. collaboration with users in setting the research question or study design)

N/A

1.10 Project details

Version 2 – October 2004

	Yes	No
Is this a multi centre project?		no
Name of Lead Institution		STCUH
Is this project part of a research programme?		no
If yes, give title of research programme		
Is this a collaborative project with a university		no
If yes, give name of institution		
Is this project part of a university course?		yes

If yes, Middlesex University , Doctorate in Professional Studies

a) Give name of course, institution and supervisor name and contact details. (Please ensure supervisor signature is obtained at end of form.) Please see letter attached stating no approval form University required	Doctorate in Professional Studies, health Middlesex University Tutor: Dr Fery Ghazi Principal Lecturer/Programme Leader, School of Health and Social sciences, Middlesex University, Archway and Whittington, Highgate Hill London N19 5LW United Kingdom Tel: +44(0)20 8011 6041
b) Give name and contact details of staff member who has agreed to act as a liaison between the clinical/Trust area in which the project is undertaken and the University. (Please ensure this liaison person's signature is obtained at end of form)	Dr Maxine Conner

Have contractual agreements been arranged by R&D?		N/A
Which organisation will take on overall responsibility for the project (sponsor)?	South Tees NHS Trust	
ISRCTN (*International Standard Randomised Controlled Trial Number*)	N/A	

1.11   Ethics Committee approval – If Ethics approval is not required, please provide an explanation

This project does not involve patients, staff awaiting letter from Dr Drury to confirm this.

	University	MREC	SSA	LREC
Application submitted (date)				
Approval given on (date)				
Reference numbers				

Please supply Research and Development with a copy of ethical approval(s)

1.12   MHRA Approval   (Medicines and Healthcare Products Regulatory Agency)

	Yes	No
Does this project involve a medicinal product?		N/A
If yes, please complete the following:		
Application for CTA (Clinical Trial Authorisation) from MHRA submitted?		
Application submitted (date)		

Version 2 – October 2004

Pharmacy			
Travel			
Other			

SECTION 4: INTELLECTUAL PROPERTY RIGHTS

	Yes	No
Do you expect intellectual property to be identified through this research? (IPR can include ideas and products that can be commercially developed)	Yes	no

Any Intellectual Property (including patent rights) arising from research within South Tees Hospitals NHS Trust will remain the property of the Trust unless otherwise agreed. Commercially funded projects may be exempt. If you do not wish to sign, please give reasons.

Signature of Chief Investigator   _[signature]_   20/04/05

(Please print name in block capitals)   Susannah Cook.

SECTION 5: AUTHORISATION

	Yes	No
Non-commercial projects will be submitted for inclusion in the **National Research Register**. Please indicate if you do / do not wish the project to be included, if you state "no" please outline reasons on a separate sheet.	✓	

- I confirm that I have read the Research Governance Framework for Health and Social Care (DoH 2001) and understand the responsibilities of the Chief Investigator defined therein (Note: copies of the Research Governance Framework are available from http://www.doh.gov.uk/research/rd3/nhsrandd/researchgovernance.htm)

- I confirm that I have read the Principals based on ICH Harmonised Tripartite Guideline for Good Clinical Practice, and understand the responsibilities of the Chief Investigator defined therein, which will enable compliance to the EU Directive 2001/20/EC in the conduct of clinical trials on medicinal products for human use. (Note: copies of the EU Directive are available from www.medicines.mhra.gov.uk)

- I confirm I will comply with the Data Protection Act (1998) and all relevant UK and European Laws.

- I will inform Research & Development of any changes to my project design, including changes of personnel for approval.

Signature of Chief Investigator / Principal Investigator at Local Site

[signature]   20/04/05

I declare that the above project has been discussed in full with me and that I am happy for it to be undertaken in this Department/Directorate

SIGNATURE OF DIRECTOR   _Marine Conner_ 20/4/05

DIRECTORATE   Operational Services

(Please print name in block capitals)   MARINE CONNER

I declare that the above project has been discussed in full with me and that I am happy for it to be undertaken under my supervision

SIGNATURE OF UNIVERSITY SUPERVISOR   _Marina Conner_ 20/4/05

(Please print name in block capitals)   _____

I declare that the above project has been discussed in full with me and that I am happy to act as a liaison between the clinical Trust area in which the project is undertaken and the University.

SIGNATURE OF LIAISON CLINICIAN   _____
                                             Signature   Date

(Please print name in block capitals)   _____

Version 2 - October 2004

Risk Assessment of Project

Proposed project:

Development of an intra organisational toolkit to demonstrate the delivery of service improvement initiatives.

This project has highlighted that there is no risk involved in line with the University risk assessment form, see attached. This project does fall within the health and safety governance structure of the Trust.

Although this project does not carry a risk in terms of hazard I have also considered the risk from an insider researcher perspective which is clearly detailed in 4.8 of the project proposal.

University Health and Safety Office

GUIDANCE NOTE No 13
July 1996

RISK ASSESSMENT FORM
1.0 Introduction
The Management of Health and Safety at Work Regulations 1992 places the University under an obligation to make a suitable and sufficient assessment of all significant health and safety risks to which employees, students and visitors may be subjected as a result of the work of the University. Such assessments have to be recorded.

Some areas will have few hazards eg offices, others are inherently more dangerous eg laboratories and workshops. Hazards that cannot be reasonably foreseen and trivial risks can usually be ignored as can the risks associated with life in general.

Under the Health and Safety Policy of the University the responsibility for ensuring that these assessments are carried out rests with senior academic staff and senior managers as part of their line management of health and safety in their areas of responsibility.

Other legislation - notably the "DSE Regs", the "COSHH Regs" and the "Manual Handling Regs" - have been aimed at specific risks and separate University risk assessment procedures and forms devised. Detailed University Codes of Practice have been issued to help managers with the risks of these activities.

Some particularly high risks situations may require the completion of a University "Permit to Work" form (Details of the scheme in the General Health and Safety Code).

The purpose of risk assessment is to help managers determine what action they must take to control or eliminate a significant risk arising out of a work activity. In some cases a single generic risk assessment may be acceptable to cover a number of broadly similar tasks with the same risks.

Assessments can be carried out on an area, a process/work activity or a person/group of people. The type and scope of the assessment will vary from area to area to ensure that it is suitable and useful.

Assessments need to be suitable and sufficient, not perfect. The real points are:

- Are the precautions reasonable?

- Is there something to show that a proper check was made?

The purpose of this document is to provide managers with a simple procedure for carrying out, in a formalised way, a general risk assessment in their areas of responsibility. Where appropriate it could be used for the specialised risks indicated above.

2.0 Help and guidance

If help or guidance is required to carry out a risk assessment, contact the University Health and Safety Office.

The following University codes of practice and guides available from the University Health and Safety Office will provide useful information about risk assessments:

(i) Display screen equipment and related matters

(ii) Guide to the COSHH Regulations

(iii) Guide to the Manual Handling Regulations

(iv) Guide to risk assessments

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IPH 6014 Programme Planning & Rationale Module Handbook 2004-2005

3.0 Risk Assessment Form

3.1 Definitions

A "hazard" is something with the inherent potential to cause harm, including ill health and injury to someone.

A "risk" is the likelihood of the harm being realised from a particular hazard.

A "risk assessment" is the qualitative and/or quantitative evaluation of the chance that a hazard will cause harm.

3.2 Column A - Significant Hazards

List those hazards which could reasonably be expected to result in significant harm. As a broad guide check for:

slipping/tripping	chemicals	machinery
noise	hand tools	dust/fumes
electricity	high/low temp	radiation
pressure systems	manual handling	work at height
micro-organisms	fire	vehicles
gas work	in confined spaces	

3.3 Column B - Persons affected by the hazards

List all persons (by job/group - not name) who might be affected by the significant hazards identified including employees, students and visitors taking particular care not to overlook maintenance staff, cleaners, security/caretakers, persons with disabilities, lone workers and contractors.

3.4 Column C - Existing Controls/information

The risks must be evaluated and existing control measures and precautions checked to ensure they are adequate and meet the law and currently accepted standards and good practice. It should be noted that personal protective equipment is acceptable only when no other action can be reasonably taken. In general it should be considered only a short term solution pending further action. Has adequate instruction, information and training been given? Controls must reduce risk as far as is reasonably practicable. Existing control measures for each hazard must be listed or a note made where the information may be found. For simplicity and clarity reference can be made to other documents which details arrangements which are pertinent

eg University Codes of Practice, manufacturers instructions etc.

3.5 Column D - Further Action Necessary/timescale

List the risks which are not adequately controlled and the action (including timescale where possible) where it is reasonably practicable to do more. Cost can be taken into account unless the risk is high, ie it is unreasonable to spend large sums to eliminate a small risk. Priority should be given to those risks which affected large numbers and/or could do serious harm.
Action should, if appropriate, be taken in the following order:-

(1) Remove the risk completely

(2) Try a less risky option

(3) Prevent access to the hazard eg guards

(4) Reorganise the work to reduce exposure to the hazard

(5) Issue personal protective equipment

(6) Provide welfare facilities eg washing facilities for removal of contamination

3.6 Review

Circumstances will inevitably change over time. New machines, processes, activities will be introduced. If these introduce a significant change then the assessment must be reviewed and changes made as necessary. It is not necessary to change the assessment for each trivial change but over time a series of minor changes may become significant. It is good practice to review assessments from time to time to be certain that they are still valid.

Scope of assessment

Location

Campus

Assessor(s)

Column A	Column B
Significant hazards	Persons affected by the hazards
NOT APPLICABLE	NOT APPLICABLE

Susannah Cook
Student no.2436015
Project IPH5180   - 163 -

Review Date	
Date	

MIDDLESEX UNIVERSITY

Column C	Column D
Existing controls/information	**Further action necessary/timescale**
NOT APPLICABLE	NOT APPLICABLE

Appendix 4 : Research Methods

Research Methodology:

My first consideration related to the issue of definition was a quantitative or qualitative methodology most appropriate to answer the hypothesis. The importance of using research methods and instruments that consider the practical and real life issues facing organisations on a day-to-day basis were considered when planning this work based project. Real world research considers outside influences and acknowledges that social research is not perfect, as opposed to scientific (quantitative) which is undertaken in highly controlled environments (Denzin 1989) and less applicable to organisations that have to deal with numerous variables, which are often unpredictable. It is also recommended that qualitative methods are used during earlier phases of research project and quantitative during the latter stages of the project. In addition, qualitative being when the researcher roughly knows in advance, what she/he is looking for and quantitative when it is clearly known what is being looked for. In light of a positivist and interpretative stance the project does fall in the interpretive stance as the researcher is not clear at present what measurement and framework and at what stage of improvement his needs to be applied, and is investigating what frameworks are available in terms of . For the purposes of this project felt that a qualitative method would be adopted, using action research methodology as this would allow flexibility as it is a method that allows the researcher to do research and work on solving the problem at the same time. The method will allow for both quantitative and qualitative data collection tools and although some may view this not feasible from a positivistic stance, feel it is feasible that for this project both methods of data collection are incorporated as it is often the qualitative element that is missed within SI projects.

The following table was developed to aid my thought processes on selecting a methodology:
Although qualitative research can fall into three categories, Library based, Field based and Action research I have chosen to look at field based method and action based methods, as library based is a historical method and provides a useful tool for collecting and handing documentation which will aid the literature search for this particular study but I do not feel will help the theory generation that this project aims to do in developing a framework for measurement.

Methodology	Description	Method/When to use	Expected outcome	Advantages	Disadvantages	Related researchers	Use for final project
Soft Systems Methodology	Soft Systems Methodology is	Although Checkland coined the term Soft	The end result is an	Not rigid methodology,	Not rigid methodology	Peter Checkland	No-although is linked with

	based on systems thinking. It views the problem domain in a holistic rather than reductionist way, recognising that the component parts are interconnected, so that a change to one part will affect the other parts. Not only this, but the problem domain itself is a subsystem of several larger systems – changes in one will affect our domain as well.	Systems Methodology, it is not strictly a methodology. It does not prescribe a rigid series of steps that must be followed scrupulously. Rather, it suggests a framework for enquiry, with a number of recommended techniques. Primarily used for problem solving or systems improvement. Is used to compare between the world and models of how the world might be	understanding of the problem domain so that a hard study can then be applied to specify a solution.	can be used for a number things evaluation being one of them	does not help with the action of getting improvement underway	(1981)	action research does not need a change agent effecting the change outcome to action change which this project will require.
Grounded Theory	An inductive technique terms grounded meaning the theory developed from the research is "grounded" or has its roots in the data from which it was derived. Going from observed instances to development of a law or model.	The method holds many views in common with phenomenology. The researcher will observe collect data, organize and code data and form theory from data at the same time.	Outcome is a theory explaining the phenomenon understudy. The research report present the theory supported by examples from data. The literature	Include rigorous data collection in the generation of substantive and formal theory.	Debate as to whether grounded theory has ever really been clarified. Link between theory and data have never been properly explicated. It is not possible to ignore existing	Strauss (1967)	Have thought about using this method but decided against it as it does not remove the divide between the researcher and the participants as much as action

	involved in the action research.	understanding and change at the same time		testing and improvement, allows parties to provide information on the situation. Removes deciders and doers so can work together	the temptation to jump straight into action without prolonged initial phase of inquiry.		measurement of service improvement and build a framework to aid this.
Ethnography	Focuses on the culture of a group of people the aim being to learn from (rather than study) members of a cultural group. Involves participant observation, natural setting, own words and holism	Method involves studying behaviour from outside the culture and examining similarities and differences across cultures. Involves: • Identification of the culture to be studied • Identify variables within the culture • Literature review • Gaining entrance • Cultural immersion • Acquiring informants • Gathering data	Used to obtain and display in as much detail as possible the understandings and meanings constructed by people as they undertake activities	Because the data is a product of the researchers participation in the filed it is not clear if the their experience is dominating recording	Researcher may not be sufficiently familiar with the cultural morales Studies sometimes use measures that are assumed inaccurately to be equivalent across cultures. Interpretation of the findings may be inadequate due to the limited knowledge of the culture being studied	Uses the perspectives of Carl Marx, Loius Althussar, Max Horkheimer and Jurgen Habermas	Not addressing culture in this particular project

My evaluation of the different research methodologies led me to narrow my choice down to SSM and Action Research. However, I wanted involvement of participants in the action not just thinking about the action, using action research would allow me to undertake a real impact analysis of the evaluation tool that is to be developed through action research. SSM is an approach I believe that ST currently use and do lots of thinking but not enough action therefore have decided to use action research. Action research also allows me to develop the project as it evolves, it allows for literature review and for me to bring in quantitative research if required toward the end of the project. .

My Notes:

Positivistic--Interpretative (Naturalistic, constructivism, interpretative)
(Someone goes into the research (Researcher has no model goes in to research
With a model already in mind,   Open minded tends to be qualitative-explore the impact)
testing to see if model fits
tend to use quantitative method, they
explore the model)

Ontology-World view-way I believe the world is two end Positivistic (facts concrete) -------to constructivism (only like that because I see it that way)
Epistemology-How do we go out and find what we are looking for?

Appendix 5: Topic Guide

Topic Guide for focus groups

Aim:

    To develop an evaluation framework to enable evaluation and sustainability of service improvement initatives
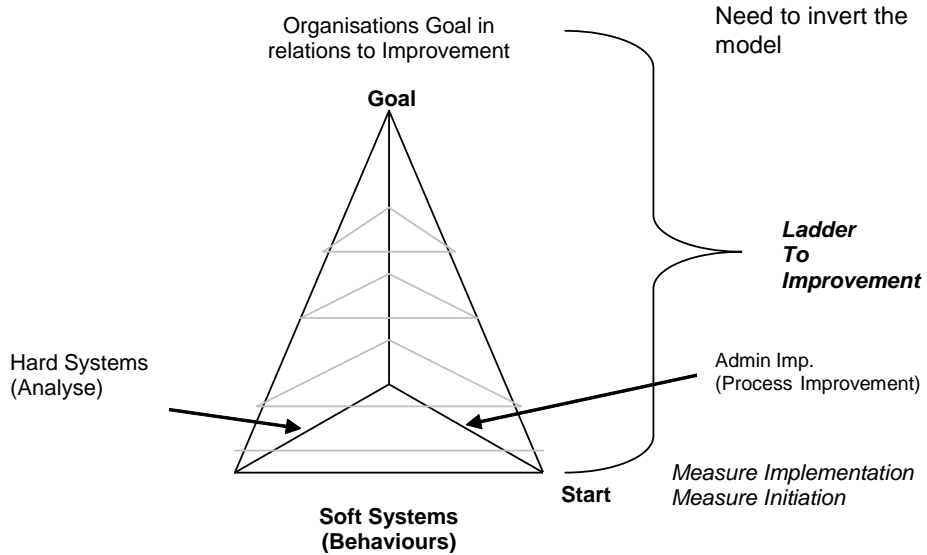
Outline of day:

1. Moderator Introduction

2. Description of the Focus Group Methodology

   - A focus group is a qualitative research technique used to generate ideas

3. Rules of a Focus Group (get group to help set rules at start)
   i. Informality, but group discussion is an important work session in which everyone must participate
   ii. Reasons for audio tape (Meeting is being recorded to help us write the report)
   iii. Promise of anonymity (Your name will not be associated with your comments)
   iv. Everyone's opinion needs to be included
   v. Honest, open opinions
   vi. Agree to disagree (Not striving for consensus)
   vii. Stay on topic (Have a lot of material to get through)
   viii. Role of the moderator as a traffic cop
   ix. Questions?

4. Outline questions to be answered

   - What participants understood by measurement and evaluation?
   - Do participants recognise measurement and evaluation as interdependent or exclusive?
   - What elements did participants feel were missing from the evaluation framework presented?
   - Could the framework be implemented in practice?

5. Summary of the session recap on feedback

Appendix 6: Initial Thinking

Model 1

Organisations Goal in
relations to Improvement

Need to invert the
model

Goal

*Ladder
To
Improvement*

Hard Systems
(Analyse)

Admin Imp.
(Process Improvement)

*Measure Implementation
Measure Initiation*

Start

**Soft Systems
(Behaviours)**

Thoughts could be 4 corner pyramid

E.g.

GOAL

Dated Project Plan
Set up project team/lead
Predict likelihood success
Identify need
Need to select appropriate tool

ADMIN STARTING
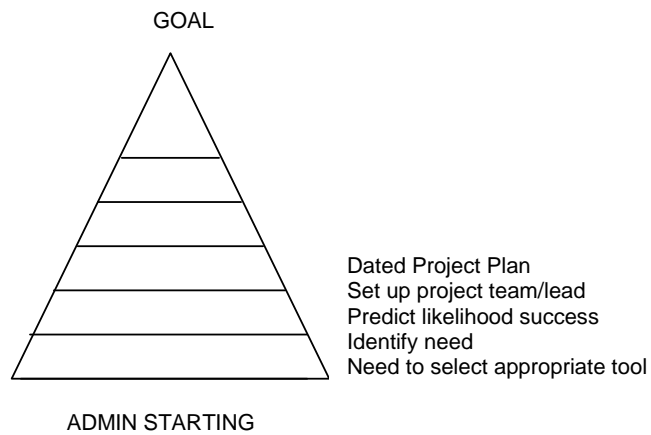
Initial Iterative Cycle: - Initial thoughts framework

Numerous tools for evaluation

Met with Dr Maxine Conner 02/09/05 who is OD lead and my consultant for the doctorate programme. We talked through my initial model of the framework and the ideas I had developed so far. This led us to discussions about the contemplation stage of the cycle.
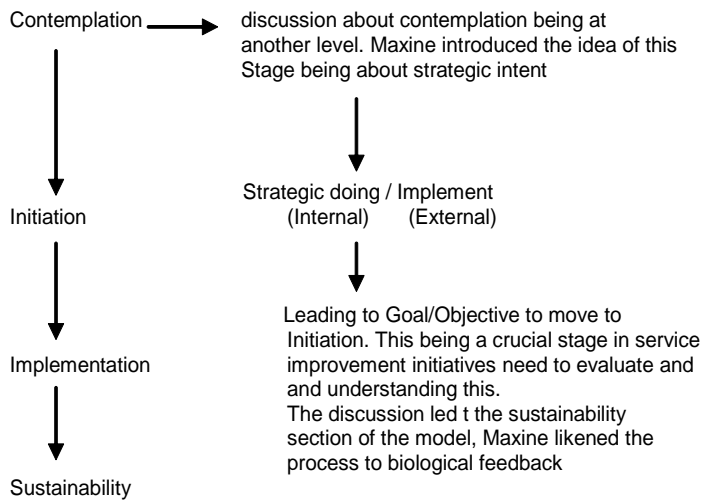
Contemplation → discussion about contemplation being at
another level. Maxine introduced the idea of this
Stage being about strategic intent

Strategic doing / Implement
Initiation   (Internal)   (External)

Leading to Goal/Objective to move to
Implementation   Initiation. This being a crucial stage in service
improvement initiatives need to evaluate and
and understanding this.
The discussion led t the sustainability
section of the model, Maxine likened the
process to biological feedback
Sustainability

These discussions led me to look at biological systems –
Psychological homeostatis need to have these types of system
In service improvement initiatives to ensure they are maintained.
It is the feedback through evaluation that is often missing.

Appendix 7: Participants' Letter and Agenda

The Improvement Alliance

Academic Centre

The James Cook University Hospital

Marton Road

Middlesbrough

TS4 3BW

Tel 01642 854772

Fax: 01642 854142

E-mail: susy.cook@stees.nhs.uk

Dear Colleague

I am currently working on the development of an evaluation toolkit to enable the evaluation and sustainability of service improvement initiatives to be demonstrated. Due to your previous experience of implementing improvement in practice, I am contacting you to ask you if you would be willing to participate in a focus group on the 24th January 12pm to 1pm

--------YES   --------NO

If you answered YES, please provide your name and phone number

-----------------------Name   --------------------Number

Please return to the address stated below

Many thanks in anticipation of your help with this work

Susy Cook

Service Improvement Lead

Improvement Alliance

South Tees NHS Trust

South Tees Hospitals **NHS**

NHS Trust

The Improvement Alliance

Academic Centre

The James Cook University Hospital

Marton Road

Middlesbrough

TS4 3BW

Tel: 01642 854772

Fax: 01642 854142

E-mail: improvementalliance@stees.nhs.uk

19 August 2005

Dear Colleague

I am currently working on the development of an evaluation toolkit to enable the evaluation and sustainability of service improvement initiatives to be demonstrated. I am contacting you to ask you if you would be willing to participate in small group discussions, which will take 1-2 hours and be held once a month.

--------YES   --------NO

If you answered YES, please provide your name and phone number

Focus Group Meeting

24th January 2006

Room 4-Academic Centre

Facilitator-Susy Cook

Agenda

- Introductions

- Aims of focus group

- Group work discussion (Evaluation Measurement)

- Group work evaluation framework

- Confirming of information captured

- Close

Appendix 8: Notes from Focus Group Meetings

Exemplers from focus groups

Clinical Group

Evaluation – Used to improve things, to get to know your outcomes and justify reasons for improvement. It appears to fit with the quality and performance agenda

Measurement – Capture the here and now, much more specific capture of information, almost qualitative and quantitative, a predetermined scale. Evaluation more about how we feel more subjective, where as measurement in terms of a predetermined scale

Patient experience is around evaluation (Qualitative data) rather than measurement. We can evaluate without measurement to a certain.

Note: this was debated by the group as the rest of the group felt that often evaluation without measurement is not 100% valid often in case of PPI which Gill eluded to in terms of patient satisfaction often need measurement to substantiate the qualitative information. The rest of the group appeared to be in agreement with this. At this point appeared Gill felt a bit uncomfortable with this, Susy reinforced that no right or wrong all opinions were valuable.

Model looks robust, we all see one cycle but the framework helps us identify all stage, even the hidden stages, of the full loop. Looks comprehensive people can follow it.It is a simple model and sees that this model could be used simply and also extrapolated into something comprehensive and more detailed in terms of the tools used to measure and the amount of evaluation undertaken.

Patient Group

How far do you go back (KP)

We should be measuring all the time; from a patient perspective what/how do you think we should be considering (SC)

I think you should include benchmarking, what do you measure and where do you start (KP)

An example I have was where I was a patient in 2002, the hospital was like a bomb site, operating theatres we down, staff were struggling theatre slots were cancelled, we were told not to go home otherwise we would have to wait for a another slot. It's different now when I walk around.

What about patient diary's? If you were a patient now would you complete a diary of your stay form start to finish? (SC)

Yes, I think this is very beneficial to both patient and staff (KP)

I was involved in the work Louise carried out, I was known as a walker, we mapped the patient's journey from start to finish, we could see what the

problems were at first hand, I feel this process is very valuable for patients to be involved at the beginning (KP)

Focus Group – rough notes

Pat info content

Evaluation framework

What do you understand by measurement evaluation?

Measurement – something specific

Almost quantitative & qualitative

Predetermined Scale – evaluation more subjective

Improve outcome

Make it more objective

Quantify what you have – measurement

Evaluation more subjective

Interlinked – cannot evaluate without measurement

Yes are interdependent

Measurement more scientific if measurement

Changed may evaluation.

Measure how effective intervention has been

Challenges – lovely discussion and good interaction

Evaluation and measurement crucial to services and the NHS.

Need to consider early on in SI activities as otherwise no learning.

Evaluation measuring the ripples – to find out the impact of

the stone – Stone – measurement

Ripples – EvaluationInterdependent

Objective vs. Subjective

Quantitative vs. Qualitative

<u>Measurement</u>

- About counting
- Quantifying
- Benchmarking
- Justification of something
- Strengthen or weaken argument
- Objective
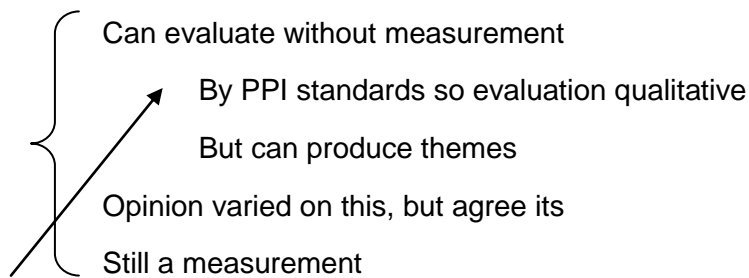
<u>Evaluation</u>

- More qualitative
- Conclusion
- Knowledge outcome
- Subjective
- Measures of success
- Justify
- Previous summary

Similar points raised

Cannot evaluate without measurement
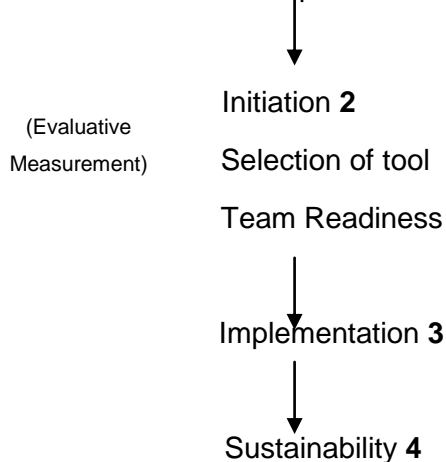
Cannot evaluate exclusively

Can evaluate without measurement

    By PPI standards so evaluation qualitative

    But can produce themes

Opinion varied on this, but agree its

Still a measurement

Is pointing towards measure or qualitative statement.

<u>Framework</u>

Passion when linking to clinical services and patient services

Initial reaction – Contemplation **1**

Initiation **2**

(Evaluative

Measurement)   Selection of tool

    Team Readiness

Implementation **3**

Sustainability **4**

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Model too small

Said draw but didn't

1st 2 phases in organisation

Makes people think about what they are doing

Robust framework

Simple but extrapolated into something that is comprehensive

Diagnostic stage important – makes people think but need to do

Pressure externally on teams to do even if time is not right.

Would provide team with framework

Could honesty and openness within the team

Behaviours

Politics – Incorporated into contemplation phase

Made up of measurable

DOH not good at considering evaluations at the onset

Robust in quantifying but may be difficult in that sustainability big issue

Appendix 9: Emerging themes

<u>**Transcript Question 1**</u>**: What do you understand by evaluation?**
Cycle 1- Improvement expert focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Assessment of impact, make a value of its worth in terms of improvement.	Understand whether the impact made has been of worth	To estimate the value of the improvement initiated	Estimation/judgement of impact	
A feedback mechanism	A method of understanding the return of part of the output to modify its characteristics	Method of constantly assessing and maintaining improvement	Assessing/judging to maintain output	
Understand it to be a judgement of its worth.	A way of assessing the impact to make critical distinctions and achieve a balanced view point	A way of assessing the impact	Assessment/Judgement to maintain improvement	Assessment Judgement Summary Qualitative
Evaluation is about the effectiveness or impact of the variable." So an example could be pathology would need to measure the number of behavioural standards they have developed then evaluate the impact of those standards and the ensuing behaviour that it has had on the staff in the divisions"	Assessing the capability/ability of change	Assessing the capability/ability of change	Assessing the capability/ability of change	
Evaluation for me is using the measurement to look against a standard which may be the project objectives, or external benchmarks. It is the conscious act of investigating what type of difference has been made	Using an accepted or approved example of something which change is judged or measured against to	Using an accepted or approved example of something which change is judged or measured against to	Measure/judgement to demonstrate improvement	

| | | demonstrate improvement | demonstrate improvement | |
| More about things like satisfaction questionnaires…….think in terms of patient satisfaction | | Likening to the qualitative element of evaluation and measurement through questionnaires | Qualitative satisfaction questionnaires | qualitative |

Cycle 2- Clinicians' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Used to improve things to get to know your outcomes and justify reasons for improvement It appears to fit with the quality agenda	Understanding outcomes and prove reason for improvement initiative	Justifying and demonstrating outcomes	Justifying and demonstrating outcomes	
Evaluation and measurement brought statistics to one members mind. Felt that evaluation more subjective	Evaluation is belonging to, proceeding from, or relating to the mind of the subject and not the nature of the object being considered	Evaluation subjective not objective	Evaluation is subjective	Assessment Judgement Summary
Evaluation seen as providing a summary /conclusion to	Evaluation gives a brief account more arbitrary free from	Provides a summary/conclusion	Provides a summary/conclusion	Qualitative

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improvement provides a summary and conclusion and establishes change	some of the complexities and delays of using detailed statistics to understand impact of change		
Qualitative, subjective, experience provides a summary	Understanding the distinguishing characteristics, property or attributes rather than considering size and amount which provide a summary of outcome proceeding from, or relating to the mind of the subject and not the nature of the object being considered.	Using qualitative information to provide a summary	Using qualitative information to provide a summary
Quality and performance agenda, get to know your outcomes, measures of success, justify	Helps clarify outcome and justifies it	Helps clarify outcome and justifies it	Helps clarify outcome and justifies it
Brings to m mind words conclusion, progress, establish changes	Conclusion, progress, establish changes	To understand the outcome of an intervention	To understand the outcome of an intervention

Cycle 3 – Patient and carers' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Think this is more about things like satisfaction questionnaires and things rather than numbers think this type of evaluation in term of patient involvement and opinions is vital	More qualitative subjective information rather than objective	Seen more as qualitative , subjective , information	Qualitative, subjective	Assessment Judgement Summary Qualitative
We felt the same as group 1 more words than figures	Subjective information used to understand the change	Subjective information used to understand the change	Qualitative, subjective information	

Transcript Question 2: What do you understand by measurement?

Cycle 1 : Improvement expert focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
As a group agree see measurement as a quantity or value	Measurement seen as number, value , giving a more precise amount	Quantity, amount , figure of worth	Quantity, Figures of usefulness	
Also seen as a value and in some cases linked to collection of data and calculation , excludes peoples feelings and opinions-do the group agree (group agreement)	More quantitative method of collecting data rather than subjective more objective	Quantitative data collection	Quantitative	
I agree with DA	More quantitative method of collecting data rather than subjective more objective	Quantitative data collection	Quantitative	
Measurement to me is a process which will demonstrate how much we have of something capacity, weight adherence to a standard. Again as with evaluation could be example of my work in pathology where would need to measure the number of behavioural standards.	More of a quantitative method, uses figures to demonstrate improvement more objective (less distorted by emotional or personal bias)	Quantitative collection of information	Quantitative moves away from human dimensions	
Measurement to me is some form of expressing the value and worth of an item in unitary or currency format. It allows data to be collected to quantify, calculate or estimate an entity.	Using figures, weights, numbers to determine the value	Quantitative method of determining change	Quantitative	Quantitative
When I measure something and discover the quantity or extent of it	Used to determine the range something covers , the amount, weight, number etc	Quantitative method determining change	Quantitative	

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Understand it as collecting data and calculating or surveying in order to understand the value of something	Using figures to understand the impact of improvement	Quantitative method of determining change	Quantitative
To me measurement is about change see that something has made a difference at some point-I think lots of teams measure	Method of understanding of what has been made different	Method for determining the difference	Method for determining the difference
I agree with what has been said see it as measuring and counting.	Method used to add or check in order to ascertain the sum	Quantitative method	Quantitative

Cycle 2: Clinicians' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Capture the here and now, much more specific capture of information, almost qualitative and quantitative, a predetermined scale.	Ascertain where we are with something at a point in time, more definite way of collecting information using a pre set using scales and markers that have previously been set as comparators, more the use of figures, numbers	See measurement as quantitative	Quantitative and qualitative	
Feel that measurement is more scientific; AD felt that measurement was measuring how effective the intervention had been. Group clarified thoughts as qualifying what you have achieved.	Method of investigation in which a problem is first identified and observation, experiments or other relevant data is collected and then used to test a hypothesis to determine its value to purport to solve it	Using data to determine value of something	Quantitative	Quantitative Qualitative
Have quickly come to agreement that measurement is about quality and counting	Method used to add or check in order to ascertain the sum	Quantitative method	Quantitative	
Protocols, scales and standards	Method used to add or check in order to ascertain the sum	Quantitative method	Quantitative	
Quality and counting, statistics	Method used to add or check in order to ascertain the sum	Quantitative method	Quantitative	
Improvement-it can strengthen something. Is justification	Adds extra support to the area of investigation and gives reason for doing it	Proof of something s worth	Proof of something s worth	
We see measures as numbers and	Method used to add or check in order to	Quantitative	Quantitative	

counting feel that we should be measuring all the time	ascertain the sum		method	

Cycle 3 : Patient and carers focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
We agree with this and that patients should be involved in some of what is measured as they see things that should be improved	Patient involvement in determining setting quantitative methods to determine improvement	Patient involvement in determining setting quantitative methods to determine improvement	Patient involvement in determining setting quantitative methods to determine improvement	Quantitative

Transcript Question 3: Do you think evaluation and measurement are interdependent or exclusive?

Cycle 1: Improvement experts focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)

See them as interdependent cannot have one without the other does not give whole picture	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Interdependence	Interdependence between evaluation and measurement
I think that both activities can be conducted exclusively e.g. you can measure process outcomes for measurement sake but its only when you apply evaluation methods does think inform changes in inputs or outputs are required, I think that they are interdependent	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent
The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent
Feel they are interdependent when evaluating something you will also need to measure it whether that is quantitatively or qualitatively in order to evaluate. If you measure something this usually follows with some evaluation or judgment	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent

See as interdependent…..think need both for accuracy of improvement	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent	
It is quite normal to make measurements that are not going to be used for evaluation. For example measurements that are made to monitor whether we are on track can be independent or linked-it depends. Therefore my thinking is that evaluation can be independent or exclusive	There are cases where evaluation and measurement mutually support one another and times when measurement and evaluation can stand alone and be used uniquely	Measurement and evaluation are interdependent and/or exclusive	Measurement and evaluation are interdependent and/or exclusive	Interdependence Interdependent and/or exclusive
My thoughts are that they can be both exclusive and interdependent –but need both	There are cases where evaluation and measurement mutually support one another and times when measurement and evaluation can stand alone and be used uniquely	Measurement and evaluation are interdependent and/or exclusive	Measurement and evaluation are interdependent and/or exclusive	

Cycle 2: Clinicians' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Can use measurement on its own but will not get to know the whole picture. We cannot evaluate exclusively-see interdependence	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent	
If we use measurement independently we get a linear picture. If we use them both together we get 3D picture. We cannot measure without evaluation not evaluate without measurement therefore we think they are interdependent. Measurement is like a stone you through it in the water and the ripples are the evaluation. See measurement as quantitative and evaluation as qualitative see interdependence	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent	Interdependent and Exclusive
It is hard to evaluate without measurement	The need to have measurement and evaluation to get a true picture of the change, evaluation and measurement mutually support one another	Measurement and evaluation are interdependent	Measurement and evaluation are interdependent	
In terms of patient experience-it is around evaluation (qualitative data) rather than measurement. We can evaluate without measurement to a certain degree but as a	There are cases when measurement and evaluation can be use exclusively or interdependently but most	Can use measurement and evaluation exclusively or interdependently	Inter dependent but also exclusive depending no the situation	

group we think that evaluation without measurement is not 100% valid, often in the case which gill alluded to in terms of patient satisfaction often need measurement to substantiate the qualitative information. Think we are in agreement with this

valuable when used interdependently

Cycle 3: Patients' and carers' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
We found this tricky question in relation to service improvement as we do not have that knowledge but think that can be exclusive and inter dependent but that interdependent would be better as get a better picture, in terms of patient involvement evaluation through the questionnaire is valuable but if don't know how many people made the comment how do you know if really need to make a change that will benefit the majority.. that's as far as we got	There are cases when measurement and evaluation can be use exclusively or interdependently but most valuable when used interdependently	Can use measurement and evaluation exclusively or interdependently	Inter dependent but also exclusive depending no the situation	
Our discussions were similar but we think can be exclusive and interdependent as sometimes may just want to count numbers patients in beds for example and that would give good idea of usage so could measure without evaluation but then would be useful to evaluate say if beds were empty some of the information about why say through survey with staff… so we say both but inter dependent better but can be separate	There are cases when measurement and evaluation can be use exclusively or interdependently but most valuable when used interdependently	Can use measurement and evaluation exclusively or interdependently	Inter dependent but also exclusive depending no the situation	

Transcript Question 4: What elements are missing from the framework and could it be used in practice?
Cycle 1: Improvement experts focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Liken this model to the feedback mechanisms in biological systems if we took diabetes as an example (drew on flip chart appendix 10) and how this feedback loop of evaluation is necessary in the control of diabetes and how this is likened to continual evaluation of improvement.	Likened to a effect of a product or action in a cyclic biological system on another stage in the same reaction , that in improvement there is the need to have this feedback to ensure change is maintained	Need cyclical feedback evaluation process to ensure improvement	Need cyclical feedback evaluation process	
GO think the group agrees with this concept of feedback loop (group agreed) and the need for continual evaluation of service improvement. Think some of the thinking in terms of this feedback cycle should be added to the framework, not sure if group agree (asked group there was agreement)	Need to add clearer feedback mechanism to the framework being developed	Need to add clearer feedback mechanism to the framework being developed	Need to add clearer feedback mechanism to the framework being developed	Feedback mechanism User Friendly Contemplation
There is a clear link to sustainability of improvement initiatives and the contemplation stage of the framework as change may take place over time as the environment may change over time and there is a need for a continual loop of contemplation and cycles of evaluation	Need the think through improvement initiatives before they are undertaken a valuable step that is often left out. Need to have a continual cyclical process of evaluating the process	Need contemplation stage in the framework and cyclical feedback process	Contemplation stage Cyclical feedback process	
Would be great to have something like this in practice but not sure I understand the link of the four cycles could you explain…….see now how this fits think that it needs to be	Four cycles need to be made clearer ,contemplation stage is key	Four cycles need to be made clearer ,contemplation stage is key	Need to ensure framework is user friendly and ensure contemplation stage	

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| made clear as will be useful but needs to be user friendly. | | | is present | |

Cycle 2 : Clinicians' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
Is there skills set in the sustain element of the of the 1st loop? A team needs to understand everything before starting service improvement projects instead of them getting half way through and telling people they don't understand.	Contemplation often left out of improvement initiatives and is key to the process needs to be kept in the framework	Contemplation stage crucial	Contemplation stage crucial	
Encourages thinking section of service improvement. The 1st and second phase of the model makes people think about what they are doing rather than just doing improvement for the sake of it……. This seems to happen a lot. The framework would help teams think about whether they are ready to take on a service improvement. It would help people be honest. Our group think that diagnosis is a key step of this model as it makes people really consider what they need to do as they often jump in at the deep end without thinking through and then initiatives fail like other groups have said…..There is often pressure externally on teams to do improvement even if it is not right for the	Thinking stage of the first loop is crucial often missed. Framework aid change agents at all levels in the organisation think through the process and stop them jumping in at the deep end the model is strong in constitution	Framework is valuable as aid thinking and will help reduce failure of improvement initiatives, robust model	Framework is valuable as aid thinking and will help reduce failure of improvement initiatives , appears robust model	

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organisations at the time, it would provide teams with a practical framework they could use, and evidence to justify it would not work, it would also make those at senior levels in the organisation think about consequences of improvement.			
We think the model looks robust we all see once cycle but the framework helps us identify all the hidden stages of the full loop.			
From the theatre perspective the thinking stage is there but not thought through properly. Only a small group of people think through not a large group. The framework would allow thinking time instead of rushing into things and getting it wrong and leading to demoralised staff	Contemplation stage is key and not often considered but would reduce failure	Contemplation stage is key and not often considered but would reduce failure	Contemplation stage is key would reduce failure
The model looks comprehensive and more detailed in terms of the tools used to measure and the amount of evaluation undertaken to ensure success.	Model looks to include all key aspects and gives detail often not there when working on an improvement initiative	Model looks to include all key aspects and gives detail often not there when working on an improvement initiative	Comprehensive framework aid improvement success
We need to be able to make improvements not just generate good ideas. It is essential that we begin to show that improvements are demonstrable. It would help with openness and honesty in teams and behaviours as it would create discussion rather than improvement just being imposed without being thought through which often leads to issues with teams and individuals.	Would help demonstrate improvement and begin to aid team working and behavioural issues due to the conversations it would stimulate	Would help demonstrate improvement and begin to aid team working and behavioural issues due to the conversations it would stimulate	Useful model would instigate discussions

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This model needs to be seen by the top team…as previously mentioned pressure on the top team to so this improvement work even if is not right would allow them to have a framework to think through before it is imposed on teams lower in the organisation …… We don't always look at how service improvement impacts the "bigger picture", this needs to be done. We need to start small and work our way to the bigger picture….could this framework be circulated when finished	Frame work would be useful needs to be used at the top of organisations and cascaded down to ensure success	Frame work would be useful needs to be used at the top of organisations and cascaded down	Framework valuable needs to be shared top down in the organisation

Cycle 3: Patients' and carers' focus group

TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
We think this type of work is crucial and that patients should be involved in improvement from the start when contemplating change. Think bench marking where are and where want to be should definitely be in the contemplation stage. Can see improvements that have taken place over time……….but think more involvement would be good	Contemplation stage is key need to ensure involve patients from the outset	Contemplation stage is key need to ensure involve patients from the outset	Contemplation stage User involvement	
We agree with what other group have said but think in terms of improvement tools patients sick of questionnaire think that focus groups more beneficial. Think vital for patients to be involved form the start of the process contemplation and initiation stage so they can see improvement.	Contemplations stage is key but need to ensure that patients are involved from the outset by use of focus groups rather than more questionnaires	Contemplations stage is key but need to ensure that patients are involved from the outset by use of focus groups rather than more questionnaires	Contemplation user involvement through focus groups	User involvement Focus groups

Cycle 4: Expert Interviews

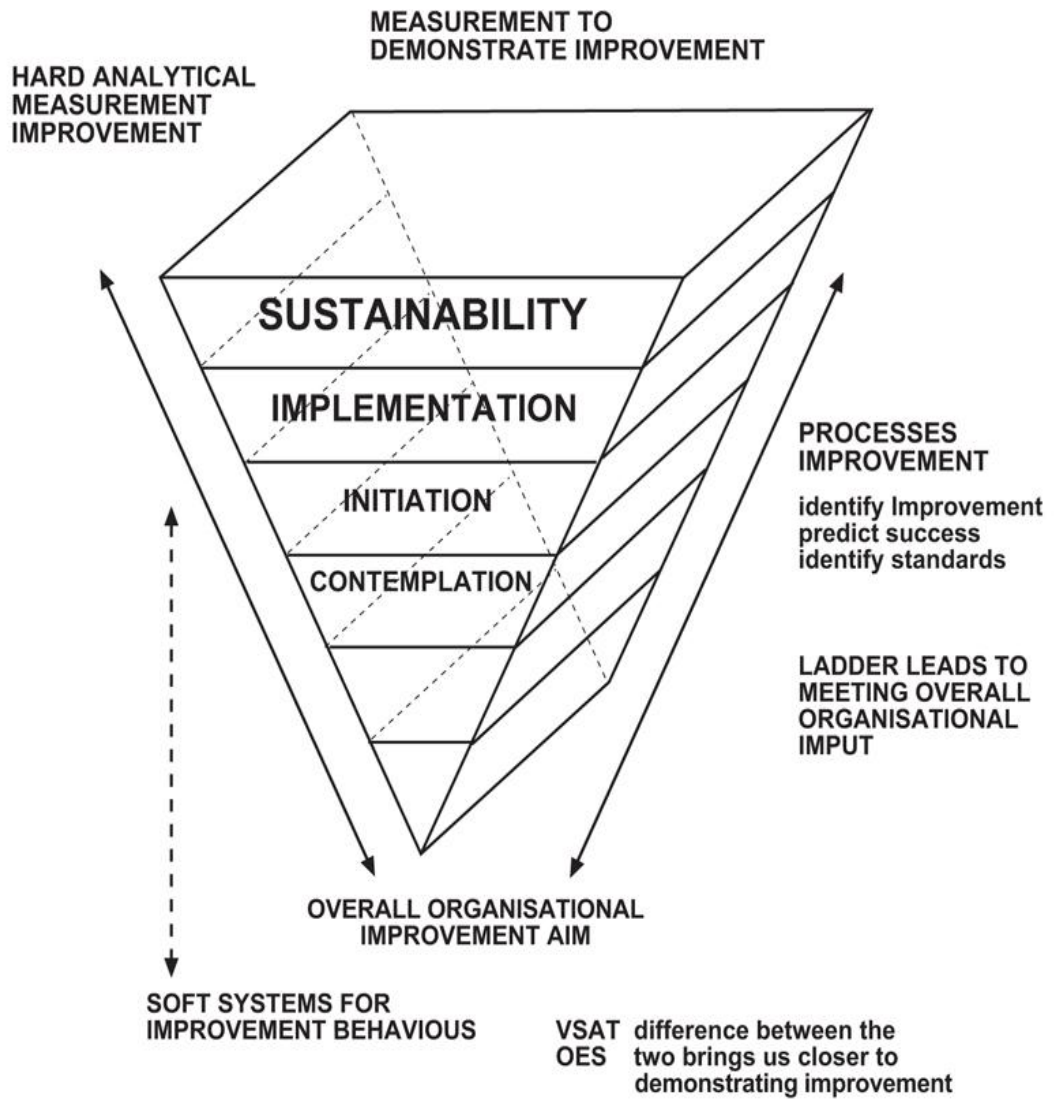| TRANSCRIPT (Phase 1)	MEANING	CONDENSED MEANING (Phase 2)	SUB CATEGORIES (Phase 2)	THEME (Phase 3)
The framework is essential to the sustainability of service improvement; it is a continual evaluation of each stage of the process. I see a link with the infinity loop or DNA helix as some know it and the link is the need to be able to replicate and sustain service improvement within and outside the organisation. There are many tools available often hard to know which to use think it is vital both quantitative and qualitative tools are used. Suggest in your guidance pack a brief example of tools available to get people on the right track, perhaps divided by each stage and quantitative and qualitative tools.	Framework needed in the quest to maintain improvement. There is a likeness in the model to the DNA helix as it is able to produce copies therefore aiding the maintenance of sustainability of improvement. There is a need in the frame work to include both qualitative and quantitative tools to give the true picture	Framework is needed to aid improvement initiatives, has ability to replicate improvement initiatives , there is a need for quantitative and qualitative improvement, examples would be useful	Replicability Need for the framework	replicability

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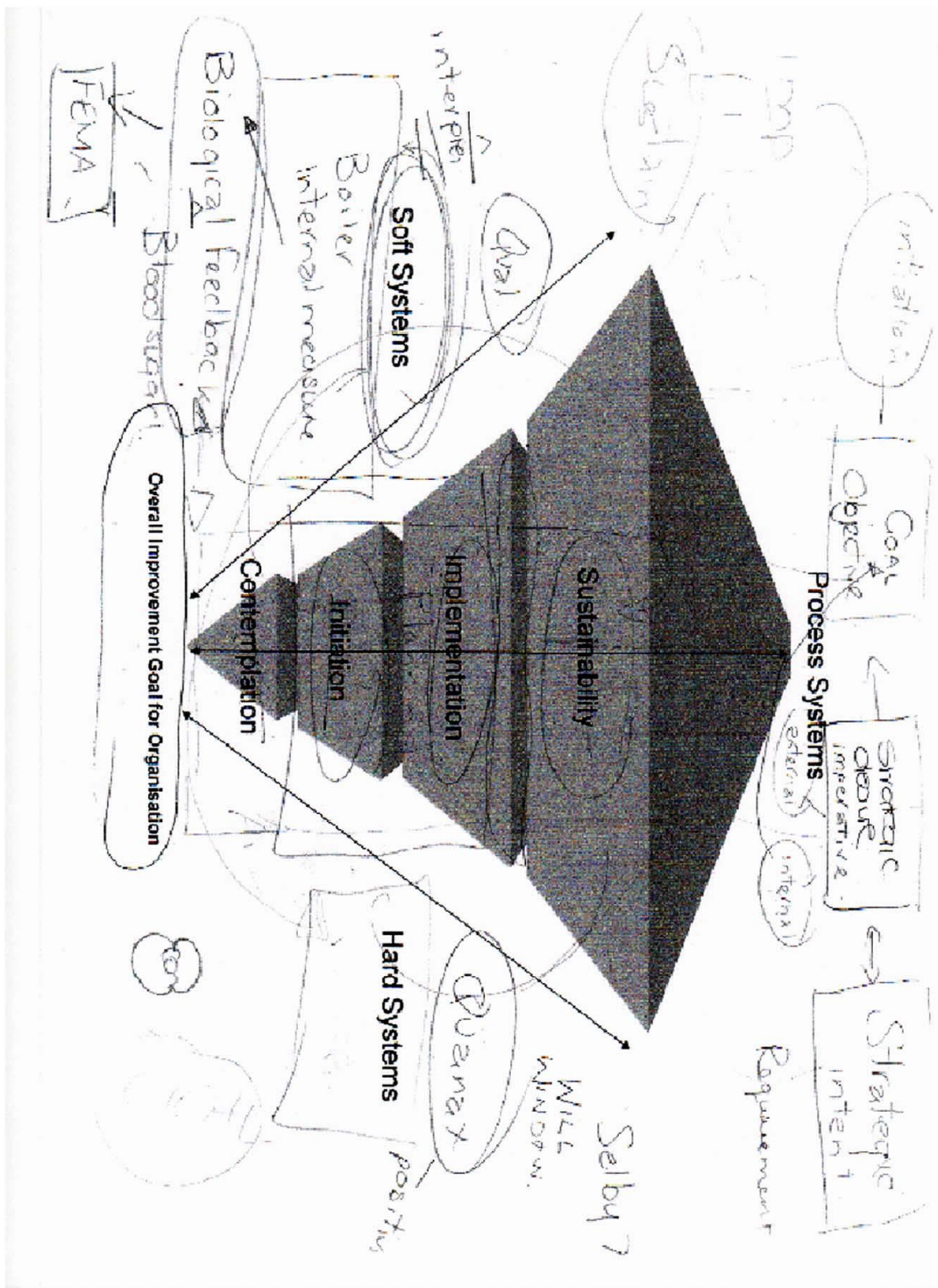## Appendix 10: Flipchart Evidence and Rough Iterations of Framework

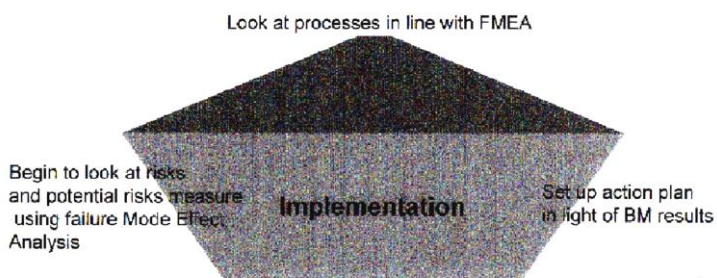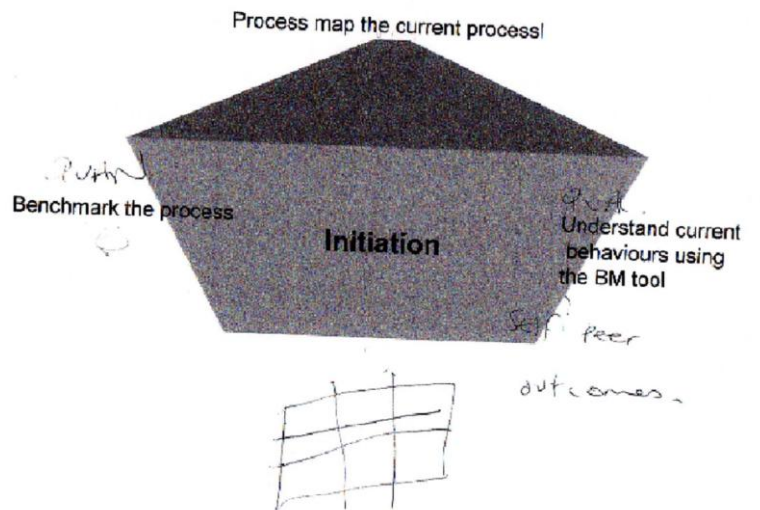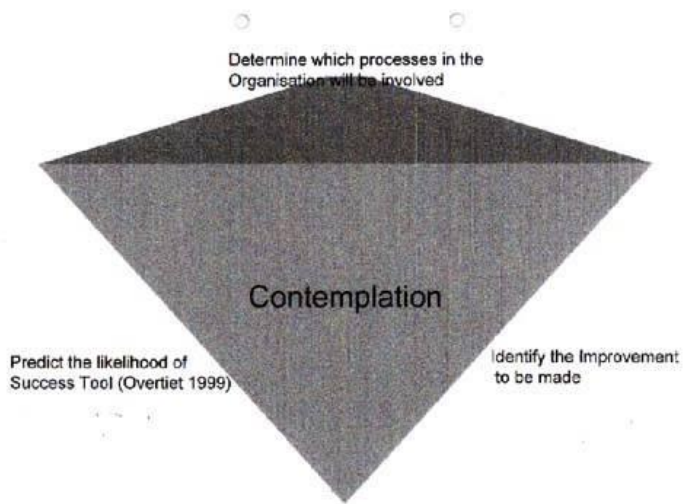**Flipchart Evidence-feedback from flipchart information gathered in the focus groups**

Measurement	Evaluation
Quantifying / CountingBenchmarking Protocols Justification Skills Strengthen Something Standards Results Improvement	Qualitative x2 Covers lots of agendas – quality x2 It's conclusion x3 Outcomes x2 Progress x2 Measures success x2 Subjective x2 Establish change x1 Experience x2 Justify reason for change x3 Provides summary x1 Depends on situation x2

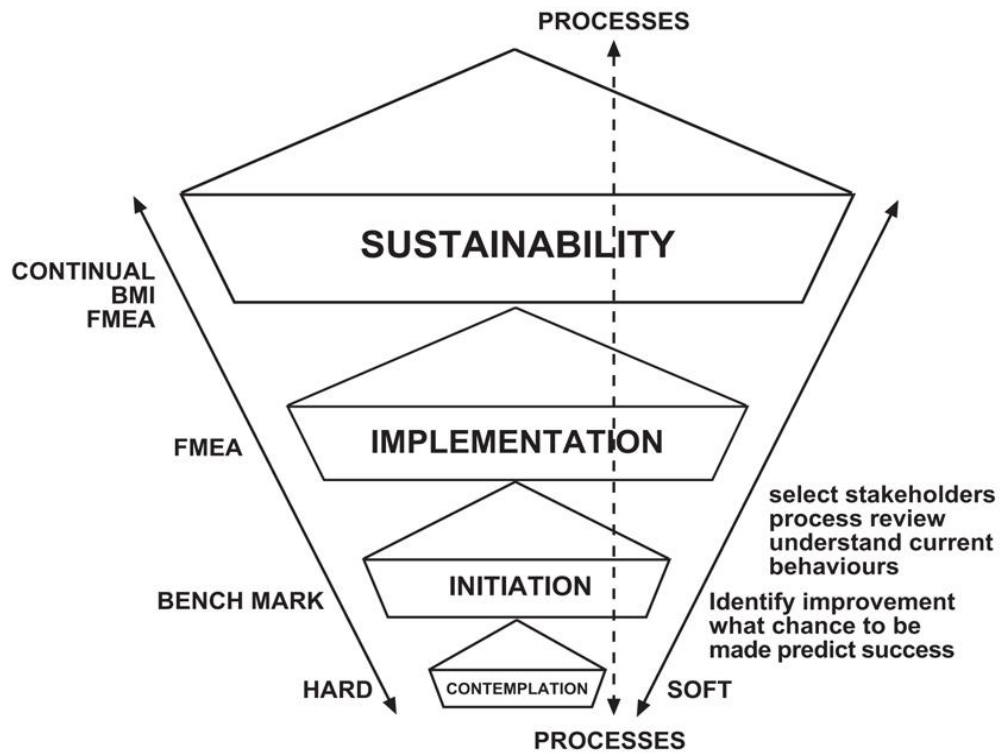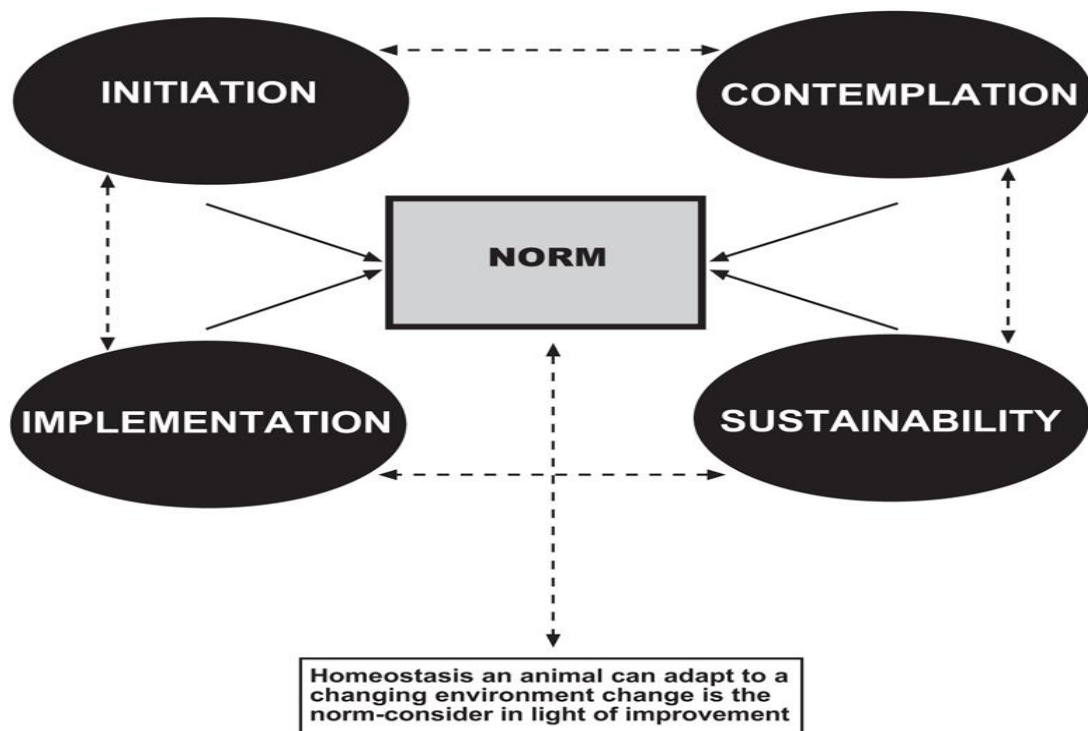| Interdependent / Exclusive |
|---|
| - If only measurement linear picture if use both get 3D picture
- Could measure on own but may not progress

Cannot evaluate exclusively

- Evaluate gives a story (qualitative)
- Can evaluate without measure e.g. Pt experiences more evaluate than measure
- Is it quantity that's the measure – is it evaluation qualitative |

Model 2 - Improvement Measurement Pyramid

MEASUREMENT TO
DEMONSTRATE IMPROVEMENT

HARD ANALYTICAL
MEASUREMENT
IMPROVEMENT

SUSTAINABILITY

IMPLEMENTATION

INITIATION

CONTEMPLATION

PROCESSES
IMPROVEMENT

identify Improvement
predict success
identify standards

LADDER LEADS TO
MEETING OVERALL
ORGANISATIONAL
IMPUT

OVERALL ORGANISATIONAL
IMPROVEMENT AIM

SOFT SYSTEMS FOR
IMPROVEMENT BEHAVIOUS

VSAT   difference between the
OES   two brings us closer to
       demonstrating improvement

Determine which processes in the
Organisation will be involved

Contemplation

Predict the likelihood of
Success Tool (Overtiet 1999)

Identify the Improvement
to be made

Process map the current process!

Benchmark the process

Initiation

Understand current
behaviours using
the BM tool

Look at processes in line with FMEA

Begin to look at risks
and potential risks measure
using failure Mode Effect
Analysis

Implementation

Set up action plan
in light of BM results

Sustainability

Model 3 - Improvement Measurement Pyramid

My sharing of thoughts and discussions with Maxine led me to re think the model, moving away from a pyramid to a more interactive framework that relies on feedback mechanisms as in biological systems

Iteration of framework

Model 4

Homeostasis an animal can adapt to a changing environment change is the norm-consider in light of improvement

This led me to looking at-biological systems –physiological homeostatis.

Need to have these types of systems in service improvement (change) to ensure change is maintained often where we fall down, this led to the iteration of changes in the model, incorporating qualitative and quantitative measurement to maintain the norm. The main change being the central focus.

Model 5
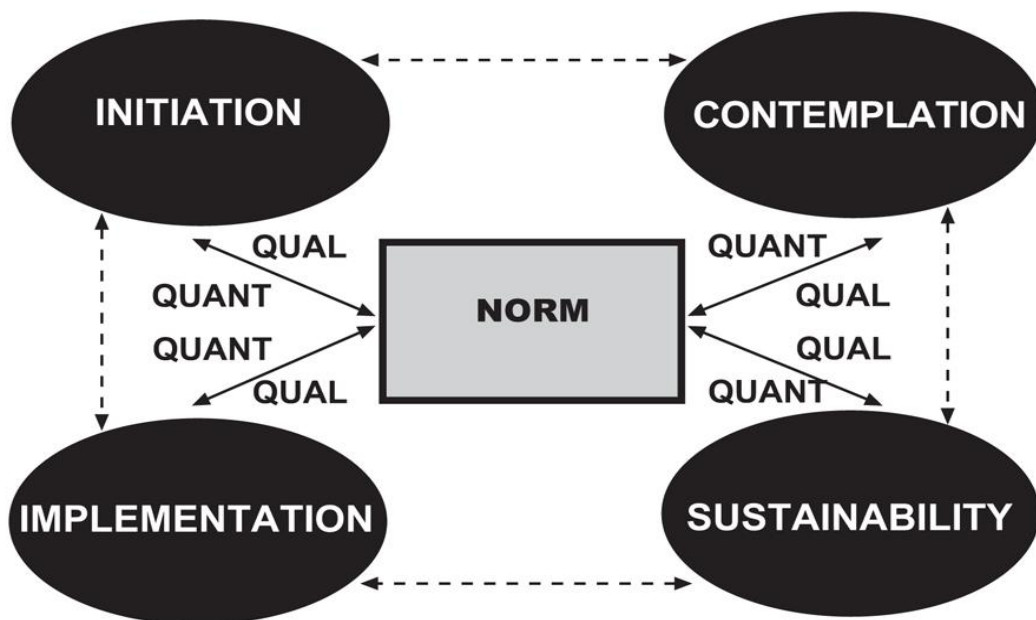
Thinking has taken me to looking in more detail at the model in relation to feedback in biological systems, looked at framework in relation to diabetes feedback control so could apply to real life example and see how worked.

Diabetes: Blood Sugar

Contemplation-patient goes to hospital with increased drinking, patient feels unwell.

Initiation – hospital tests show weight loss other symptoms if tests negative goes back to investigation is positive and diagnosed treatment started and blood glucose monitored (quantitative test) How patient feels (qualitative) how maintained takes us to sustainability managed over time. (see diagram below)

**Framework of monitoring blood sugar**

Model 6
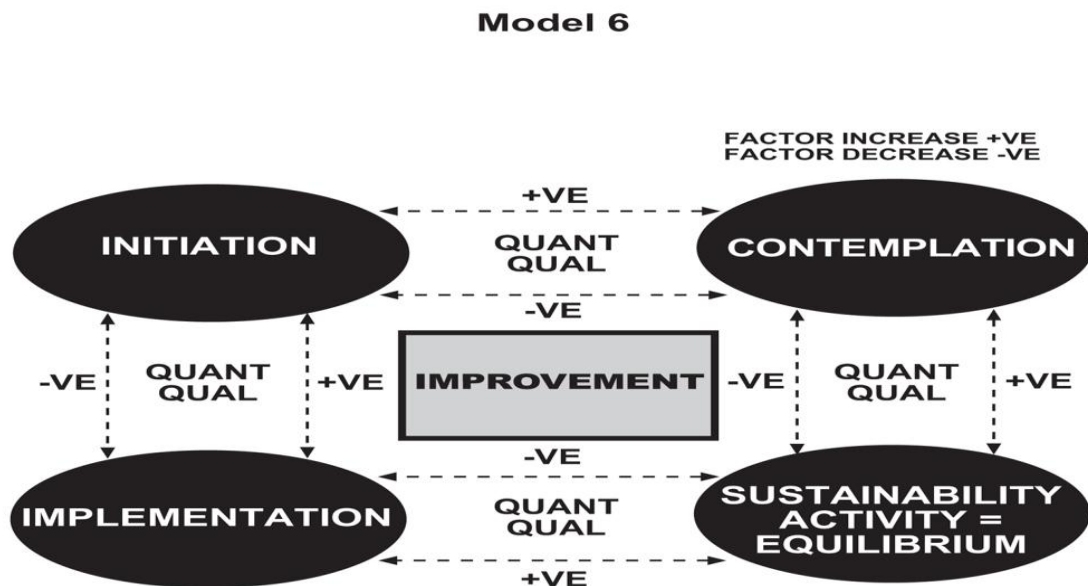
Thinking: on words contemplation, reflection and evaluation. Evaluation act of ascertaining and fixing a value of worth. Contemplation long thoughtful observation, act of looking forward to an event about to happen expectation.

Reflection-Baird(1985) a generic term for those intellectual and effective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation.

Iterative Cycle: Expert focus group

Took framework to the group talked through thoughts on evaluation/measurement of services. Talked through the framework developed so far again putting it into context of diabetes so easier to understand. This was useful to the group. Created discussion on the centre of the framework being improvement, with measurement both qualitative and quantitative at each step.
Led to next iteration of the model : **Model 7**
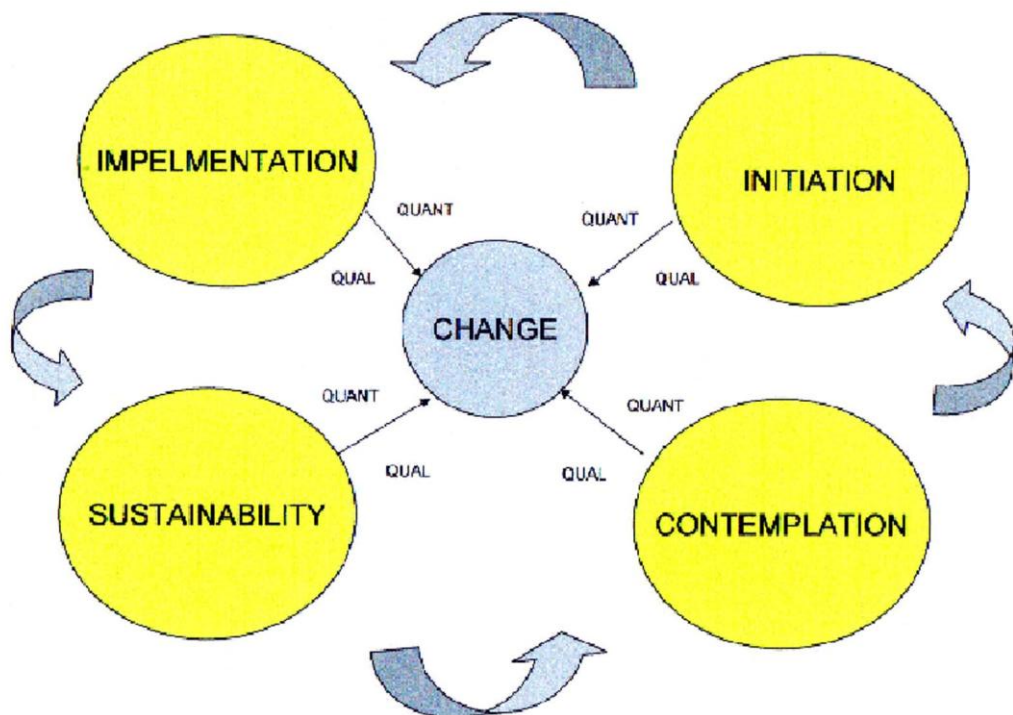
Service Improvement Lead made the link between sustainability and contemplation as change may take place over time as the environment changes

Iterative cycle: meeting of experts

Having taken my learning from the expert focus groups my thinking led me to the next development of the of the framework, that it was not a single cycle and that following sustainability any improvement work could potentially move onto another cycle, meeting with the two experts will help me refine my thinking of a double loop evaluation framework

Meeting with Dave yarrow 08/10/05. Talked through my thoughts and learning so far on the framework. Dave helped me refine my thinking in terms of a second loop. Shared my thoughts and rough diagram as shown below.

Model 8

Initial workings of measurement Framework for Service Improvement Initiatives
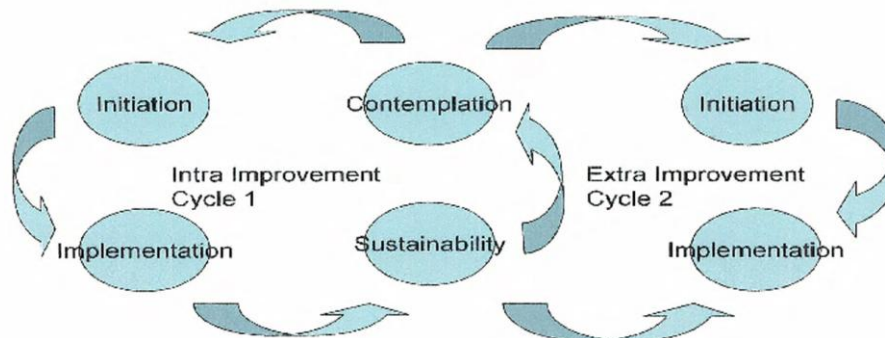
At the contemplation stage the discussion was about what is already known, benchmarking at this stage, what do we need to know in relation to the service improvement.

On the system being future thinking

Comment from Dave "when in control=what can do to make even better"

Discussions with Irwin took place around the concept of replication and the helix model and

how cycles would produce this replication of improvement at differing levels and move improvement from within the organisation to outside the organisation if the change was sustainable.

These workings developed from the initial workings and discussions that took place developing from the thought of a pyramid type framework to a more cyclical approach (see final framework figure 4.7).

Model 9