Evidence in Management Decisions (EMD) - Advancing Knowledge Utilization in Healthcare Management

Jacqueline Swan[1], Aileen Clarke[2], Davide Nicolini[1], John Powell[2], Harry Scarbrough[1], Claudia Roginski[3], Emmanouil Gkeredakis[1], Penny Mills[2], and Sian Taylor-Phillips[2]

[1] Warwick Business School, University of Warwick
[2] Warwick Medical School, University of Warwick
[3] Coventry Teaching PCT

NHS
National Institute for Health Research

Published August 2012

Project 08/1808/244

Address for correspondence:

Jacqueline Swan
Professor in Organizational Behaviour
Warwick Business School
University of Warwick
Coventry CV4 7AL

Email: Jacky.Swan@wbs.ac.uk

Criteria for inclusion
Reports are published if (1) they have resulted from work for the SDO programme including those submitted post the merge to the HS&DR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors. The research in this report was commissioned by the SDO programme as project number 08/1808/244. The contractual start date was in January 2009. The final report began editorial review in October 2011 and was accepted for publication in August 2012. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The SDO editorial team have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report documentation. However, they do not accept liability for damages or losses arising from material published in this report.

Contents

List of tables

List of figures

Glossary of terms/abbreviations

A&E	Accidents and Emergencies
BME	Black and Minority Ethnic
BPT	Best Practice Tariff
CEO	Chief Executive Officer
CHD	Coronary Heart Disease
CHII	Comprehensive Health Improvement Interventions
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardio Vascular Disease
DH	Department of Health, UK
EB	Evidence-based
EBM	Evidence-based Medicine
EBMgmt	Evidence-based Management
EMD	Evidence in Management Decision
FES	Function Electrical Stimulation
FESC	Framework for procuring External Support for Commissioners
GKP	Genetic Knowledge Parks
GMS	General Medical Services
GP	General Practitioner
GPwSI	General Practitioner with Special Interest
HES	Hospital Episode Statistics
HSJ	Health Service Journal
HSRN	Health Services Research Network
IFR	Individual Funding request
IMD	Index of Multiple Deprivation
IVF	In vitro Fertilisation
KE	Knowledge Exchange
KMO	Kaiser-Meyer-Olkin statistic to measure sampling adequacy
KPIs	Key performance Indicators

LA	Local Authority
LES	Local Enhanced Services
LINK	Local Involvement Network
MH	Mental Health
ML	Maximum Likelihood
MOM	Map of Medicine
NCHOD	National centre for Health Outcomes Development
NHS	National Health Service
NICE	National Institute of Health and Clinical Excellence
NKS	National Knowledge Service
NLH	National Library for Health
NSF	National Service Framework
NSS	National Stroke Strategy
ONS	Office for National Statistics
OR	Odds Ratio
PBC	Practice-based Commissioning
PbR	Payment by Results
PCTs	Primary Care Trusts
PEC	Professional Executive Committee
PH	Public Health
PHO	Public Health Observatory
QALY	Quality Adjusted Life Year
QIPP	Quality, Innovation, Productivity, Prevention
QM	Quality Marker
QOF	Quality and Outcomes Framework
Q-Q plot	Quantile-quantile plot for comparing two probability distributions
RCP	Royal College of Physicians
RCT	Randomised Controlled Trial
ROI	Return on investment
SHA	Strategic Health Authority
SPSS	Statistical Package for the Social Sciences
SSAP	Scientific and Stakeholder Advisory Panel

SUS	Secondary Uses Services
TIA	Transient Ischemic Attack
VFM	Value for Money
WCC	World Class Commissioning

Acknowledgements

We are grateful to NIHR-SDO for funding this project, and to the participants who gave up their time and welcomed us into their organisations with such generosity. We thank all our interviewees and survey respondents and hope they find the final report both useful and interesting.

We also acknowledge the valuable advice received from members of our Scientific and Stakeholder Advisory Panel (SSAP):

- Professor Hugo Mascie-Taylor, Medical Director, The NHS Confederation

- Professor Peter Littlejohns, Clinical and Public Health Director of the National Institute for Health and Clinical Excellence

- Dr Gordana Djuric, Consultant in Public Health Medicine, Warwickshire PCT

- Ray Phillips, Head of Information Services Development, The King's Fund

- Margaret Demian, Head of Knowledge management, NHS Institute

- Nigel Edwards, Director of Policy, The NHS Confederation

- Dr Mike Graveney, Warwickshire PCT

- Professor Matthew Cooke, Regional Chair of Darzi Review and Project Director for the National Electronic Library for Health

- Dr David Davies Associate Professor in Medical Education, WMS

Our survey analysis was supported by two statisticians from Warwick Medical School: Dr Ngianga-Bakwin Kandala and Dr Helen Parsons and we are extremely grateful to them for their expert advice and assistance. We would also like to thank Philip DaSilva for sharing his views on our findings and Dr Angelique Mavrodaris for providing support at data collection stages. We finally thank the academic and administrative staff at NIHR SDO for their help and support throughout the project.

We would also like to give special thanks to our project coordinator, Dawn Coton, for providing the clerical and administrative support for our project.

Contributions of authors

Jacky Swan (Professor, Organisational Behaviour) acted as the Business School lead and was responsible for overall project co-ordination and management, project design, supervision of RF1 and administrative/clerical staff; also involved in qualitative data collection and analysis and in dissemination events, coordinating SSAP, report writing and publications.

Aileen Clarke (Professor, Public Health & Health Services Research) acted as Medical School lead and was responsible for project co-ordination, project design and supervision of RF2 (a and b); also led quantitative data collection and analysis, primary contact with PCTs for survey and ethical clearance involved in dissemination activities, report writing, publications.

Davide Nicolini (Professor, Organisation Studies) led on ethics approval for overall project and was involved in project design, leading (and participating in) the naturalistic study, coordinating the collection of case study data, with RF1.

John Powell (Professor, Public Health Medicine) was involved in project design, coordinated the management fellowship application, contributed to the interpretation of qualitative and survey data, and contributed to the final report.

Harry Scarbrough (Professor, Information Systems Management and Organizational Analysis) was involved in project design, qualitative data analysis as well as dissemination activities and final report writing.

Emmanouil Gkeredakis (Research Fellow, Organisation Studies) was the Lead Research Fellow (RF1) and led on literature review, qualitative research design, data collection and analysis, dissemination activities, report writing, workshop organisation, and publications and assisted in survey design.

Claudia Roginski (Management Fellow on the project, Information scientist) co-led with Emmanouil Gkeredakis qualitative data collection and analysis, report writing, practitioner dissemination, and assisted in survey design.

Sian Taylor-Phillips (Research Fellow, Health Sciences) was Research Fellow (RF2a), led the design of the survey, and was responsible for pre-piloting, piloting, the quantitative analysis, report writing, and part of the data collection; left project early to take up fellowship opportunity in the Medical School but remained on team as analysis expert for survey.

Penny Mills (Research Fellow, Health Sciences) was Second Research Fellow (RF2b) and replaced Sian Taylor-Phillips; led on survey data collection, engagement with PCTs participating in survey, and was involved in quantitative data analysis and report writing.

Executive Summary

Background

The advent of the evidence-based healthcare movement has focused attention on how healthcare managers can exploit evidence in their decision-making more effectively. Policy makers, practitioners and academics alike, have all sought to understand and improve the translation and use of evidence in practice.

Improvements in the use of evidence have been seen as particularly relevant to commissioning in the English NHS because of the large financial commitments and more complex healthcare management decisions involved. The previous government made improvements in evidence uptake a top priority within a wider ambition to rationalise commissioning as a process of planning and prioritising resource allocation.

While the new coalition government has outlined plans to transform the fabric of NHS commissioning[1], this objective of developing more evidence-based decision making remains an important concern. It has been reaffirmed by recent statements from the NHS commissioning board, which outlined an intention to create, "an objective culture, using evidence to inform the full range of its activities"[2].

Despite the policy emphasis on embracing evidence-based principles and the debate surrounding their application, we still know very little about the ways in which evidence-based (EB) decision-making in commissioning is actually accomplished in the context of the NHS (1). What does evidence utilization actually entail for the process of commissioning? What are the circumstances that underpin or inhibit the uptake of evidence in practice? In the research described below, our main motivation has been to respond to these key and largely unexplored questions.

Aims

Our study aimed to investigate the utilization of evidence in actual healthcare commissioning decisions. The objectives of our research were:

---

[1] 'Liberating the NHS' White paper, DH, July 2010
[2] 'Developing the NHS Commissioning Board', DH, July 2011.

1. To provide greater understanding of evidence-based healthcare management by analysing the co-production of evidence in commissioning decision making.

2. To explain how and why available evidence-based products, aimed at managers, are synthesized and applied (or not) within the commissioning process.

3. To analyse the ways in which co-producing evidence for commissioning decisions is accomplished, and also identify: (i) patterns of inter-group collaboration, and; (ii) the micro-dynamics of evidence utilization, which characterise local decision-making and which may be framed by broader discourses and policies.

4. To develop a comparative theoretical framework, derived from multiple case contexts, and identify enablers for, and barriers to, using different sources of evidence to decisions being made in the process of commissioning.

5. To develop practical guidance for policy makers and managers on 'evidence-based commissioning' by engaging stakeholder groups in all stages of the research.

Methods

Our study was conducted between September 2009 and May 2011. Our theoretical approach was to view evidence as *co-produced* – i.e. produced *through* interacting practices of collaborating groups, rather than as existing prior to those practices. Our research was designed to build (rather than test) theory by drawing data from multiple methods and contexts. Our research methods (described in detail in chapter 3) were conducted in 2 Phases:

Phase 1: Detailed case studies focusing on commissioning practices in 4 NHS commissioning organisations (PCTs), which were chosen to capture variation in context. Case studies were built upon data collected from observing 79 real commissioning meetings, conducting 57 interviews with NHS commissioning staff, and reviewing local and national policy and other documents. These methods aimed at meeting objectives 1, 2, and 3, while we planned to use key preliminary findings to inform the design of the survey in Phase 2.

Phase 2: A nationally representative survey of individuals involved in commissioning was conducted in order to investigate the following: factors with a potential influence on commissioning decision making; potential sources of evidence and information; and the formal decision making tools available to those working in health care commissioning in England. The

survey targeted 444 individuals across 11 PCTs and yielded a response rate of 78% (n=345). Findings here focused on Objective 2.

To meet Objective 4, the findings from Phase 1 and Phase 2 were synthesised, together with feedback from our engagement activities. Practical guidance and implications, as per Objective 5, were developed after having held a national workshop in July 2011.

Results

Through our comparative research study, we have shed new light on evidence-based commissioning as an empirical phenomenon. The key findings can be summarised as follows:

A. ***The evidence used in commissioning decision making, especially on service redesign is co-produced from a wide variety of sources***.

The evidence which commissioning groups found most relevant or influential was not necessarily the more scientific or objectively defined types of 'evidence', but was often more to do with commissioning know how and local knowledge. Our survey respondents identified "examples of best practice from other organisations", closely followed by "local public health intelligence", as the sources of evidence with the strongest influence on commissioning decisions. These were also those identified as lacking.

Here we can distinguish between 'universal' and 'local' types of evidence. The former included: standardised information produced nationally (e.g. secondary, primary care, benchmarking data), public health data, clinical practice standards (e.g. NICE guidelines), and models of care. Local evidence entailed: local knowledge and competences, local public health intelligence, user needs/attitudes/lifestyles, activity/finance information, feedback from knowledgeable colleagues, examples of best practice, contracting models, and monitoring indicators.

B. ***Evidence does not speak for itself, but needs to be mobilized at the right time, and through the right people, to make a difference in decision-making.***

We found that the effective mobilisation of different kinds of evidence was task-, time-, and expertise-dependent. Thus, the demand for

diverse sources of evidence differed across redesign initiatives, and reflected different task and problem-solving requirements. Also the timing of evidence utilization was particularly important. In many cases, evidence on contracting models, activity and costing information was brought forward too late. Commissioners recognized that it could and should have been used while a new service was still on the drawing board. Finally, bringing key evidence to the table without involving the relevant experts was often problematic; e.g. using benchmarking data without the input from an information analyst. Our survey results also indicated that commissioners tended to use evidence in different ways depending on their own expertise. For example, "universal" empirical evidence was more likely to be used by those with Public Health training.

C. **When evidence was used in commissioning decisions, it always involved collaboration and co-production amongst the different groups involved. The effectiveness of co-production is highly influenced by the way decision-making is organized.**

The process of assembling, synthesising and understanding evidence drew on diverse sources of expertise distributed among multiple stakeholders. Co-production was critical not only for developing a technically sound solution, but also for ensuring that this solution was widely accepted. Our survey indicated that practitioners' satisfaction with commissioning decisions was strongly linked to the extent of co-production.

The findings from our qualitative study suggest that key factors affecting the effectiveness of co-production included: (i) recognition and pro-active management of divergent interests (e.g. between commissioners and potential/existing providers), (ii) overcoming the constraints imposed by collaboration with different groups due to the commissioning problem at hand (e.g. large-scale service redesign or routine decision making). In addition, our survey findings identified a number of other *process factors* that contributed to effective co-production; e.g. the availability of information and people at meetings were important and positive factors; a formal and well understood decision-making process was an important condition for effective co-production, while cancelled or poorly attended meetings were a negative factor.

D. **Decision-making for commissioning does not take place within a vacuum. It is highly interdependent with a shifting array of management and policy arrangements.**

We found that important interdependencies for such decision-making related to features such as clarity of role expectations, governance arrangements, project management, expertise integration, and relationship management. One important dimension of such interdependence was temporal – e.g. the sequencing of activities between the design and contracting stages of commissioning. Another important dimension was found to be the interface between decision-making and the wider policy environment as reflected in the tensions between individual decisions and commissioning policy development, and the alignment between organisational and national priorities. It is notable that our survey respondents regarded budget availability, compliance with national guidelines, and fit with strategic plan as the most important drivers for commissioning.

The interdependencies found in our study help explain the advantages of a more collaborative approach in which the co-production of evidence, across groups, and over time, is central. For example, we found that the highly interdependent activities of service redesign and contracting were frequently not understood as such by decision makers, and consequently were treated as discrete sets of decisions. This meant that relevant contracting evidence was often not utilized in time and decision making faced roadblocks and long delays. Our findings thus suggest that the way evidence is mobilised and used may well depend on forms of collaboration that enable key interdependencies to be identified and managed.

Conclusions

Details of proposed NHS reforms are still emerging at the time of this report, but on present information, while PCTs will be abolished by April 2013, the commissioning of services will not. Indeed, one of the drivers for these reforms was seen as the improvement of commissioning, through a more clinical focus, better responsiveness to the needs of patients, and enhanced capacity to drive quality and innovation. In light of these developments, our research findings become particularly relevant in a number of ways.

Firstly, our research results have implications in relation to the current debate on defining required roles and capabilities for commissioning support services in the reformed NHS. For example, support for evidence-based commissioning may need to account for the multiple sources of evidence demanded in commissioning decision contexts and not just on the supply of information. This includes reviewing the provision of forms of evidence, such as examples of best practice, which are currently ranked as 'low

quality' but which are highly valued by commissioning groups. Importantly, development of commissioning support needs to take into consideration the skills/expertise needed to mobilise and utilize evidence effectively. The skills and expertise of information specialists and Public Health experts are particularly important in this regard.

Secondly, in developing their capabilities, future commissioners may need to place significant emphasis on the implications of different models of co-production. Our research findings identify a number of important factors that may need to be taken into account when large-scale service redesign initiatives are undertaken. These include the recognition and pro-active management of divergent interests, and understanding the benefits of formal decision making processes that better support the co-production and collaboration needed to manage interdependent commissioning activities centred on design, procurement and contracting.

Finally, future research should be undertaken to understand the approach of clinical commissioning consortia to the use and uptake of evidence in the newly reorganised NHS. This would include a focus on the relationships between co-production, decision satisfaction and improvements in health outcomes.

1 Introduction

1.1 General Background

The rise of evidence-based healthcare (2) and the challenges of translating research into practice (3) have focused attention on improving the ways in which healthcare managers exploit evidence (knowledge produced through systematic means and held to be valid across settings) in their decision making. Significant effort has been applied, by policy makers, practitioners and academics alike, to understanding and improving the use of evidence in practice. This has led to the development of various kinds of tools, guidelines and information systems that aim to capture and codify evidence and make it more readily available for use by healthcare managers (NHS Evidence[3], for example). We refer to these tools herein, for simplicity, as *knowledge products*.

It appears, however, that there is poor diffusion and use of evidence across managers of different NHS organizations, as well as very patchy uptake of knowledge products. These difficulties appear to stem, not so much from the availability and quality of evidence (and associated knowledge products) as from its utilization in different kinds of practical settings. In short there is a significant problem of evidence utilization in practice.

Previous research has attributed this problem, in large part, to the highly localised nature of knowledge and professional and healthcare practices in the NHS context, which appear to preclude the take-up and use of more generic and research-based forms of evidence and information (4-6). Because of this importance attached to localized, situated knowledge and epistemic practices, we frame the problem of evidence uptake and its use as a *knowledge utilization* problem. Knowledge utilization we define broadly as entailing the creation, sharing and application of knowledge in specific contexts. Referencing the seminal work of (7) knowledge utilization encompasses both knowing (i.e. the epistemic work that is performed as part of an action, or knowing *in* the world) and knowledge (i.e. the concepts, rules, distinctions, lessons learnt etc. possessed by individuals and groups, or knowledge *about* the world). In their terms, then, knowledge utilization entails the deployment of knowledge 'as a tool for knowing':

---

[3] http://www.evidence.nhs.uk/

"We hold that knowledge is a tool of knowing, that knowing is an aspect of our interaction with the social and physical world, and that the interplay of knowledge and knowing can generate new knowledge and new ways of knowing" (p. 381)

Evidence utilization, then, we define as a particular aspect (subset) of knowledge utilization that focusses on the practice of using various forms of knowledge products to make, and defend, decisions about specific courses of action in healthcare settings. According to this view evidence utilization, like knowledge utilization, is a relational practice – what counts as evidence and how it comes to matter is derived from the interacting practices of different stakeholders engaged in decision-making in specific contexts. Evidence utilization, in these terms, entails a process of *co-production.* Framing evidence utilization more broadly as a knowledge utilization issue is important because it reminds us that the challenges lie, not just in the supply and diffusion of evidence (in its various forms), but also in the demand for evidence as part of a practical and effortful accomplishment of 'knowing', whereby knowledgeable practitioners seek to accomplish specific tasks in specific contexts (8). This also allows us to seek answers to the problems of evidence utilization through recourse to a broader range of literature, including previous work on Evidence-Based Management, but also a rich recent seam of research in management studies on organizational knowledge and knowing in practice.

Knowledge utilization is especially challenging in the context of complex healthcare management decisions, where multiple experts and professionals are often involved, and where varied, sometimes contradictory, forms of evidence could (at least in principle) be brought to bear. Commissioning is one such context. It involves multiple experts (commissioning managers, finance experts, clinicians, Public Health experts and so forth) working jointly to come to decisions on how to prioritise and spend a health organization's budget in the purchasing of healthcare treatments and services. In the new arrangements for the NHS, the NHS Commissioning Board will have overall responsibility for a budget of approximately £80bn, of which it will allocate £60bn directly to Clinical Commissioning Consortia. Yet previous research from The King's Fund has found significant variation in spending patterns (9, 10). In 2008/9, for example, the variation in spend per head of population between the highest and lowest spending Primary Care Trust was 4-fold for mental health, 3.6-fold for circulatory diseases and a 2.5-fold for cancer (10). Variation in spend is not in itself a problem, of course, but The King's Fund research has also found, over all the years of its studies, that a large amount of this variation is inexplicable by local population needs (9).

Such findings have continued to raise *'unanswered questions about why PCTs reach different decisions about their spending priorities'* (9). These questions will be just as, if not more, relevant with the advent of GP-based Commissioning. This research has stressed, moreover, that there is a need to understand evidence utilization in commissioning better and how this is influenced by the decision processes and routines of health care managers and other stakeholders. This need is underlined by major policy efforts to systematize the commissioning process, such as the previous World Class Commissioning programme[4] and, more lately, the RightCare Programme[5] under the QIPP initiative. These initiatives have also resulted in numerous knowledge products aimed specifically at helping commissioners improve their decisions (e.g. NLH Health Management Library on commissioning, RightCare Atlas of Variation, and so forth). With the Government's spending review expecting efficiency savings of around £15-£20 billion per year by 2013/14, much of which is to come from the streamlining of commissioning of services, and its recent major reorganization of commissioning across the NHS, the need to understand the use of evidence in commissioning practice is becoming more urgent.

1.2 Aims and Objectives

Against this backdrop, our research aimed to investigate knowledge utilization in healthcare management decisions in England, focusing in particular on evidence utilization in the context of commissioning decisions. As can be seen below, we started our research from the position that the dominant treatment of evidence utilization in existing work – i.e. seeing evidence as something that is produced and validated separately (apart) from its use in practice - is problematic for understanding *management* decision-making. Our research proposed a fundamental shift towards viewing evidence as produced *through*, not independently of, the interacting practices of a range of professional and managerial groups. In commissioning these include, for the most part, commissioning managers, Public Health experts, finance managers and clinicians. We used the term, *co-production of evidence* in our proposal to describe this pattern of knowledge utilization – a term that has since gathered prominence in major policy initiatives on the subject (e.g. RightCare). The objectives of our research (as outlined in our original protocol) were:

1. To provide greater understanding of knowledge utilization in healthcare management by analysing the co-production of evidence by different groups within PCTs' commissioning decisions.

2. To explain how and why the available knowledge products aimed at managers are synthesized and applied (or not) within the commissioning

process, in order to identify how such products might be more effectively configured for demand and use.

3. To analyse the way in which different managerial groups interact in co-producing evidence for commissioning decisions so as to identify: (i) the roles of inter-group contestation/collaboration, and; (ii) the micro-dynamics of knowledge utilization, where evidence for decision-making emerges from the exchange of material objects (including knowledge products) within the framing supplied by discourses and policies.

4. To develop a comparative theoretical framework, derived from multiple case contexts, which links the roles played by different groups and the use of different sources of knowledge and information to decisions being made in commissioning, helping to explain variation across PCTs.

5. To develop practical guidance for policy makers and managers on knowledge utilization in commissioning by engaging stakeholder groups in all stages of the research (PCT Managers, NHS Evidence - National Knowledge Service (NKS), the National Library for Health (NLH) - NHS Institute, The King's Fund, DH and academics).

1.3 Research Context

An obvious place to turn to for research on evidence utilization is previous work on Evidence-Based Management (herein EBMgmt). Interest in EBMgmt has increased significantly in recent years, echoing growing concerns about the translation of evidence into practice by managers in their decision making. Recent reviews point out, however, that while a large number of articles have been published on the subject, most are based on anecdotal information and normative prescriptions about its value and its ability to improve performance (11). The impact of EBMgmt on performance, then, is not well established and the concept itself is seen as underdeveloped (1). As Briner et al point out (1), *"Like most multifaceted new ideas, EBMgmt is underdeveloped, misunderstood, misapplied, and implemented inconsistently" (p. 9).*

This aside, the notion that managers do not (and should) use evidence (variously defined) systematically in their decision making has been at the heart of much research and policy initiatives in healthcare management. The widespread acceptance of 'Evidence Based Medicine' (EBM) in clinical care has helped to further propel EBMgmt as the way to deal with the 'research-practice gap' in healthcare (12). At the core of this work is the view that, whilst management is 'a craft that can be learned only through practices and experience', health managers and policy makers should take up and use evidence derived from well conducted research wherever possible (13). Debates focus, then, on the often limited availability of evidence, its limited use and on the relative advantages of different forms of evidence in management decision-making (including research-based,

generalisable or universal vs. experience-based, colloquial and localised forms of evidence).

As yet, however, the success of this approach as a framework for **management** practice is limited (12). Some work has sought to explain these limitations by highlighting the differences between managerial and clinical practices – e.g. in culture, research base and decision-making processes – which are found to have important implications for the way in which evidence is produced, translated and used by clinical and managerial groups, respectively (14). As Walshe and Rundall noted (14), "*because of the constrained, contested, and political nature of many managerial decisions, it may be difficult for managers to apply research evidence even when it is available*" (p. 445).

The implication is that current understandings of EBMgmt are too heavily coloured by clinical and research practice, and too little by management practice. For example, compared to management, clinical work is carried out within an institutional environment defined by (more or less) shared norms and standards of medical professions and scientific disciplines. In this environment, outcomes of scientific research are generally valued and able to travel across domains of practice, if not directly into practice itself. In contrast, the field of management lacks this shared institutional environment due to, at best, weak professionalization (15), and a fragmented and highly inductive knowledge-base. As a result, the direct travel of information across research and practice is highly problematic (16), and its utilization limited by the highly uncertain, context-dependent and often distant relationships between managerial decision-making and outcomes. Thus there is good reason to believe that knowledge utilization in management is substantively different to that in medicine.

This work strongly suggests a need for research which addresses the realities of managerial work and decision-making *in practice* and relaxes EBM-based assumptions about the nature of evidence and its use. In outlining an agenda for such research, we have deployed an epistemological approach which views knowledge and its utilization through the lens, not of the scientific model, but of *social practices* (7, 17). This highlights the context-dependent aspects of knowledge production and utilization (18) in political arenas that depend on inter-group collaboration (19) and interactions between experts and managers (20). It is an especially appropriate approach to apply to knowledge utilization in healthcare management, given the constrained and contested features noted by Walshe and Rundall (14).

Another strand of research that has informed our thinking focuses on *why* evidence (packaged as various forms of knowledge product) is not apparently used in healthcare management (or not used effectively to improve performance). This suggests that a major reason is because existing approaches to the utilization of evidence focus on the *supply* of knowledge and information at the expense of understanding *demand* and, in so doing, seriously underplay the importance of the organizational context for knowledge utilization. Healthcare management decisions, moreover, typically draw from very diverse forms of expertise and information which are to be found in a wide variety of knowledge products, as well as through social interactions. Commissioning decisions, for example, are taken by commissioning managers, Public Health and finance experts, and clinicians, and draw from information on clinical effectiveness, cost, quality and Public Health/population benefit. In this context (what counts as) evidence is often hotly contested, negotiated and socially legitimated and emerges from the combination of a range of sources of experience and of information (14).

More recent work has focused, then, on the need to translate and transform (rather than simply transfer) knowledge across both professional and organizational boundaries, and different 'knowledge cultures' (21, 22), in order to improve its utilization (23). This has led to recent interest in knowledge mobilisation – including a new NIHR call for research in this area in 2012 - recognising that knowledge transfer is an inappropriate metaphor for capturing the social complexities of knowledge use in healthcare settings. These strands of work incorporate a closer focus on the *demand* for evidence. Yet, despite this there remains a strong tendency, particularly in the EBMgmt and Evidence Based Medicine (EBM) literatures (24), to view evidence as existing separately from the decision-making practices and organizational contexts of healthcare managers – i.e. as 'apart from' rather than 'a part of' management practice. This is reflected in terms such as 'uptake of evidence', the 'transfer of evidence', and 'best available evidence'.

Our study sought to build on this existing work by developing a distinctive contribution to the theory and practice of evidence utilization in management decision-making within the NHS. We selected commissioning as a research site precisely because it offered opportunities to see multiple forms of knowledge being utilized (or neglected) within a decision-making process that is critical to health outcomes. By framing the evidence utilization more broadly as a knowledge utilization issue, we began from the view that evidence is co-produced through the interacting practices of managers, professional groups and the various knowledge products that they deploy in their decision-making. Hence in proposing our study we used the term *co-production of evidence* to describe this pattern of knowledge utilization within management.

In applying this approach to commissioning decisions we sought to shed new light on the basic questions of what counts as evidence, how does evidence utilization happen *in practice*, what purposes does it entail (including, technical/instrumental and political/legitimacy-seeking), and how does this influence decisions taken.

Developing this co-production perspective on commissioning decisions offered us, at the outset, several advantages over existing work:

- It provided a more even-handed approach to the supply of, and demand for, knowledge.

- It helped us understand the influence on commissioning decisions of the practices, political interests and judgements of the different groups co-producing evidence.

- It took due account of context and the localized nature of management practice, so helping to explain the wide variation seen in commissioning decisions across NHS Trusts in previous reports.

- It helped to explain low take-up locally of promising knowledge products (e.g. NHS Evidence) and new forms of management practice (including EBMgmt itself).

- It produced practical 'thinking tools' for NHS commissioning managers that reflect their *actual practices* and challenges – i.e. the demand side – so increasing relevance.

1.4 Changes in the Commissioning Landscape since the commencement of this research

Shortly after the beginning of the project, the new government announced the wide ranging changes it intended to make to the way in which the NHS was run. We took stock, of course, of what this might mean for our research. Our major research interest lies in investigating evidence based commissioning - the inclusion of Primary Care Trust (PCTs) occurred as a result of the fact that these were, during the period of our project, the major organisations responsible for commissioning the vast majority of services for the populations they served. As became apparent with the gradual emergence of the detail of the reforms, PCTs would be abolished by April 2013. However, the commissioning of services would not. Indeed, one of the drivers for the reforms was to find a way of improving how commissioning was undertaken, to make it more responsive to the needs of patients, more clinically focused and more able to drive improvement and

innovation amongst the providers of clinical care[6]. DH's view has been that GPs working in consortia, and using local clinical insight and patient based knowledge of local healthcare needs, will be able to lead commissioning better than in current arrangements. 'Liberating the NHS'[7] suggests that a smaller group of primary care practitioners will lead a consortium working with a range of other health and care professionals. However, all practices will be required to be part of a consortium. Although GPs are expected to lead consortia, they will employ staff, or buy in support, from external organisations - such as local authorities, voluntary organizations and independent sector organizations - in order, for example, to analyse population health needs, manage contracts and monitor finances. Hence the need to better understand how multiple professional and organizational (and political) groups interact and utilize knowledge in arriving at decisions – precisely the focus of our research – has never been greater.

It has been fortunate that the aspects of commissioning, which we have focussed on, namely service re-design and patient pathways, played heavily in the transfer of commissioning responsibilities. Throughout the period of our study attention has focused, perhaps more than ever before, on how commissioning is achieved *in practice* and on defining the roles and capabilities that would be required for commissioning for the emerging consortia and producers of new knowledge products. As new merged NHS "commissioning clusters" transfer staff to shadow commissioning support services, emerging GP commissioners - Pathway consortia – have also started to make their recommendations and to design tools to help understand the services they will need to organise to make commissioning a reality. Most recently, they have produced a 'Ready Reckoner'[8], which aims to quantify and define these in detail.

At the time of writing this report it is still not yet clear exactly what new Commissioning support units will look like, and how their functions will be distributed among social enterprises, NHS organisations and the private sector. There are numerous political debates and agendas at stake. However, regardless of how the political landscape falls out, the need for a commissioning function and for the development of commissioning expertise itself will remain. As the study comes to a close, we believe its timing to be both propitious and of particular value to the service.

---

[6] Department of Health. Equity and Excellence: Liberating the NHS: Available from:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_117794.pdf
[7] Department of Health. Equity and Excellence: Liberating the NHS: Available from:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_117794.pdf
[8] Department of Health. 'Ready Reckoner' clinical commissioning groups running costs tool: Available from:
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_129992

1.5 Research Approach and Report Structure

The research adopted a multidisciplinary approach, attentive to the distinctive context of healthcare - a sector where different forms of expertise, priorities, and concerns co-exist in dynamic tension. Empirical study allowed us to address evidence utilization by examining the way epistemic cultures, decision making processes and knowledge products interact in particular contexts to shape both the demand for, and application of, evidence amongst managers and clinicians engaged in acting upon and making management decisions. Our aim in using a research design which incorporated literature review and both a naturalistic and a quantitative approach to empirical data collection, was to allow for different ways to investigate the accessing, validating and use of evidence and the particular frames of reference of the actors involved involving both depth and breadth. At the same time, the design needed to provide comparative analysis of the healthcare context's impact on managerial decision-making in different arenas, linking this to the initiatives and tools aimed at improving the delivery of evidence.

There is general agreement in the literature that the combination of these methods yields results that are both robust and significant (25) and that a mixed-methods approach is particularly useful in healthcare settings (26, 27). Due to the paucity of systematic research on *actual commissioning practice*, our initial analytical framework derived through our previous research and the literature review (see Chapter 2) was provisional rather than fixed and our research approach was largely inductive. Thus our approach was to build (rather than test) theory by drawing data from multiple methods and contexts. Our research design and methods (described in detail in chapter 3) were conducted in 2 Phases:

Phase 1: Detailed case studies focusing on commissioning practices in 4 NHS commissioning organisations (PCTs), chosen to capture variation in context were undertaken. Case studies were built upon data collected from observing 79 commissioning meetings, conducting 57 interviews with NHS commissioning staff, and reviewing local and national policy and other documents. These methods aimed at meeting Objectives 1, 2, and 3, and we used key preliminary findings to inform the design of the survey in Phase 2. Analysis of emerging qualitative findings allowed us to concentrate on how to investigate using a survey methodology decisions, decision making, the use of evidence and the types of evidence used in commissioning organisations.

Phase 2: A nationally representative survey of individuals working in health care commissioning in England was designed using the findings of the

qualitative case studies (see above) in order to investigate the factors with a potential influence on commissioning decision making (including extent of co-production), sources of evidence and information used, use of formal decision making tools and satisfaction with decisions made. The survey targeted 444 individuals across 11 PCTs and yielded a response rate of 78% (n=345). Findings here focused on Objective 2.

To meet Objective 4, the findings from Phase 1 (chapter 4) and Phase 2 (chapter 5) were synthesised, in a series of analyses and joint meetings and together with feedback from our engagement activities (chapter 6). Practical guidance and implications, as per Objective 5, are discussed in chapter 7.

We should stress that it has been a top priority for the project team to disseminate research findings as widely as possible (see Appendix 5 for further details). Finally, our Management Fellow, Claudia Roginski, has been instrumental in tacitly transferring some of the key lessons that emerged from the project and in capitalising on her secondment. For more information about the documented benefits of the management fellowship that was attached to our project, please refer to Appendix 6.

1.6 Feedback and Engagement with User Groups

Engagement with NHS stakeholder groups was a major objective of our study (see chapter 3 for further details). Reflecting our emphasis on co-production, this was conducted through all stages of the research, not just at the end. Major forms of engagement comprised:

Scientific and Stakeholders Advisory Panel (SSAP): This group met twice during the research period to ensure scientific and user input into the research direction and emerging findings. It was also consulted via email as and when issues arose.

Feedback to/from collaborating sites: Formal and informal feedback sessions were conducted with our key contacts at the 4 PCTs involved in Phase 1. These were used to validate emerging findings and provide new learning for those involved. In addition short workshops were conducted at all 11 PCTS involved in Phase 2 to explain the research and secure engagement for the survey.

National Workshop: A one-day national workshop was conducted in July 2011 to disseminate findings from the research and obtain feedback on initial results. 52 people attended (including the research team) from a variety of NHS organizations and national agencies.

1.7 Relevance to SDO Management Practice Programme

The research contributes directly to Theme 5 of the SDO Management Practice programme by:

- Examining the ways in which different forms of knowledge and evidence are produced and used by healthcare managers.

- Exploring the uptake and application of 'evidence' on commissioning made available through knowledge products produced by national agencies.

- Examining, through systematic cross-case comparisons and survey, organizational constraints on the co-production of evidence and identifying promising practices.

The findings relate additionally to:

- Theme 2 - by examining how managers and professionals construct and legitimate evidence to make judgements in different commissioning contexts.

- Theme 3 - by considering how managers' constructions of evidence are shaped by professional roles.

The research also complements other SDO programmes that have been launched since, in particular 'The Practice of Health Care Commissioning' and 'Knowledge Mobilization'.

2 Literature Review

The debate on how research and evidence should or can inform the practice of administrators and managers of healthcare organisation is relatively recent when compared for example with the debate on the same topic that took place in clinical quarters (see e.g. (28). While the concerns on how to overcome the barrier between research and practice in clinical settings has been central to the clinical community since the end of the 1970s (see below), it is not until recently that these topics have become central to the discussion.

In this section, we critically review the literature that has addressed the issue of how managers and clinicians in their administrative roles utilise knowledge in the effort of ensuring the smooth running of healthcare organisations. We are particularly interested to map the current understanding of how *knowledge* (in the broadest sense), which is produced within a particular context and discourse (such as policy or research), has an impact on, and becomes relevant for, and in, *practice*. The aim of this review is thus limited and our goal is not that of reviewing the now vast literature on knowledge translation and utilisation. Such a task not only goes beyond the scope of this work but recent work has already provided such a broad and comprehensive overview (29).

Accordingly, here we focused especially on three major streams of literature, which engaged explicitly with the task of conceptualising and advancing the relationship between knowledge and practice in non-clinical settings. The first stream explores knowledge utilization from an EBMgmt and EBMgmt in healthcare perspective. The second focuses on ways of enhancing relevance and application of knowledge through co-production. Finally, a third stream embraces a knowledge mobilization and exchange view and examines the role research evidence may play in society at large and in policy, as well as in organisational decision making in particular. Findings from our review show that, despite growing research attention, the relationship between knowledge and practice needs to be better understood through adopting a more sophisticated lens and through conducting further empirical research. Our review also reveals that almost no attention has been devoted to the issue of research and knowledge utilisation in commissioning processes (We found only one article on the topic: (30).

2.1 Review Methodology

Following (31), in order to conduct the review we relied on non-keyword based reviewing of the literature. We primarily aimed to identify papers that made a core contribution, either conceptually or empirically, to the understanding of the phenomenon. Our starting point was to identify, through team consensus, seminal papers that were considered to have shaped the evolution of the field. E.g. (12, 14, 32). We then used the ISI

Web of Science Citation Index to identify papers that cited those seminal papers, and also made a significant contribution. The process here was both prospective (i.e. targeting papers published after the selected seminal paper) and retrospective (i.e. targeting key references in the seminal papers as well as other references cited in later articles). Synthesis involved summarising the main findings of the selected sources, in either tables or new narratives. The other method was *analytical synthesis*, i.e. clustering papers together in traditions. "Whereas the analytical summarization process itself may be opaque to readers, it is intended to help reader make sense of the primary sources by iteratively building a new model" (31, p. 454).

We deliberately undertook a theoretically sensitive (rather than systematic) review of literatures relevant to our topic early in the life of the project (presented at the OBHC conference 2010 - see project outputs). That review informed the design of the interviews and of empirical work (qualitative research). A theoretically sensitive approach was favoured because of the theoretical (rather than empirical) emphasis of the review. In other words, the drive in our review was to explicate how certain theoretical concepts - e.g. co-production, evidence utilization etc. - had been developed by previous researchers.

The findings of the theoretical reviews were revisited in team discussion in the final stages of the project, in an inductive exercise which sought to integrate case study data and theoretical interpretation. We framed our investigation around concepts which emerged from early literature reviews as well as from exposure to actual organisational practices. When analysing our data, we also pursued developing concepts which were grounded in both new theory and our empirical observations. (This is described in more detail in chapter 4).

2.2 The EBMgmt Perspective

A recent but increasingly influential stream of literature on how knowledge can become relevant for managerial and, in our case, commissioning purposes is that of evidence based management (EBMgt). At the core of the EBMgt literature is the view that, whilst management is 'a craft that can be learned only through practice and experience', health managers and policy makers should take up and use evidence derived from well conducted research wherever possible (13). Debates have focussed on the, often limited, use of evidence and the relative advantages of different forms of evidence in management decision-making (e.g. research-based vs. colloquial, and generalisable vs. localised, forms - (12)).

The EBMgmt movement has tried to address the so-called 'research-practice' gap, that is: "the failure of organisations and managers to base

practices on best available evidence"(12). Proponents of this approach have argued that the gap manifests itself in variations of managerial practices, which are attributed to the (a) *overuse* of ineffective interventions, (b) *underuse* of more effective approaches and (c) *misuse* of tools and information. The proposed remedy to all three problems of use is a change in the way decisions are made locally by practitioners through the widespread dissemination and uptake of relevant research evidence (14, 33, 34). Effectively, at the core of EBMgmt – a close relative of EBM (24) – is the idea that evidence utilization can be improved if a transformation of managerial practices takes place. Research evidence can become a powerful tool for practitioners because it 'enlightens' them with regards to the universal laws underpinning the effective functioning of organisations (35). Accordingly, managers who are trained to use evidence can be in a better position to deal with their everyday managerial challenges and pursue the achievement of their organisations' goals more effectively (36, 37). As Rousseau put it (12):

"Educators need to help students acquire the metaskills for designing solutions around the research principles they teach. Managers must learn how to experiment with possible evidence-based solutions and to adapt them to particular settings. We need knowledge-sharing networks composed of educators, researchers, and manager/practitioners to help create and disseminate management-oriented research summaries and practices that best evidence supports." (p.267)

What is essentially proposed here is that the universal and generalisable properties of evidence can make a difference because evidence can inform managers of "what works and what doesn't" (33). From an EBMgmt perspective, evidence utilization is advanced through a number of steps:

- The research community creates knowledge that is generalisable and provides answers to important problems that transcend organisational contexts across space and time; that is, it creates universal propositional knowledge.

- The business education community trains managers to develop critical appraisal skills needed to be able to search, evaluate and apply research in their organisations; that is, to enable transfer of already well-proven evidence.

- The practitioner community strives to create a research culture in their organisations such that, managers, just like doctors, strive to cure "their organisational ills" (13) by framing the right diagnostic question and by drawing upon a large body of authoritative, cumulative, formal knowledge in order to resolve it.

Critics of EBMgmt argue against the ideological maxim that science alone is efficacious for effective problem solving (38-40) and cast doubt over the

possibility of universally applicable evidence. They submit that the politics of organisational life play a decisive role in what evidence is used, how and why (41, 42). For Learmonth (29), the EBMgmt movement uses "the rhetoric of science as a mask for the politics of evidence" (p. 1089), while the demand imposed on the research community to produce generalisable knowledge is essentially linked to a hidden agenda aimed at limiting fragmentation and pluralism in organisation studies and at favouring the use of specific methodologies. EBMgmt thus emulates EBM (or more accurately EBMgmt scholars' understanding of that movement), which is founded upon the creation of a universally agreed 'hierarchy of evidence'. In his polemic (35), Morrell revealed similarly that the epistemic community underpinning the EBMgmt movement shares a common worldview with EBM on the relationship between knowledge and practice – one that is fundamentally based on problematic ideological assumptions (e.g. that 'what works' can be defined irrespective of the values, beliefs and social interests of the researcher/managers), and is attuned to fulfilling particular social purposes (35):

"Achieving credibility by drawing comparisons with the higher prestige discipline of 'medical science', whilst defamiliarization is accomplished by coopting or reinventing key terms, for example, 'systematic', 'narrative', 'transparency' and 'evidence'." (p. 618)

In other words, critics underline the political, ideological and non-scientific forces underpinning the establishment of EBMgmt. However, the focus of critics is on portraying EBMgmt as 'propaganda', rather than on providing an alternative proposition for investigating evidence utilization. From an EBMgmt perspective, there is also a strong tendency to view 'evidence' as existing in isolation and *separately* from the decision-making practices and organizational contexts of healthcare management (43, 44). Yet, as Walshe and Rundall noted (14), this hypothesis is problematic: "because of the constrained, contested, and political nature of many managerial decisions, it may be difficult for managers to apply research evidence even when it is available" (p. 445).

Other problems associated with EBMgmt include: lack of empirical evidence that EBMgmt is effective; inaccurate portrayal of organisational decision making as linear; oversimplification of organisational practices as well as diffusion and replication processes; and unclear accountabilities of research producers (45, 46). Replies to sceptics normally involve an acceptance of the complexity of organisational reality or that other forms of evidence, such as insight and experience, are also needed in managerial decision making (12). Nevertheless, the vision for educating managers to become more evidence-based (36, 47, 48) is not abandoned, since scientific knowledge, such as systematic reviews, represents a superior form of

knowledge that can 'free' practitioners from the so-called 'cage of ignorance' (1):

"It is difficult to practice EBMgmt thoroughly without accessible systematic reviews of evidence. As few of these currently exist in management and organisation studies, even practitioners, who wanted to, could not fully practice EBMgmt". (p. 20)

To summarise, the recommendations of an EBMgmt perspective are that, in order to bridge the gap between research and practice, attitudinal and cultural change is required amongst the practitioner community (46). The debate over knowledge utilization thus tends to be reduced to how researchers should supply practitioners with superior propositional, objective and transferrable knowledge (49) and how practitioners can be persuaded to use it. Researchers are seen as the privileged social group that create 'true knowledge' (48) of how organisational and managerial practices can be accomplished more effectively (43, 44). In essence, proponents of EBMgmt tend to overemphasise the potential of research evidence and to oversimplify the nature of practices, a limitation which nonetheless has preoccupied them (1):

"Empirical work is also required to address the key question raised... Does practising EBMgmt improve the process and outcome of decision making in organizations?" (p. 27)

2.3 The Co-production Perspective

Proponents of the Co-production perspective share with EBMgmt supporters the view that there is a research-practice gap that needs to be bridged. However, they view the gap as a consequence of the way in which the academic community produces knowledge, and the consequential difficulties in making academic findings useful to practitioners (16, 50). In other words, the question of research relevance is *re-framed as a knowledge production problem; rather than as a knowledge diffusion problem* (51). The co-production perspective (52-54) puts forward the idea that knowledge should be co-produced in the sense that the boundaries across the scientific community and society become more permeable. In essence, the co-production of knowledge reflects the idea that science should account for the social ramifications of knowledge, lose some of its autonomy, break down disciplinary boundaries, adopt more participative and transparent research processes, and generally take the interests and objectives of a range of stakeholders into account (55, 56). As a consequence of adopting co-production logic, science becomes more reflexive and accountable to society (54).

The idea, then, is that healthcare management researchers should become more engaged with the practitioner community so that knowledge utilization is enhanced (16). Knowledge should be co-produced in that research projects should leverage multiple sources of knowledge, i.e. of academics and of practitioners, so that solutions to *both* increasingly complex organisational problems *and* important theoretical debates are created in more effective ways. In other words, proponents of the co-production perspective advocate a vision of mutually beneficial (to the academic and practitioner community) pluralism (57), where the models and theoretical viewpoints of academics are fused with those of practitioners. Fostering collaboration between academics and practitioners, some also argue, can become part of a project for establishing a 'design science' of management (58). The traditional relationship between 'producers' (academics) and 'consumers' (practitioners) should be transformed and become one of 'co-producers' (and co-consumers). Seen that way, knowledge utilization is about creating knowledge that is more relevant, user-friendly, and applicable (59).

In contrast to EBMgmt, in the co-production perspective both researchers and practitioners are viewed as fully able to contribute, both to devising effective solutions to complex organisational problems and to enabling progress in important theoretical debates. Moreover, by making research more user-friendly, the given reality of practice can be accessed and represented more effectively (16):

"In a complex world, different perspectives make different sorts of information accessible. By exploiting multiple perspectives, the robust features of reality become salient and can be distinguished from those features that are merely a function of one particular view or model." (p. 809)

In other words, the more that we devote diverse intellectual resources to examine and solve 'real' problems, the better we understand the complexities of practice. Implicit in this is that the outcome of co-production is solutions that are transferrable to other settings where practitioners (who need not participate in collaborative projects) face similar 'real problems'; hence, knowledge that is co-produced becomes more applicable and user-friendly as long as the reality of practice is accessed in more effective ways.

A number of scholars have questioned the idea of co-production on the grounds that the two communities, i.e. academics and practitioners tend to have diametrically opposite or antithetical interests (50, 60). For example, McKelvey wonders (61):*"Should management research be held hostage to people who seem mentally challenged when reading the Harvard Business*

Review?" (p. 823) The reply by Van de Ven to critics is that engaged scholarship aims at not only producing relevant research, but also at creating solutions to important theoretical concerns (62). From that perspective, co-production leverages complementary, rather than conflicting, types of academic and practitioner knowledge and espouses the vision of working *with*, rather than *for* practitioners.

Other studies have highlighted that, even if a co-production logic is invoked in the context of a research project, there may be significant challenges to actually putting that logic into practice. For example, Swan et al (63) showed that in the context of Genetic Knowledge Parks in the UK, mobilising a 'logic of co-production' was quite problematic. This was primarily because that logic often clashed with, and co-existed alongside (rather than superseded), deeply institutionalised understandings of how biomedical research should be conducted. Swan et al also showed how a co-production rhetoric was strategically mobilised for purposes of legitimation (e.g. to appeal to funding bodies and secure investment in the GKPs), rather than simply to bridge the gap between research and practice. Thus, while the knowledge co-production perspective calls for academic communities to be less self-referential and insular, it does not follow that the relationship between research and practice will be any less problematic as a result.

The co-production perspective may also be guilty of assuming that a closer working relationship between academics and practitioners per se may be sufficient to account for evidence utilization by practitioners or policy makers (64), who do not actively and directly take part in the co-production process:

*"... the more one uses terms such as mutual interplay and co-production, the easier it is to be seduced into believing that one has actually **explained** the nature of utilization, when in fact one has merely said that policy and science are **working more closely** together. Thus even with an ontology that brings science and policy together as in "knowledge produced in the context of application" and an epistemology that allows policy considerations to determine what is "good science", the problem of what kind of "use" policy is making of academic knowledge remains opaque." (p. 437, emphasis original)*

Indeed, there is scant evidence that, when co-produced, knowledge will actually be utilized effectively. There are few existing studies that address whether a knowledge product (e.g. a healthcare management toolkit or best practice), which has been co-created between academics and practitioners, actually becomes more relevant for other practitioners in the future, or in

different contexts. Therefore, there is a significant gap in our understanding of *how* co-produced knowledge is actually mobilised over time and in disparate organisational situations.

2.4 Evidence Utilization as Mobilisation and Exchange

A third and very fertile strand of literature examines the relationship between knowledge and practice from a lens that focuses on the ways *evidence* may be **mobilised or utilised or exchanged** in a variety of contexts, from policy making, to healthcare management and organisational decision making. The emphasis of this group of contributions has been to refute linear models of the circulation of knowledge for action, and to unpack the concept of 'utilization' (65). As this body of literature is quite vast, here we provide only a summary outline of the key contributions.

The debate on evidence utilisation goes back to the seminal work of Weiss (32). This scholar argued that many different meanings can be attached to the notion of utilisation, and thus, we need different models to explain social science research uptake:

1. The *Knowledge-driven (or science push) model*; that is, researchers are producers of knowledge, which needs to be transferred and consumed by practitioners (66).

2. The *problem-solving (or demand pull) model*; that is, practitioners lack critical information/evidence, which is sought and provided through commissioning appropriate research; information is then transferred from researchers to the policy arenas. The relation between the researcher and policy maker is one of customer and client.

3. The *interactive model,* according to which research evidence is only one kind of information to be utilized by practitioners; that is, research evidence interacts with other sources of information. The utilization process is not linear but a disorderly set of interconnections and back-and-forthness that defies neat diagrams. Diverse groups of people become involved in a decision making process and bring their own talents, beliefs, and understandings in an effort to make sense of a problem

4. *Political model*; that is, people use research to support a pre-established position in a political debate, i.e. for political ammunition.

5. *Tactical model*; that is, research evidence is used for purposes that have little relation to the substance of the research. What is invoked is the "sheer fact that research is being done"; research as proof of responsiveness and to deflect any criticism.

6. *Enlightenment model*; social science research is utilized in the sense that it transforms the way people think about social matters; as a backdrop of ideas and orientations.

7. Research as part of *Intellectual Enterprise of Society*; that is, research is not utilized per se, rather it responds to the currents of thought and fads of a historical period.

Since the publication of Weiss's seminal study in 1979, the utilization perspective has attracted significant attention (64, 66-71) and generated a number of further lines of research. Three in particular are examined here

2.4.1 Evidence utilisation and policy making

Some researchers have attempted to use the Weiss model to test the extent of utilization in policy or decision making. Others have focused on changes in the ways research may be better utilized, when producers and users of research interact in more substantial fashion (64):

"Whereas the early knowledge utilization school conceptualized utilization as linear, i.e. knowledge is produced and disseminated and then taken up by policy-makers, contemporary social science operates with a more interactive vision. It is now one of the axioms of research policy that the involvement of potential recipients of knowledge in its production will increase the likelihood of utilization. This shift in perspective has meant that rather than produce knowledge and then try to figure out how and why policy-makers or others use this knowledge, the research community is more concerned to recruit user groups into the process of knowledge production. Not surprisingly this turn has shifted emphasis from utilization to user". (p. 434)

Jacob argued (64) that more attention needs to be paid to the ways by which ideas, concepts and other discursive elements of research knowledge are mobilised by practitioners who pursue their own local objectives. From her empirical study of how 'systems of innovation' and the 'triple helix' have been used by Swedish policy makers, Jacob (2006) showed that, in practice, those frameworks are read quite creatively and in unexpected ways. Practitioners applied their own interpretations to research evidence and used it to pursue their own interests (72), i.e. pursuing 'tactical' knowledge utilization (see above).

2.4.2 Organisation and Management Studies on Relevance

The interest in how research evidence is used in practice has also been addressed in the management literature, albeit the issues have not been studied in direct relation to managing healthcare organisations. The interest was triggered especially by Beyer and Trice's paper (71) which examined the relevance of organisation and management science to

practice. The authors proposed a utilization process model, which distinguishes among:

- behavioural components (cognitions, feeling, choices, actions),
- processes (information processing, affective bonding, strategy formulation and action generation, institutionalisation)
- utilization phases (adoption and implementation)

They also suggested that three types of research use could be identified:

- *instrumental* (acting on research results in specific, direct ways, e.g. as providing solution to a practical problem)
- *conceptual* (using research for general enlightenment and understanding of a situation)
- *symbolic* (mobilising research evidence for legitimation purposes, research used as tools by management to legitimate e.g. status quo or strategic changes) – see also (73)

More recently, this typology has been revived and developed further. Nicolai and Seidl (74) conducted a systematic review of the ways organisation and management scholars attempt to make their findings *relevant* to practitioners. Nicolai and Seidl (74) provided a conceptual model that explains the relationship between research evidence and practical utilization types on the grounds that relevance occurs and manifests itself in the context of decision making:

"The 'practical relevance' of management science has to be conceptualized as the impact of management science on managerial decision making... As Luhmann put it: 'The question is whether the decision situation is modified through the incorporation of a scientific result, which may (but doesn't have to) affect the alternative ultimately selected'.... Generally, any kind of knowledge would be considered 'relevant' to management practice to the extent that it makes some kind of difference to decision making — whatever that difference might be". (p. 1263)

Furthermore, Nicolai and Seidl assumed that decision making has three phases: definition of decision situation, selection of alternative and enforcement of alternative. Motivated by the lack of clarity in the use of relevance, the authors (74) distinguished among three forms of relevance, or what we could dub as intended types of knowledge utilization:

- *instrumental* relevance: includes *schemes* for structuring decisions/problem, *technological rules and recipes* to guide process of choice selection and strategic action, and *predictions*

- *conceptual* relevance: includes *linguistic constructs* (e.g. metaphors) used to change/enrich understanding of the world, *uncovering contingencies* that challenge commonly held assumptions about a practical problem, and *uncovering causal relationships* e.g. among previously unrelated factors, which underpin a decision situation

- *legitimative* relevance: includes 'credentialising' forms of action through research, and rhetorical devices e.g. using evidence for couching one's arguments.

The implications from reviewing the 'relevance' literature (74) are, then, that evidence utilization may have many different meanings, which can be clarified through systematically designed typologies.

2.4.3 The debate on evidence utilization in Healthcare

The 'utilization' perspective has been particularly popular among healthcare services/policy researchers. The debate has been fuelled in part by the pressure by funding agencies to consider the impact of the activity they support (75, 76).

Canada has been in particular at the forefront of the research in this area, partly because the notion of Knowledge translation was adopted by the Canadian Institute of Health Research in the early 2000s (77).

CIHR states that the process of knowledge translation includes knowledge dissemination, communication, technology transfer, ethical context, knowledge management, knowledge utilization, two-way exchange process between researchers and those who apply knowledge, implementation research, technology assessment, synthesis of results with the global context, and development of consensus guidelines (77). According to (78), this definition reflects the complexity of the issue and orients us towards study methods that can appreciate the phenomenon in all its complexity.

A number of scholars have examined both *empirically* and *theoretically* some of the factors that may underpin that process. For example, drawing upon the results of a survey of 899 decision makers from Canadian provincial health ministries, health authorities and hospitals, Ouimet et al (69) showed that cognitive, social, technological, and organisational factors significantly predicted the utilization of clinical practice guidelines by policy decision makers (although there were some differences between health

authorities and hospitals). In addition, on the basis of 35 qualitative interviews, Jewell and Bero (67) concluded that *obstacles to evidence-informed policymaking* included:

- institutional features (e.g. administrative and legal context)
- characteristics of the evidence supply, such as research quantity, quality, accessibility, and usability, and
- competing sources of influence, such as interest groups, anecdotes, and political values;

  They also argued that *enablers to the use of evidence* included:

- linking research to concrete impacts, costs, and benefits,
- reframing policy issues to fit the research,
- training to use evidence-based skills, and
- developing research venues and collaborative relationships in order to generate and share relevant evidence.

Contandriopoulos et al (79) suggested an extension to Weiss's models (see above) in order to account for the influence of context. They suggested that knowledge exchange (KE) among researchers and policymakers/ practitioners, and thus evidence utilization, also depends on the degree of 'polarisation' (salience and prioritization) that characterises decision making contexts. Their rigorous and systematic literature review revealed a number of important findings:

"The main conclusion of this review [is] that context dictates the realm of the possible for knowledge exchange strategies aimed at influencing policymaking or organizational behaviour. If a given issue's salience and prioritization are high enough for users to initiate knowledge exchange efforts and invest resources in them, then the probability of its use and impact can, from the outset, be presumed to be high. In minimally polarized contexts, use will likely resemble Weiss's problem-driven model (1979), and in highly polarized ones it will probably look like a political model of use (32)." (p. 465)

Mitton et al. (80) summarise the barriers and facilitators in the knowledge exchange process. Barriers include culture, competing interests, researcher incentive systems and frequent staff turnover. Facilitators include organizational capacity in terms of support, training, funding and technology, authority to implement changes, readiness for change and collaborative research partnerships at an organisational level.

One of the important consequences of adopting this more complex model of the relationships between research, policy and practice is an increased attention for the role of **context** and **users** and for the ways in which research evidence actually circulates within this complex ecology (3). Dobrow et al (81), for example, place much emphasis on conceptualising the role of context in *evidence utilization*. The authors foreground the important contextual differences between practising evidence-based medicine (EBM) and evidence-based health policy, arguing that:

"As we move from EBM to evidence-based health policy, the decision making context changes, shifting from the individual clinical level to the population-policy level. Decisions are subject to greater public scrutiny and outcomes directly affect larger numbers of people, heightening the requirement for explicit justification." (p. 208)

They argued persuasively that what constitutes evidence is context-based and any definition of evidence-based decision making cannot be developed irrespective of the context. This is because the decision making purpose changes, while the usually large number of participants in policy settings plays a catalytic role in what evidence is brought to the table and how it is interpreted and incorporated into a collectively agreed decision. Most importantly, policy decision making is bound to be a long, uncertain, and highly contingent *process* throughout which multiple rationalities become salient. For example, and in contrast to EBM - where the merits of the intervention are evaluated from a *clinical (and possibly cost) effectiveness* and efficacy perspective - policy makers may also need to attend to more practical issues such as *feasibility* as well as *implementation*. It is also suggested that (81):

"Evidence-based health policy-makers face conflicts when attempting to apply the highest quality evidence possible to population-wide health policy decisions, while at the same time recognising that evidentiary thresholds may have to be relaxed to incorporate a broader range of evidentiary sources." (p. 212)

The idea that different kinds of evidence are needed in the context of policy making and clinical work was also shared by Williams and Glasby (82). The authors developed a typology of effective *knowledge management* in the context of healthcare. Their typology included:

a. *Theoretical evidence*: ideas, concepts, and models related to an intervention

b. *Empirical evidence*: information about the actual use of an intervention (effectiveness and outcomes)

c. *Experiential evidence*: information about people's experiences with the intervention

In relation to our study, the implication of this work is that more emphasis needs to be placed on how multiple types of evidence are utilized throughout policy decision making processes, which unfold in particular socio-historical contexts. In essence, healthcare services/management/ policy researchers have made significant progress in delineating the key differences between EBM, carried out by individual practitioners, and evidence-based decision processes carried out collectively.

According to (78), another consequence of the adoption of the conceptual toolkit of knowledge translation is the increasing importance of the user of the research. The CIHR (83) defines a knowledge-user as an individual who is likely to be able to use the knowledge generated through research to make informed decisions about health policies, programs and/or practices. In the words of Oborn et al.:

"The importance of the user role generating and translating knowledge hence calls for a reconsideration of traditional knowledge management models that assume two separate, distinct communities – research producers and potential research users – effectively casting the problem as one of a lack of connect between these two communities." (78, p. 6)

The attention to context and 'users' has several important consequences relevant for our study. First, it introduces the idea that the translation and utilisation of research in practice is a dialogic process, as for example in Baumbusch et al "Collaborative Model" (75). Second, it requires rethinking the ways in which knowledge moves in this complex ecology taking into account the perspective of the viewer. This not only emphasises the need to consider both the 'knowledge push' from researchers to potential users as well as the 'knowledge pull' from these users back to the researchers (84). It also offers the opportunity to extend significantly our understanding of how research travels in the real world (85). A necessary reference here is the work of Gabbay and Le May (86) who describe how clinicians acquire and use their knowledge in terms of drawing on collective mind-lines which

are sustained by the community to which they belong. As the authors clearly state, their work is not an attempt to debunk the notion of clinical guidelines and evidence, rather an effort to expose how these are used in the daily practice of healthcare (a principle that guides the present research).

Third, increased attention to the role of context and users (87) thus points to the importance of developing bottom up, inductive understanding of these types of process. For example, Gabbay and May (88) suggest that when observed in detail, the actual use and mobilisation of evidence by GPs looks very different from what is depicted by many of the existing abstract models. Their results resonate with work by Mitton et al. (80), for example, who suggest that in-depth detailed understanding of the actual practices of knowledge mobilisation is critical lest we build knowledge translation policies on distorted assumptions about how knowledge flows.

This renewed attention to the practical and often mundane ways in which research (and knowledge) is used in the daily practice of healthcare management in general, and commissioning more specifically, allows us to draw on a further body of literature developed in the management and organisational field. This literature has developed the idea that, in organisational settings, *knowing* often manifests itself as a form of practice and thus needs to be studied as such. From this perspective knowing "is not a static embedded capability or stable disposition of actors, but rather an on-going social accomplishment, constituted and reconstituted as actors engage the world in practice" (8, p.250); see also (20).

2.5   Conclusions from literature review

When examining the utilization literature three features appear as dominant:

(1)   There is very high propensity of researchers to create typologies/models, which then have been incrementally adapted over time but which have rarely been exposed to empirical verification or understanding. The problem with typologies, however, is that (89): *"... they are also marked by certain limitations which stem, primarily, from the formistic type of thinking that is inherent in any typology. Typologies are based on the assumption that an observer is able to discern certain systematic similarities and differences (i.e. forms) between the objects of study. That is fine, provided we are also aware of what we lose by doing so: for formistic thinking to be possible, the conceptual categories along which the phenomena are classified must be assumed to be discrete, separate and stable. The problem is that they hardly are".* (p.14)

Typologies reveal little, then, about how utilization is experienced by actors, unfolds in real time and is nested within a nexus of interconnected practices. They also provide little insight on whether in practice one model of knowledge use (e.g. political) is completely different from another model (for interacting); whether different models can co-exist in a decision making process; or whether a context can be a-priori characterised as polarised (79). Finally, they tend to present idealised versions of complex processes. For example, even theories that reject the linear view of knowledge implementation or transfer (84) often still differentiate between phases when *evidence is introduced* (or a decision process is defined), is *interpreted* and options are evaluated, and the decision is *legitimated* and justified (74, 81). Research in organisations has shown, in contrast, that this image of decision making as comprising clearly demarcated steps is far from valid (90-96). In short, whilst the proliferation of typologies has enhanced understanding of evidence utilization, it has also created some crude dichotomies and classifications that 'artificialise' the phenomenon.

(2)   The existing evidence utilization literature is often theoretical or abstract and, with some notable exceptions, there is a lack of detailed empirical investigation, both quantitative and qualitative. Evidence utilization has been often approached as a conceptual or theoretical phenomenon (e.g. producing typologies), rather than an empirical one (actually understanding practice). Normative models of utilization may, then, be stifling understanding of the actual utilization activities undertaken by practitioners (89, 97, 98). This is mainly due to the fact that current utilization models are derivatives of theories, not drawn from rich observation of real practices (97).

(3)   There is a need to investigate evidence in use or evidence in practice on the assumption that the contextual factors such as the policy context, the professional environment (86) and the material and political organizational conditions (41, 42) will play a decisive role in what evidence is used, how and why.

The aim of the present empirical study is to address this research gap by investigating the utilization of research and evidence *in practice* focusing on the critical arena of commissioning decisions (where no such studies have been carried out previously). Thus we build from earlier work in viewing the use of evidence as an on-going social accomplishment constituted through the world of practice (79, 18).

Our review highlights, also, the diverse assumptions underpinning major streams of work on the production and utilization of knowledge/evidence. Across these streams, however, we have identified a number of important elements which, taken together, help to position our study and define a framework from which to build on existing literature. In what follows, we present the theoretical framework which guided us in our empirical research.

2.5.1 Proposed Theoretical framework

The major elements of our framework are the following.

Locus of evidence utilization

The debate in the existing literature on this topic highlights the problem of theorizing the locus of evidence use. As noted above, while some models emphasize the power of evidence produced in one place to influence decision-making in another, much recent work has suggested that the way evidence comes into play is a much more localised, and context dependent process (23, 41). Thus viewing evidence utilization as a practical accomplishment means that we need to understand the practices themselves as well as the wider nexus of interconnected practices in which they are nested.

The nature of evidence in management decision-making

The emergence of EBMgmt has suggested that there are parallels with the use of evidence in clinical decision making. However, this parallel neglects the different institutional contexts in which medicine and management are situated. Where the field of medicine is highly professionalized and dominated by the paradigm of clinical science, the field of management exhibits, at best, weak professionalization, and a fragmented and highly inductive knowledge-base. It follows that management decisions typically draw from diverse and contested forms of expertise and information. Even in healthcare settings, 'evidence' for management decision-making is highly contested, negotiated and requiring social legitimation (41). In management decisions, then, what comes to count as *relevant* evidence cannot be taken for granted, nor is it simply inferable from scientific research. Conceptual relevance and legitimacy seeking are likely to be just as prominent in the utilization of evidence in management practice as is instrumental problem solving (67). Thus we need to consider the ways in which multiple forms of evidence are 'in play' in management practice.

Epistemological assumptions

Existing work on EBMgt tends to adopt a scientific model of the role of knowledge and information in shaping action. The limitations of this assumption, however, are highlighted by studies that emphasize the close interplay between knowledge and social practices. In such studies, the role of information in decision-making is highly mediated by the social practices in which decision-making is embedded (20). This epistemological perspective is particularly relevant for a study of management decision-making because it highlights the context dependent aspects of knowledge production and utilization in political arenas depending on inter-group collaboration (19) and interactions between experts and managers (18).

The role of commissioning practitioners

The focus on the supply and configuring of evidence seen in the literature places the role of practitioners – in this case, a diverse group comprising commissioning managers, public health and finance experts, and clinicians - as well as others in the background (especially patients and policy groups). However, the implications of a greater focus on the localized conditions of evidence use, together with an awareness of social practices as the medium through which evidence is mobilized, actually place this practitioner group centre-stage in our analysis.

When viewed as important actors in decision-making, rather than as receivers of information, the significance of practitioners becomes much more explicable theoretically. Rather than viewing the judgements made by this group as aberrations from an ideal model, they can be studied empirically and theorized in terms of practitioners' agency and its embeddedness in social practices. Making sense of such judgements, therefore, means accepting that, while always personal, they are also enabled and constrained by the collective understandings of the wider community of practitioners to which they belong. This means paying attention, also, to the socially defined criteria through which such communities make, justify and defend decisions (98). The above suggests that in studying evidence in management decisions, we need to give much greater attention to the role of commissioning practitioners at the point of use. We should be less concerned with the innate quality and generalizability of evidence, or its potential impact on decision-making, and much more concerned with the way in which it is mobilized within social practices as a practical resource, a 'tool of knowing', by practitioners themselves (7).

The following figure illustrates the guiding framework for our empirical study. Overall, this framework allows us to move away from the abstract conceptions of 'relevance' and stylized understandings of evidence utilization, which have dominated debates previously. Instead, it defines a

primary focus on the way in which groups of practitioners co-produce evidence as part of their practices, and within different localized contexts of decision-making.

Figure 1. The theoretical framework, which underpins our inductive study
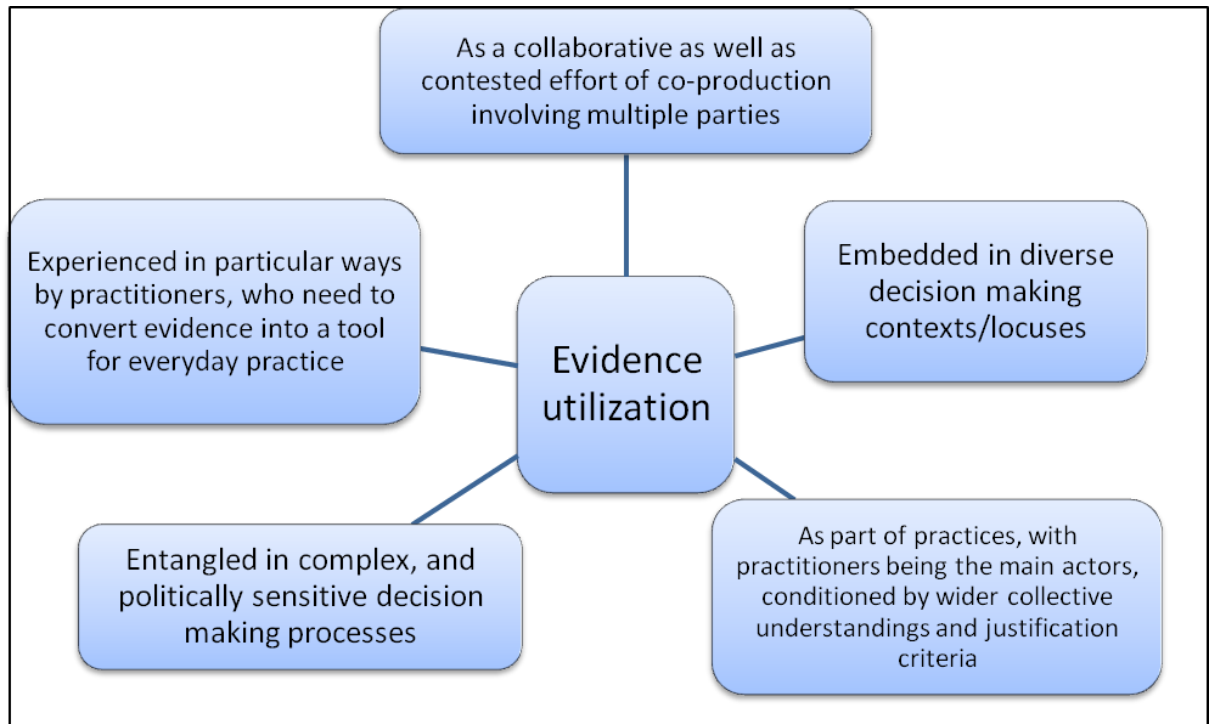
3 Overall Research Design

3.1 Research Stages

In order to address our Objectives (1 – 5), we began our research on the basis of a detailed plan of investigation and analysis (included in our original protocol). The plan included four stages (see Table 1):

1. Collection of background information (using mainly qualitative methods)
2. In-depth investigation (using mainly qualitative methods)
3. Generalisation of findings (mainly through a national cross-sectional questionnaire survey)
4. Feed-back and engagement with practitioners (mainly through workshops)

Table 1 Research Stages

	Research Stages (according to protocol)			
	Stage 1	*Stage 2*	*Stage 3*	*Stage 4*
	Collection of Background information	**In-depth investigation of evidence utilization in commissioning**	**Generalisation of findings**	**Feedback and engagement**
Research approach and activities	- Conducting scoping observations and interviews - Considering and evaluating various options for focussed observation - Decision to focus on specific **settings across all sites**: *commissioning service redesign and exceptional decisions*	- Naturalistic observations, interviews and documentary analysis of 5 projects and exceptional decision processes	Survey of specific commissioning decisions	1. Sharing preliminary findings with PCTs (PCTX) 2. Sharing findings on the individual funding process (PCT W) 3. Sharing findings on the individual funding process (PCT Y) 4. National workshop

Whilst we present these as stages in the research, in it important to note that they did not occur in a discrete linear sequence. For example, background information was collected throughout the research period, especially as the political landscape on commissioning shifted significantly part way through. Furthermore, and in keeping with a co-production

approach, feedback and engagement occurred throughout the project via various on-going and important mechanisms (e.g. the engagement of a Management Practice Fellow, feedback to collaborating PCTs, regular meetings with the Scientific Advisory Panel). Below, we outline in more detail how we proceeded during the four stages of our research.

Stage 1: Collection of background information about commissioning practices

We conducted our research in commissioning organisations (PCTs) in the NHS: our research sites. Stage 1 proved to be critical because, we found, initially, that commissioning encompassed a very broad range of activities; from drawing up new policies, strategies and plans, to making exceptional decisions, negotiating contracts, redesigning services, etc. Indeed, even those titled as 'commissioning managers' very frequently defined commissioning quite differently. In light of this empirical diversity, we realised that observing actual commissioning 'on the ground' was bound to be very challenging. For example, in our original protocol we had envisaged studying commissioning in particular patient conditions (e.g. coronary heart disease) but we found that the boundaries of commissioning practice did not align neatly with such conditions.

Towards the end of Stage 1, we thus evaluated a number of options regarding the ways in-depth investigation of evidence utilization and co-production could/should be conducted at Stage 2. Although we had selected our *research site*s (PCTs), we needed a more refined approach to selecting our *empirical setting*, i.e. the specific commissioning area/problem/decision process. We wanted to maximise opportunities for developing theory from cross-case comparison (Objective 4). For this purpose, we needed to account for key aspects of a comparative research design (99). The options we considered were the following:

- Implementation of a commissioning tool
- Individual Funding Requests (IFRs)
- Considering Business Cases
- Commissioning Committees
- Implementation of Coordination Tools
- Commissioning Policy Development
- Redesign/Development of new health and healthcare services

These options were evaluated on the basis of explicit criteria: *Opportunity cost, Cross case comparability, Manageability, Relative impact, Opportunity to observe decision making, Opportunity to collect sufficient amount of naturalistic data*. After lengthy deliberation, and advice from our SSAP

members, our team decided to focus on settings where decisions about **service redesign** and **individual funding requests** were made.

Stage 2: In-depth investigation of evidence utilization and processes of co-production

Jointly with our research participants, we identified streams of work and/or projects that focused on service redesign and IFRs. In order to understand the practical accomplishment of evidence utilization in these settings we observed a series of commissioning meetings and conducted a number of additional interviews related to the following initiatives:

- *Diabetes redesign programme,*
- *Redesign of TIA pathway,*
- *Comprehensive Health Improvement Interventions,*
- *Improvement of Long-term Conditions programme,*
- *Implementation of the national policy framework 'Healthy Child Programme'*

Detailed information about each project will be provided in the findings chapter 4. We opted to observe these redesign initiatives because they represented settings of commissioning where: (i) different sources of information, knowledge and evidence must be explicitly used, debated and incorporated into a solution/decision by different PCT groups/experts; (ii) the aim was to produce a commonly accepted decision and; (iii) the decision was complex and posed collaboration challenges among multiple parties. In addition to redesign projects, we chose to focus on IFRs because they represented *individual (exceptional) decisions*. We wanted to find out more about how individual and population commissioning contexts differed and how this affected evidence utilization.

Stage 3: Generalisation of findings

In this stage we sought to generalize, broaden and extend initial findings from our in-depth investigations through a nationally representative survey of how commissioning decisions, more generally, were made. We used the analysis of emerging qualitative findings in a number of areas including types and nature of decisions taken, decision making processes and outcomes, the use of evidence and the types of evidence used in commissioning organisations. This allowed us to understand how to focus the survey on particular decisions and asked respondents to give information on the decision process (including co-production), factors influencing the decision, the use of various sources of information, the use of knowledge products (tools) and decision outcomes. Details on the survey design are provided in Section 3.3. below.

Stage 4: Feedback and practitioner engagement

Engagement with NHS stakeholder groups was a major objective. Major forms of engagement comprised:

Scientific and Stakeholders Advisory Panel (SSAP) meetings (2 in total): Leading experts in the NHS (listed in the Acknowledgements) provided invaluable feedback throughout our research. This group met 2 times in half-day workshops to ensure scientific and user input into the research direction and emerging findings. It was also consulted regularly via email as and when issues arose.

Feedback workshops with PCTs (4 in total): The first workshop took place in March 2010, when we shared some of our preliminary findings with the executive team of one PCT. The 2nd and 3rd took place in December 2010, when we shared our findings on the exceptional funding decision process with two PCTs. The 4th was our national dissemination workshop, which took place in July 2011. At all those workshops, we presented our findings in detail and received extensive feedback from NHS managers and commissioners. We took detailed notes on, and recordings of, this feedback. Claudia Roginski, our Management Fellow was instrumental in providing guidance and support at all feedback sessions, e.g. preparing our presentations and interpreting the feedback we received from practitioners.

3.2 Qualitative Research Design

As we explained in previous chapters, the major objective of our project was to generate new empirically-grounded understanding of evidence utilization in practice in commissioning decisions. Qualitative methods are particularly suitable in this regard. In particular, we conducted qualitative research in four commissioning organisations (PCTs) in the NHS. PCTs were selected to represent a mix of: variation on spending; deprivation; geography (using ONS Supergroup[9]); number of competing providers; governing authority, and "quality" ratings using Care Quality Commission data[10]. The 4 PCTs (pseudonymised for confidentiality purposes) were located in four different regions – hence overseen by four different (what were then known as) Strategic Health Authorities (SHAs):

i. PCT W: located in an urban area with high IMD, with few (main) acute providers, relatively underperforming (our main contact was the Director of Commissioning and Performance)
ii. PCT X: located in a rural area with multiple acute providers as well as many community hospitals, high performing (our main contact was the Director of Commissioning)

---

[9] http://www.ons.gov.uk
[10] http://www.cqc.org.uk/

iii. PCT Y: located in an urban area, with very few (main) acute providers, average performing (our main contact was the Director of Public Health)

iv. PCTZ: located in a city, with many acute providers, relatively high performing (our main contact was the Director of Public Health).

3.2.1 Data Collection

Having secured access, we utilised a number of well-validated naturalistic methods:

- observing a series of strategic and everyday commissioning meetings;

- conducting semi-structured interviews with senior commissioning managers;

- reviewing documentation on commissioning processes, strategies and policies, national policies on commissioning, industry reports

- attending national conferences on commissioning and on healthcare management (including the HSRN / SDO Network Annual Conference, June 2009, the NHS Information Centre 'Commissioning Analytical Fair', September 2009, the HSJ conference on 'Fundamental of Commissioning', October 2009).

Observations

We observed the unfolding of discussions that took place at 79 meetings and (2) workshops (see Table 2 for a detailed breakdown of the meetings observed at each site). This was a remarkable success, if we take into account the turbulence that was created in the sector and especially in PCTs after the reorganisation of the NHS was announced in summer 2010.

Table 2. Summary of Meetings observed

Types of Meetings	PCT Z	PCT Y	PCT X	PCT W	Total
Strategic Commissioning	5	6	11	5	*27*
Operational/routine	1	3	10	2	*16*
IFR	0	4	4	4	*12*
Project/programme meetings	6	0	4	14	*24*
Total	*12*	*13*	*29*	*25*	*79*

We took detailed notes of discussions, attendees, and documents/artefacts used. After each observation episode, hand-written notes were typed up and converted into an electronic document for each meeting. We combined real-time observations with access to documentation that accompanied most meetings. Before each meeting, a pack of papers was usually

circulated to all meeting attendees, and to us, as *non-participant observers*. For most meetings, we also had access to the meeting minutes, in which the outcome of previous decision making processes was recorded. Reading these before meetings enabled us to follow conversations and to capture the most salient moments of discussions and (in many cases) negotiations.

Interviews

The interview sample primarily included senior PCT managers, and middle PCT managers centrally involved in commissioning (see Table 5). Conducting 57 interviews was a success in light of the fact that many PCT staff experienced high levels of job insecurity after the White paper was published in July 2010 and were disinclined to open up about issues their commissioning organisation faced.

Table 3. Qualitative Research interview

Position	PCT Z	PCT Y	PCT X	PCT W	Total
PCT manager	9	4	2	6	21
Senior PCT Manager	3	4	10	5	22
PCT Director	2	1	1	1	5
Director other	0	1	1	0	2
non-PCT actor	0	2	0	0	2
Medical Doctor (practising)	0	3	0	0	3
Public Health Consultant	0	1	0	1	2
Total	14	16	14	13	57

In general, we conducted two kinds of interviews. *Generic-focus interviews* aimed primarily at collecting information about an interviewee's role, work practices, PCT organisation, collaboration patterns, attitudes, needs and sources of evidence, and work challenges. *Specific-focus interviews* were designed to collect information about specific events and to develop understanding about a particular commissioning process, e.g. a service redesign project. The objective of the latter interviews was to find out more about a particular area of commissioning work or to find out what happened at a project meeting, prior to, and after a meeting, how a particular piece of evidence had been used and/or a particular judgement made. In practice, most of our interviews had a dual purpose - i.e. we asked both generic and specific questions, as we were able to capitalise on voluminous documentation we had collected and reviewed prior to each interview.

Documents

Reviewing documentation was a key aspect of our data collection strategy. The people we were observing/interviewing (actors involved in and/or interfacing with healthcare commissioning) were trying to use, shape, modify, and produce textual materials (e.g. service specifications, decision statements, commissioning strategies, minutes, etc.). Overall, we collected two kinds of documents/artefacts: (i) confidential documents, which were primarily drawn upon during meetings, and (ii) publicly available documents, which were used/referred to by our research participants in order to frame and legitimate their strategies and actions. Table 6 outlines examples of the documents collected.

Table 4. Types of collected documents

Data source	Examples
Confidential documents	Healthcare Service (contract) Specifications, meeting minutes, progress reports, finance reports, healthcare intelligence reports, performance data and spread sheets
Publicly available documents (used by/referred to by research participants)	Press releases, strategic plans, governance structures, policies, board meeting minutes and papers, business case reports, national policies, national service frameworks, NICE guidance, healthcare data, think-tank reports, national health intelligence reports, data analysis toolkits, national statistics on health

3.2.2 Qualitative Data Analysis

Due to the paucity of systematic research on actual commissioning *practice*, our approach was largely inductive. Furthermore, qualitative analysis methods are adapted to the *description*, *interpretation*, and *explanation* of a phenomenon, rather than to estimation of its prevalence. Our methods address questions of process – focusing on a series of events, actions, discussions and interpretations that unfold in a particular context and shape the making of commissioning decisions. Qualitative research is *strong on internal validity* (within-case data are strong and "truthful") but *weak on external validity* (the ability to generalise outside the cases is poor). Yet, we aimed to increase the external validity by sharing narratives within our very diverse team of researchers as well as our SSAP, focusing on and comparing multiple cases of a particular kind (e.g. service redesign and exceptional funding decisions), juxtaposing and contrasting our findings with current literature and policy guidance.

Narrative strategy and thematic analysis

The narrative strategy of qualitative process research (100) was used in order to construct a story from data. These narratives produce not only chronology, but also concepts, understanding, and theory closely linked to data (101). Generally, a narrative was constructed in relation to a particular project (e.g. a service redesign initiative) or a particular area of commissioning (e.g. the making of individual funding decisions). Case study narratives were developed in order to create some structure, and a more concise account of the many events, activities, discussions and other performances we had observed. Inevitably such data reduction foregrounds

some aspects of empirical phenomena and backgrounds others (102).For example, in our research we wished to illuminate projects' scope and sequence, how evidence was drawn upon, the key collaboration challenges, and the ways such challenges manifested in action, i.e. during discussions and decision making acts. In so doing we were less able to elucidate other kinds of challenges (e.g. the role of corporate culture, leadership styles, staffing shortages, etc.). Data analysis entailed recursively going back and forth between interpretations of the team, theories and field notes. The Management Fellow, in addition, provided invaluable insights, being directly involved in data collection and in the development of some of these narratives/case studies. Co-location of the Fellow with the lead researcher helped hugely in this regard.

The entire project team also held two full-day workshops in order to compare field notes, narratives, and engage in inductive *thematic analysis* – i.e. identifying themes from the data (rather than from theory) that had particular bearing on our research objectives. This involved examining individual case narratives in great detail as well as *comparing* narratives, i.e. across research settings (e.g. redesign projects) and sites (PCTs). This enabled us to identify *common themes* across narratives and enhanced our understanding of how these manifested in decisions made. For example, a common theme was that practitioners relied upon a plurality of forms of evidence (clinical and non-clinical) at various stages of commissioning and that the transition across commissioning stages (e.g. designing a clinical model and then commissioning it) posed significant translational challenges.

After identifying themes, we went back to the original data in order to verify the plausibility of, and refine, as needed, emergent interpretations. The process continued throughout a writing process that was very much a collaborative effort amongst the whole research team. Findings were shared with our case study participants. This exercise tested the face validity of the findings and also provided an opportunity to further enrich our descriptions and analytical findings. We also presented draft manuscripts at a number of academic and practitioner conferences (see list in Appendix 5) and during our national dissemination workshop. Finally, our Scientific and Stakeholder Advisory Panel (SSAP) gave invaluable feedback during the SSAP meetings.

3.3 Survey Research Design

3.3.1 Questionnaire Development

The questionnaire was developed following the completion of the qualitative phase of the research. Preliminary qualitative results, prior research and existing theoretical work informed the development of the questions and refinement was achieved during team meetings that included all members of the research team.

The entire project team was involved in two full-day workshops in order to compare field notes and narratives, and engage in inductive *thematic analysis* –i.e. identifying themes from the data (rather than from theory) that had particular bearing on our research objectives and on the design of the survey. This involved examining individual case narratives in great detail as well as *comparing* narratives, i.e. across research settings (e.g. redesign projects) and sites (PCTs). This enabled us to identify *common themes* across narratives and enhanced our understanding of how these manifested in decisions made. For example, a common theme was that practitioners relied upon a plurality of forms of evidence (clinical and non-clinical) at various stages of commissioning and that the transition across commissioning stages (e.g. designing a clinical model and then commissioning it) posed significant translational challenges. As a result of this intensive joint work we were able to ensure that these issues were fully reflected in the survey design.

The questionnaire also drew on two particular sources of previous work in this area. Weatherly et al (103) and Gallego et al (104). In a descriptive survey of use of evidence in local health policies Weatherly and colleagues investigated the balance of influences of different evidence types in decision-making in the NHS. The study aimed to explore the use of evidence (economic evidence in particular) in the development of local health policy. It focussed on exploring the consumption or use of evidence in the decision making process as this was perceived to be little understood or investigated. The study consisted of an in-depth questionnaire sent to each of the 102 English Health Authorities, semi-structured interviews with 10 questionnaire participants and a review of 26 documents relating to local health policy.

The authors proposed two different types of evidence commonly used in decision making of this type;

- Internal evidence – experiential evidence gained from professional experience, tacit knowledge etc.

- External evidence – based on research from studies, published papers, guidelines etc.

The research by Weatherly et al (103) aimed in part to discover what types and sources of evidence were commonly used, what improvements were needed and what barriers to evidence use existed. The survey received a 67% response rate and concluded that 66% of evidence used in decision making came from external sources and 34% internal. Key external sources included government reports and guidelines such as NICE guidelines rather than academic research reports, partly explained by government requirements to adhere to such guidelines as targets or examples of excellence and partly due to the perceived quality of this type of resource.

Key barriers to evidence usage were much as previously reported by others, including lack of time, lack of availability of resources and difficulties synthesising evidence to apply at a local level. The authors conclude that there is a need for more national guidance such as that provided by NICE but also the need for more accessible and locally applicable summary documents for use in decision making situations.

Gallego et al (104) investigated resource allocation and health technology assessment in Australia in a local health department serving just over a million people "to gauge healthcare providers' and managers' perceptions of local level decision making". Using previous research and pilot interviews they identified factors important in the introduction and approval of health technologies, including 'evidence on safety/quality', 'evidence on effectiveness,' 'evidence on cost-effectiveness (i.e., the cost per quality life-year gained)', 'total costs impact to the Area/hospital/department,' 'burden of disease (i.e., the number of people affected),' 'disease severity,' 'lack of alternative treatment,' 'equity' and 'patient preferences.' Although their survey was not representative they found that 'less than a third of participants agreed with the statements that local decision-making processes were appropriate, easy to understand, evidence-based, fair, or consistently applied' and that 'decisions were reportedly largely influenced by total cost considerations' and policy directives. They concluded that policy makers engaged in renewed initiatives in HTA should take heed of the decision-making contexts within which HTA can successfully be implemented and that 'any HTA initiative should be accompanied by efforts to improve decision-making processes'.

Potential areas of inquiry were tested with the whole research group and exact research questions to be answered by the survey were refined at these meetings. Particular areas included the development of a list of current likely organisational constraints and practical impediments to co-production and to decision making, and also the practical experiential evidence sources most likely to be being used in current PCT commissioning practice. As a group we were also able to establish methods to identify individual decisions and to identify the type and size of decisions being made. We were also able to consider methods of incorporating the influence of different interested parties on the decision making process and the co-production environment.

3.3.2 Pre Pilot

A pre-pilot of the questionnaire was conducted with a purposive sample of 12 participants drawn from local NHS staff working across a number of directorates. The sample was selected using existing contacts and snowball sampling. Respondents provided feedback either by noting comments on the questionnaire or participating in cognitive 'think aloud' interviews where they were asked to share their thoughts as they completed the questionnaire. Results of the pre-pilot were used by the team further to develop and refine the questionnaire both in hard copy and electronic version.

Pilot

The questionnaire was then piloted, both face to face and using the electronic version, with staff from one purposively selected PCT. The results and feedback gathered from participants concerning the questionnaire content and ease of use were then used to further refine and develop the final questionnaire.

Content of Questionnaire

The questionnaire asked participants to consider one commissioning decision in which they had recently been involved and to answer questions relating to that decision. A copy of the final version of the questionnaire is included in Appendix 1. The questionnaire comprised 36 questions including multiple choice, yes/no responses, Likert scales and free text responses and covered the following areas, as described in the sections below:

Section One: Consent to Participate

Respondents were asked to confirm that they had received and understood the participant information sheet, that participation was voluntary and consent could be withdrawn at any time, that there were no right or wrong answers and that all responses would be treated as confidential. For the online version, progression was dependent upon all these questions being answered; ensuring that full consent was obtained, in line with ethics approval.

Section Two: Demographic Information

1. Age; age group was selected from the following ranges; Under 25, 25-34, 35-44, 45-54, 55-64, 65 or over
2. Gender
3. Qualifications; respondents were asked to select all relevant qualifications from a list of general and medical qualifications and to add any not included.
4. Main place of employment; respondents were asked whether they were mainly employed in an NHS PCT, NHS Foundation Trust, Commissioning Consortium, GP Practice, Local Authority or another type of employer (asked to describe).
5. Description of Role; Respondents were asked to choose their main work role from a list of; Public Health, Commissioning and Contracts, Finance, Clinical Care or Other (asked to describe).
6. Length of Experience; respondents were asked to indicate the number of years that they had been involved in NHS commissioning, Commissioning outside the NHS and other health related work.
7. Breadth of Experience; Respondents were asked to indicate if they had ever worked in the following environments; Private sector healthcare, Research organisation, Clinical provider organisation, Department of Health, Charitable/Third Sector organisation, Local Authority, Health Consultancy.
8. Pay Band; respondents were asked to indicate their pay band from the following list; Don't know, 1-6, 7, 8a, 8b, 8c, 8d, 9, Clinical Medical Pay scale, Other (asked to describe).
9. Pay Band; respondents were asked to indicate their pay band from the following list; Don't know, 1-6, 7, 8a, 8b, 8c, 8d, 9, Clinical Medical Pay scale, Other (asked to describe).
   These questions were designed to provide basic demographic data to describe the characteristics of the sample population to compare with the NHS staff profile nationally; ensuring respondents were representative of commissioning staff as a whole.

10. Barriers: Respondents were asked to choose one item from the following list that they felt best described the biggest barrier they faced when making decisions in commissioning; Insufficient/ inaccessible information, Too much information, Not enough time, Difficulty understanding information or applying in the local context, Internal capacity and resources, Not applicable-no more information needed, Other (asked to describe). This list was generated from the results of the qualitative study.

Section Three: The Decision

Respondents were now asked to think of a particular commissioning decision in which they had recently been involved and to base their responses to the rest of the questionnaire on this decision.

11. Type of Decision; respondents were asked to choose the type of decision made from the following; A major decision on strategic direction affecting more than one service, A decision about changing the organisation or design of a particular service or care pathway, an individual funding request
12. Category of Decision; respondents were asked to describe which category of healthcare the decision belonged to using a list from the UKCRC website
13. Cost of Service; respondents were asked to indicate the approximate cost of the service about which the decision has been made from the following options; I don't remember, Less than £100,00, £100,000 to £1 Million, £1 Million to £10 Million, Over £10 Million.
14. Size of Population Affected; respondents were asked to indicate the size of the population potentially affected by the decision form the following list; I don't remember, Less than 1000, 1000 to 100,000, More than 100,000.
15. Description of decision; respondents were asked to provide a brief description of the decision in their own words. This enabled the team to check they had chosen the correct clinical decision category

The requirement for respondents to then describe the decision enabled the team to check they had chosen the correct clinical decision category

Section Four: The Decision Making Process

16. Involvement in Process; respondents were asked to indicate their levels of agreement with a number of general statements about the decision making process using a Likert scale.

17. Length of Process; respondents were asked to say how long the process had taken in months using the following choices; 1-3 months, 4-6 months, over six months.
18. Number of meetings; respondents were asked how many meetings the decision was discussed at, choosing from the following; 1-5, 6-10, 11 or more.
19. Length of discussion; respondents were asked to describe the length of time taken to discuss the decision at each meeting, choosing from; 0.5 hours or less, 1 hour, 1.5 hours, 2 hours, 2.5 hours, 3 hours or longer.
20. People Involved; respondents were asked to rate the level of involvement of different interest groups in the decision making process using a Likert scale.
21. Procedural Issues; respondents were asked to rate their agreement with a number of statements concerning the organisation of meetings and availability of resources using a Likert scale.

Questions in this section were designed to indicate the extent of co-production during the decision making process. Question 16 establishes the components of co-production and questions 17-19 and 21 assess the influence of organisational constraints on the process. Question 20 assesses the effect of the presence of different interested parties on the decision making process and the co-production environment as well as the validation and legitimation of decisions made.

Section Five: Factors in the Decision

22. Main influences on decision outcome; respondents were asked to rate the main influences on the outcome of the decision making process -
23. Over two questions using Likert scales.
24. Most influential factor; respondents were asked to choose the most influential factor from the 2 preceding questions.

This section was designed to build upon the work of Gallego (104) in establishing the influence of different factors in the decision making process. Question 22 is taken directly from the work of Gallego (104) and question 23 developed from earlier qualitative findings in this study.

Section Six: Information Used in the Decision

25. Importance of evidence; respondents were asked to rate
26. Importance of different sources of evidence, where used, in the decision making process, using Likert scales over two questions.

27. Usefulness of evidence; respondents were asked which, if any, source of evidence they would have liked more of from the preceding two questions.
28. Availability of Evidence; respondents were asked how often the evidence they wanted was available at meetings with a choice of; at none of the meetings, at some of the meetings, at most of the meetings, at all of the meetings.
29. Identification of need for more evidence; respondents were asked to indicate how often the need for more information was identified at meetings with a choice from; at none of the meetings, at some of the meetings, at most of the meetings, at all of the meetings.
30. Availability of further information; respondents were asked to indicate how often information was sourced for the next meeting when a need was established with a choice from; almost never, around a quarter of the time, around half of the time, always, not applicable.

These questions were included in order to establish sources of evidence used, their relative importance to the decision making process and the extent to which respondents felt they had enough evidence easily available. Question 25 is adapted from the work of Weatherly (103) on the use of economic evidence in the development of health improvement programmes as the same types of evidence are used for the commissioning of healthcare. Question 26 expands on Weatherly using the results of our qualitative fieldwork and questions 27-30 further explore the influence of practical constraints in the process as discussed above.

Section Seven: Decision Outcome

31. Feeling about decision outcome; respondents were asked to rate their satisfaction with
32. The outcomes of the decision making process over two questions using Likert scales.

This section examines levels of satisfaction with the decision making process using adapted questions on decision outcome from the Decisional Conflict Scale and questions adapted from the COMRADE patient-based outcome scale (105) (106).

Section Eight: Decision Making Tools Used

33. Tools used; respondents were asked to indicate the use or otherwise of a range of formal decision making tools with the following choices of response; yes, no, not possible as data was not available, not applicable, not known.

This section tests which established which knowledge products (tools) were used in the decision making process. These tools have been specifically developed to aid decision making by healthcare providers and funders by providing comparative evidence of the value of different decision outcomes across a number of indicators. The list of tools was drawn up as a result of literature searching and discussion with the research team and the wider advisory group.

Section Nine: QALY Usage

34. QALY Use; respondents were asked to indicate whether their organisation used cost/QALY limits or guides.
35. Cost/QALY Level; if used, respondents were asked to indicate the cost per QALY used in their organisation with a choice from; I don't know, less than £5000 per QALY, £5001 to £15000 per QALY, £15001 to £25000 per QALY, £25001 to £35000 per QALY, £35001 to £45000 per QALY, more than £45000 per QALY.

This section tests the respondent's knowledge of formal health economics decision- making tools and their applicability within the commissioning decision making scenario.

Section Ten: Comments

36. Respondents were asked to add any comments about the commissioning process, questionnaire or research they wished in a free text box.

This was included to give respondents the opportunity to highlight areas they felt were not covered by the questionnaire and other issues they felt were particularly important within the decision making process.

3.3.3 Sample Selection and Sample Size Calculation

A sample size calculation was undertaken to allow us to detect a 10% difference (with 80% power and a 95% confidence interval) in the response of clinically qualified commissioners (approximately one third of commissioners) compared to non-clinically qualified commissioners. This indicated that we needed around 300 respondents. From previous research, and following discussion with study sites, we estimated that we would need approximately 400-500 potential participants and that each PCT should have approximately 30 people working in commissioning in different directorates at any one time. We therefore aimed to recruit 15 PCTs.

Those PCTs, which had participated in the Stage 2 of the research or the piloting of the questionnaire, were excluded from the main survey.

The remaining 143 PCTs were arranged in rank order according to their 'Index of Multiple Deprivation' (107). This is a government-produced assessment that generates an overall measure of deprivation by combining 38 separate indicators across all areas of social life. The Index provides a continuous measure against which individual areas can be compared.

Once ranked, PCT's were divided into quintiles.

Each quintile was ranked in order of population size and divided into thirds.

This produced fifteen distinct subgroups of PCTs stratified according to population size and Index of Multiple Deprivation:

Table 5. PCT Stratification

	IMD Quintile 1	IMD Quintile 2	IMD Quintile 3	IMD Quintile 4	IMD Quintile 5
Pop Third 1	9	10	10	10	9
Pop Third 2	10	9	9	9	10
Pop Third 3	9	10	10	10	9

From each of these stratified subgroups, one PCT was then selected using a random number generator, providing a mixed sample of fifteen potential participating PCT's. Local NHS ethical approval was obtained from each PCT prior to the commencement of the survey.

Not surprisingly given the very difficult context PCTs were facing, nine PCTs who were approached declined to participate, resulting in the need to re-randomise to select further PCTs. Re-randomisation was performed on two occasions selecting five new PCTs on the first occasion and four on the second.

3.3.4 Questionnaire Administration

As a result of feedback and experience from the pilot questionnaires, we used two methods to administer the questionnaire; face to face meetings held at PCT premises and email invitation using an online electronic questionnaire software host. The procedure for administration of the questionnaire is explained in Appendix 2.

3.3.5 Incomplete and Non responses

Following face to face meetings, research staff sent electronic invitations via an online hosting site to all those on the list provided by each PCT who did not attend the meeting.   Four further reminders were sent to potential participants at two week intervals until a total of five emails had been sent.

Participants who began the questionnaire but failed to complete fully were sent an email asking why and their responses were used to remove from the participant list those who stated that the research was not relevant to their current role within the PCT. In total, 36 participants were removed for this reason, a further 23 participants had left the employment of the PCT in the time between compilation of the list and the questionnaire being sent out and another 2 participants took up the option to decline to participate and block all further contact from the research team.

3.3.6 Test/re-test reliability

In order to test the reliability of the questionnaire, a sample of participants were asked to complete it twice so that their responses could be compared to ensure the measure was producing consistent responses. Re-test was targeted at twenty percent of participants, with the aim of producing a response rate of approximately ten percent of the original survey responses.

Staff from three participating PCTs were asked to complete the questionnaire twice, at two weekly intervals, this being considered an appropriate length of time for this test, where responses regarding previous decisions would be unlikely to have changed but whilst the decision itself would still be fresh in their memory. An incentive in the form of a prize draw to win an Ipod, shopping vouchers or Champagne was offered. Participants from the three selected PCT's were informed of the re-test procedure at the initial meeting or when sent their first email invitation and repeat invitations were sent two weeks after their initial response was received. Participants were allowed 1 week to complete the re-test and be entered into the prize draw. Using this method, 30 participants completed the re-test questionnaire. Analysis and comparison of responses is discussed in the results section below.

3.3.7 Data Processing and Analysis

Questionnaires completed at PCT meetings were anonymised than entered manually by research staff into the Survey Monkey database before being transferred to Excel and SPSS. Electronic responses were automatically entered into the Survey Monkey database.

When data collection was completed all responses were downloaded and cleaned before being entered into Excel, SPSS and MLwiN for further analysis. Descriptive statistics were produced for all of the survey questions.

3.3.8 Survey Methods discussion

PCT participation rates: As previously stated, nine PCTs declined our invitation to participate and (after resampling) eleven PCTs were included in the final sample from an original target of fifteen. Refusal to participate was typically made on the grounds of extensive staff change and structural re-organisation occurring as a result of national changes in PCT and NHS policy and its implementation. Given the rapid and substantial nature of changes occurring within the NHS during the conduct of this research, considerable effort was made to obtain and retain participation from PCTs and the omissions from the final sample reflect these national, organisational, research and political issues and their impact on the conduct of our research.

Sample selection: Asking PCT's to provide their own list of participants led to some variability in the numbers of names provided and departments included from each PCT. This was unavoidable due to the considerable variation in commissioning structures and the surprising lack of detailed information regarding each PCT and its staffing arrangements.   The NHS management fellow was able to assist other members of the team in refining overly long lists and ensuring lists were consistent and comprehensive. Team members were also able to assess the applicability and breadth of lists provided by examining the email addresses and job titles provided by each PCT.   The team were able to contact each PCT should questions or discrepancies arise.

Maximising response rates: Response rates for the survey were good and we feel was greatly heightened by the following methods:
- The method of approach to PCTs via the Director of Public Health or and/or Director of Commissioning who then often provided an appropriate key contact for the research team.
- The initial face to face meetings held with staff at the PCT premises; this allowed the research team to become known, encouraged participation on the day and aided the dissemination of the nature and purpose of the research throughout the PCT.
- The use of reminders to non-responders and enquiries about the relevance of the research to partial responders.

4 Qualitative Research Findings

4.1 Introduction

In what follows, we present case studies of evidence utilization, which we constructed in order to, first, provide a rich description of the commissioning processes we observed, and, second, draw attention to some salient and more general features of these processes (service redesign programmes and individual funding decisions). The focal purpose is to shed more light on the actual evidence utilization practices (Objective 1) and on the ways by which co-production of commissioning decisions was accomplished in the context of multi-party collaborations (Objective 3). Important general implications from our research results will be discussed in greater detail in the Discussion chapter.

4.1.1 General Background on Commissioning

The Audit Commission defines commissioning as the process of specifying, securing and monitoring services to meet individuals' needs at a strategic level. In simpler terms, commissioning refers to the process used in a local context to decide how available funds should be spent to improve the health of the population. Until 2010 the statutory bodies responsible for commissioning NHS services from various healthcare providers in a defined geographical area were the Primary Care Trusts (PCT).

The most important responsibility of PCTs as commissioning organisations is (was) to "use taxpayers' money to place contracts on behalf of the NHS with a number of other organizations" (PCT X, Commissioning Director), and doing so by "breaking even". PCTs also needed to ensure contracts complied with various national standards (108). The four organisations we studied, PCT W, PCT X, PCT Y, and PCT Z were located in different regions across England and their total annual allocated budget varied from approximately £300m to more than £1billion.

Whilst PCTs differed in size, profile, financial stability and performance, they conducted their business in order to address diverse imperatives for protecting demonstrably and on an on-going basis the public good (the NHS) in its various forms: taxpayers' money, the universal nature of the health service, the quality and outcomes of the services provided as well as the efficient use of resources. If commissioning undermined the public good (the NHS) in any of its forms, the executive teams of the PCTs could be faced with severe public criticism, could incur reputation damage and could

also be held to account publicly for not delivering healthcare commissioning effectively. Indeed, many examples can be found in the media of PCTs being accused of, for example, not monitoring their contracts effectively, or failing to commission quality and fair services. Therefore, healthcare commissioning in England needs to be seen as a contested process and as a setting where justification of decisions is of paramount importance.

In July 2010, the Secretary of State for Health, Andrew Lansley, announced major changes in the NHS commissioning structures – the most important one for this research being the devolution of PCT commissioning functions to the so-called Clinical Commissioning Groups, which will be led by GPs. At the time of writing it was still unclear how the various changes proposed by the 2010 White Paper would be implemented and what organisations and organisational arrangements would end up fulfilling the commissioning function in the NHS. Paradoxically, these changes, and the creation of new and less experienced commissioning organisations, makes this research particularly relevant insofar as: (a) evidence-based commissioning will continue to be a priority; (b) service redesign is considered the key vehicle for improving productivity, prevention, innovation and quality (QIPP) of healthcare; (c) conflict between individual vs. population commissioning decisions may become increasingly important in the emerging context of GP-led commissioning and; (d) new organisations risk repeating the mistakes of the past instead of capitalising on previous experience.

4.2 Case studies of Evidence Utilization

In the following paragraphs, we describe how evidence was utilised and co-produced in four specific settings: *Diabetes redesign, Commissioning of TIA pathway, Commissioning Comprehensive Health Improvement Interventions,* and making *individual funding requests (IFRs) decisions.*

Although we observed two more service redesign projects, we could not include their respective case studies due to space limitations in the main body of the report (please see appendix 8).

Each of the following case studies includes background information about the respective setting, a chronology of the main events, activities and outcomes. We then present the key themes that emerged. High level themes generally fall under three headings: (1) evidence in use, (2) interdependencies and boundaries, and (3) co-production of commissioning decisions.

4.2.1 A note on the emerging themes

To avoid any potential misunderstandings, we very briefly clarify how we intend to use certain analytical categories to enrich and theorise our empirical observations. Our definitions are grounded in both theory and our

empirical data. First, we use the term '**evidence**' in order to characterise any knowledge produced through systematic means and held to be valid across settings. This is present in any informational object that *expands the cognitive capacity* of actors, i.e. enables them to understand something (a problem or situation) in new ways, and supports the making of some *verifiable and transparent judgement and evaluation* with regard to a specific problem (109). We assume that an object can be granted status of *evidence* only if it is socially recognised as such and engaged in practice in some socially purposeful and legitimate ways. It can only make sense to talk about evidence as something that is *actually used or referred to* in the context of a practice (81). Hence, we prefer to talk about 'evidence-in-use', i.e. in the context of some activity, rather than evidence as a standalone object.

By '**interdependence**', we mean contingencies manifested in the accomplishment of work, which originate from the division of labour, tasks, technologies, etc. within a collective domain of action (e.g. in project teams or across the commissioning process). Often, interdependencies have various sources and emerge throughout the workflow - e.g. when a task requires as input the outcome of a different task, or when diverse considerations shape the definition and content of work (110)[11]. By '**boundaries**', we mean situations where an interdependence is unacknowledged or managed 'poorly', as indicated by subsequent events, (e.g. procedural glitches). That is, boundaries emerge when tasks are considered as separate by actors, yet they turn out to be quite interdependent and actors encounter a gap in the course of accomplishing their work successfully.

In this discussion of findings we talk about '**co-production**', not in the strict sense outlined in previous literature (in Chapter 2) – i.e. as an institutional shift in the mode of knowledge production, whereby researchers work with practitioners. Rather we use this term to refer broadly to any kind of multi-participant endeavour to leverage diverse sources of expertise and knowledge (held by different actors) in order to develop a new, and mutually acceptable solution, which is relevant and applicable within a specific context/problem (16, 63). This chimes well with the practical usage of the term on healthcare settings (e.g. in recent policy initiatives such as Right Care)

We begin the presentation of our findings with the 'Diabetes Redesign' case study. We deliberately use more space to present this case study in order to

---

[11] It should be noted that we only attempt to describe and characterise interdependencies *that are experienced* by actors. We do not include interdependencies that may exist, yet remain unaccounted for; e.g. interdependencies, which are not discussed by actors or do not pose any threat to task accomplishment and achievement of certain organisational ends.

familiarise the readers with the approach we have adopted for analysing our data.

4.3 CASE STUDY A: REDESIGNING DIABETES SERVICES USING A WHOLE SYSTEM APPROACH

Our first case discusses evidence utilization in the redesign of diabetes services in PCT Y. Details of the sources of data are provided in Table 6 below.

Table 6. Diabetes Redesign Summary Data Collection Information

Main source of data	13 interviews
Project participants involved throughout the project	From PCT Y: Public Health (PH), contracting, finance External: GP, hospital consultants, practice-based commissioners (PBC), GP with special interest (GPwSI), hospital consultants, nurses, librarian, Local Involvement Network representatives
Public documents	DH policies, Service specifications from other PCTs, press releases, and articles, National Service Frameworks (NSF), toolkits, reports
Confidential documents	Project minutes, services specifications, project reports, emails

4.3.1 Background

Towards the end of 2007, a small project group was convened in PCT Y to review diabetes healthcare services across the local area, discuss technical aspects of current services and make suggestions for a new pathway to be commissioned. The driver for this project appeared to be the realisation that PCT Y "performed poorly" in relation to other areas in England (according to Quality and Outcomes Framework measures and a recent 'Healthcare Commission' report). Improving Diabetes Care had become a strategic priority for the PCT.

The Diabetes project group was a 'task and finish' group that complemented the routine local implementation group for the Diabetes National Service Framework (NSF). It was led by Public Health staff who, in PCT Y, were generally responsible for designing and specifying the kind of services needed at a strategic level. Notably, the project did not involve finance, information and contracting experts. The PEC was regarded as the main decision making body that provided "strategic direction", endorsed and ratified commissioning decisions. The PEC's remit appears to have been focused less on commissioning than on the general clinical model and if proposals generally "stack up" (as the PEC chair commented). Accountabilities for the success or failure of the project also appeared to have been less explicit, while apparently there was no intermediate link between PCT Executive Directors and project group.

The diabetes group was led by a Public Health (PH) consultant working for the PCT. Numerous meetings and discussions took place monthly in order to review existing clinical evidence base, e.g. NICE guidelines, Map of Medicine (MOM) pathways, as well as different models of care. In essence, the 'Diabetes Project Group' was a temporary multi-party collaboration with participants from a variety of organisations including different parts of PCT Y, GPs, consultants etc. (see Table 6 for a list of participants). It appears that there was a real aspiration to involve clinicians from the very beginning and to explore options/models to move services 'closer to home' and out of what was universally regarded as an expensive hospital setting. Great emphasis was put on utilizing cutting edge clinical evidence and on developing a 'gold standard' service specification. For example, the group explored issues such as: *'What is the benefit of self-monitoring/ testing for Type 2 on oral medications? What is the benefit of physical activity for peripheral neuropathy? What is the evidence behind a care planning approach? What is the evidence in support of DESMOND[12]? What model of care would work in our area? Interfaces with other pathways, e.g. podiatry, Dietetics, Retinal screening, etc*'

Very soon a 'care planning' approach was adopted, in line with the DH Diabetes National Service Framework (NSF). The approach is supposed to empower patients and allow them to be involved in decisions about their care (through the co-production of an annual care plan). As the group stated in one of its progress reports *"the Care Planning approach was deemed to offer additional benefits for patients, clinicians and the delivery of diabetic care"* (Progress report, summer 2008). It should be noted that a specialist nurse was championing the care planning approach and had conducted substantial research into the potential benefits and implementation challenges. Also, the diabetes group – working under the assumption that community-based care was absolutely essential – gradually developed a written specification for an intermediate service; a service that was supposed to manage complex cases (which GPs would normally refer to the hospital) and control referrals to hospital. According to the project lead, the preferred model of delivering diabetes care in the entire geographical area (for which the PCT was responsible) would comprise four tiers:

- *Tier 1 – practices providing a high quality of care within GMS [General medical services contract – core GP contract].*

- *Tier 2 – practices providing a high quality service beyond the scope of GMS including insulin services and management for their adult patients [specific Local Enhanced Services agreements were in place].*

- *Intermediate Services – providing support to Tier 1 and Tier 2, and insulin services for Tier 1. Intermediate service includes hospital consultants. The Intermediate Service has leadership responsibility for the long term development of all community providers. [Tier 3]*

---

[12] http://www.desmond-project.org.uk/

- *Secondary care – treating only those patients who need and will benefit from consultant specialist services. [Tier 4]*

In order to speed up approval by the PCT's executive team, the group followed, what was regarded at the time as, the 'normal' process to obtain the green light by key decision makers and tried to obtain first approval by the Professional Executive Committee. The PEC, historically considered the 'engine room' for making important clinically-endorsed planning decisions, consisted of GPs and other clinicians (chaired by a GP) as well as all PCT Directors and CEO. The PEC reviewed the diabetes redesign proposals twice (April and October 2008) and endorsed the group's recommendations with a few suggestions and points for consideration (October 2008). PEC's feedback was in response to detailed papers submitted by the project lead, which outlined a detailed specification for a community-based intermediate service (see tier 3 above).

Overall, throughout the life of the project (December '07 – November '08), a number of important issues were identified and tackled. These ranged from planning the new service to identifying some of the steps for its implementation. A complete summary of the issues addressed by the team is provided in

Table 7.

Table 7. Summary of activities and issues addressed by the redesign team during the Diabetes project life

Issues Identified	Who identified the issue	Approach taken to address it
Project group should involve a practice nurse with a special interest in diabetes	Project group	Admin to contact practice nurse
Agree on scope of review	Project group	Exclude non-insulin dependent adults; carry out the review in stages
Define information requirements	Project group	Librarian to collate rationale for QOF indicators; identify changes to the 2000 pathway; access to healthcare commission report
Develop and localise Map of Medicine (MOM) pathway	Project group	Hold MOM workshop with all relevant clinicians; decide what to include at each 'node'
Explore options for commissioning diabetes services	Project group/librarian	Focus on improved skills in primary care, more patient monitoring by primary care, review models from elsewhere, e.g. primary care contractual options (e.g. LES, specialist primary care services); PBC to develop proposals
Enhance commissioning proposals through more details on e.g. clinical information systems, clinical practice changes, delivery system changes, etc.	Project group	PBC representative should outline those
Understand scope of core GMS and Local Enhanced Services (LES) GP contracts	Project Group/PEC	Primary Care Contract team to investigate and GPwSI to assist
Process Planning	PCT groups	Identifying roles and responsibilities for each party (e.g. 'Contracts team buys services', 'PBC generates ideas and concepts about the most effective changes and presents specs to stakeholders (PEC and group)', 'PH to provide input to specs', 'PEC to decide if proposals are "clinically safe, effective, and affordable"; 'PBC asks diabetes group for specification feedback, PEC approves, handover to contracts...'
Implementing Care Planning issues	Practice Nurse Champion	Learn from care planning pilots across the country, e.g. have clear plan for how to engage primary care, early involvement of practice managers, address clinicians' possible scepticism, identify current gaps, have clear plan and dedicated lead, etc; include examples of care planning in proposals
General Implementation issues: Define primary care expectations, clarify communication channels, resource appropriately, training needs, ensure engagement	PEC	Feedback to project group
Patient Discharge issues	Project group/consultants	Develop minimum standards
New consultants' (community) job description not covered by existing contract	Project group	To investigate through contracts team
Lack of attention to BME needs	Diabetes UK	Look at interpreter services and include in service specs
Prescribing issues	GP	PH to look at it
Workforce development	Project Group	Develop a GP development team; promote and facilitate training

Despite the involvement of a senior group of PCT executives, plans for transforming Diabetes care were not particularly fruitful. The project group experienced difficulties particularly in understanding and adapting to the nationally driven transformations in the commissioning role of PCTs (the 'World Class Commissioning' agenda and new procurement rules were

published shortly before the start of the project). Reflecting upon these difficulties, most project members argued that the idea of commissioning was not well understood, the commissioning process was messy, the relationships among different organisations (e.g. PCT, PBC, GPs, and consultants) lacked clarity of purpose, and different people had different understandings of what the project and their role was all about as well different stakes in it. Retrospectively, the project lead talked about a process of "changing goalposts".

The project also had important capacity problems as it was not well-resourced by admin and contracting people. Importantly, the redesign process was stymied by local arrangements for community nurse contracts. After exploring many models of care and 'best practices' (several of them local), the diabetes group decided that an intermediate, community-based service run by specialist nurses was the appropriate design for the new service. However, the attempt to emulate best practice by moving the service from secondary care to primary care quickly ran into a barrier of complicated employment arrangements: the specialist nurses in PCT Y area were primarily based in the local acute hospital and moving to the community meant contractual issues had to be resolved.

Finally, a major roadblock was the difficult relationship between the GP Practice-based consortium (PBC), which was heavily involved in the writing of the specification, and the PCT. Although such appointment was originally endorsed by the PCT Directors, it was later perceived that PBC was influencing the content of the service. In the absence of clear government policies regarding the involvement of PBCs in commissioning, project members fell short of anticipating the consequences of intensive co-production, i.e. among PCT commissioners and other clinicians and parties involved in the project group.

In addition, the PCT was not in a position to respond quickly to the demands of the project. For example, there was little support and input from the senior members of the contracting team and it took the PCT almost a year to award the contract for the new Diabetes service. Further problems emerged when the PCT sought legal advice regarding the procurement process and found out that competitive tendering was required. This in turn brought to bear a set of further and (until then) unanticipated additional constraints (e.g. compliance with procurement law, need for evaluation methodologies, etc.) which further delayed the process.

The new service was only commissioned in summer 2010 (almost 2 & ½ years after the project kicked off) on the basis of specifications which were significantly different from those originally approved by PEC. For example,

the new service did not include many elements of the specification that was originally developed. When information about detailed costing and contractual implications was provided by contracting experts, the PCT discovered in fact that the new arrangement was too costly. Given the increasing pressure from the DH to achieve big savings, the PCT decided to 'de-scope' the service specification and to commission a compromised service, which would cost them less and would be delivered to a much smaller population. Notably, there were still grey areas with regard to the commissioning model, e.g. the role and employment of specialist nurses, even at the very end of the project.

The project had some other significant and positive spill over effects. Most GP practices in the area signed up for the 'Local Enhanced Service' and have adopted a 'care planning' approach. Improvements (up-skilling) in primary care services have been regarded by all as the 'success story'. The members of the team and the PCT also appeared to have capitalised on the learning from this experience. Following the end of the project, for example, the PCT developed a number of policies and commissioning manuals that built upon of the learning from this project, e.g. importance of project management skills, clarity of roles and responsibilities as well as decision making pipelines, etc.
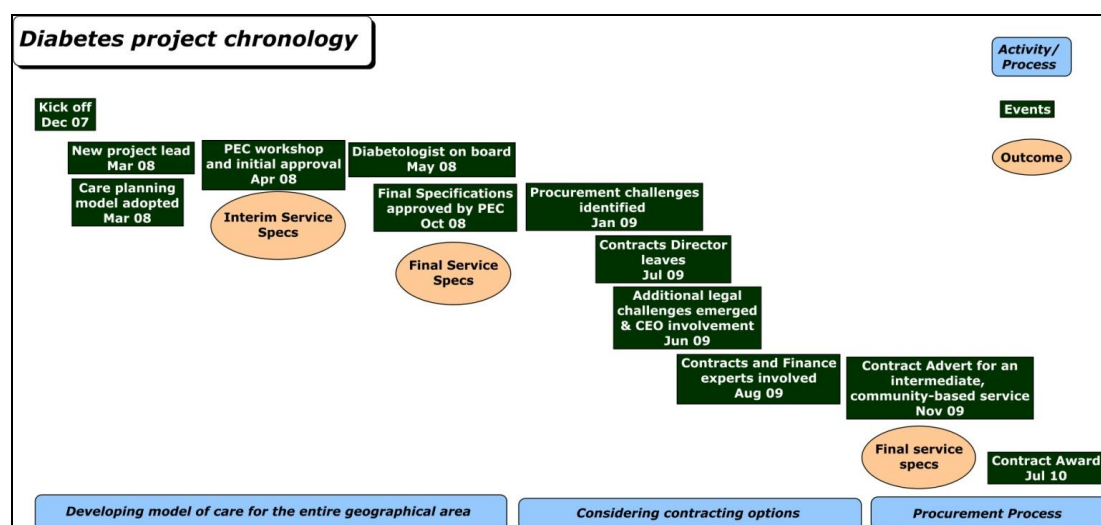
Figure 2. Chronology: key events, activities and outcomes of Diabetes Project

4.3.2 EMERGING THEMES

Evidence in use

The diabetes project team drew upon multiple sources of evidence in the course of carrying out their tasks. More specifically, they utilized the following:

- *Primary care and secondary care data: understanding performance of diabetic care*

GP Quality and Outcomes Framework (QOF) figures[13] were used to rank GP practices' performance. QOF evidence was seen as opportunity to learn from variation, e.g. inquire about what 'good' GPs. According to the PEC chair, *"there's a really disparate competence span across all the practices within our area. We knew that some practices were just bad at dealing with their diabetic patients. That, allied with the actual [QOF] results for that year (2007), showed us that there were a lot of problems."* In addition to QOF data, Hospital Episode Statistics (HES) were used in order to understand prevalence and activity. According to a project report, *"HES data and Health Care Commission reports, the PCT Y has higher than average hospital referral for diabetes. It was against this background that diabetes became a top strategic priority for the PCT and the practice based commissioners."* As a result of gathering performance data, the PCT justified investment in the diabetes project. Yet, important coding challenges also emerged and halted access to reliable intelligence, which would have enabled the determination of what percentage of patients could be treated in a community-based setting (the key aim of this initiative)[14].

- *Models of care: conceptualising the diabetes healthcare 'system'*

'Models of care' are abstract representations of how services are and can be delivered and at different levels or, to use participants' language, across a whole system. For example, a model of care for diabetes, which participants used, involved at least three so-called 'tiers': a) core primary care services delivered by all GPs, b) enhanced primary care serviced delivered by GPs, who have signed up to a 'Local Enhanced Scheme' (LES) and are specially trained and paid extra for additional services, c) hospital-based services. The project lead, a PH consultant, explained to us further how such models become useful in practice:

"The key aim that I was told by the CEO was …to move people off hospital tariff... In order to do that you really have to enhance support at a different level... that's

---

[13] http://www.ic.nhs.uk/statistics-and-data-collections/audits-and-performance/the-quality-and-outcomes-framework

[14] After all, the national standard contract minimum data set which gets submitted to SUS (Secondary Uses Services) and which PCTS have access to for their responsible population does not enable them to identify patients who attend hospital out patients for diabetic care. Depending on the contracts that consultants hold with the hospital, they are mostly subsumed under the heading of 'general medicine'.

how we came up with this intermediate care model.... The librarian's role within our group was to find models of care from elsewhere. The models that we'd looked at, included ideas such as: 'If you wanted to move people away from secondary care, you should set up a specialist service at the intermediate level organisations'... They [other PCTs] all have this sort of community diabetes setup... Some of them are led by nurses, [other setups by] community diabetologists.. The evidence was really from the grey literature about who else was doing it [developing improved diabetes services].... It's actually such examples that have been the most useful thing to me... Because I think... if you want to develop services on the ground, you need [information such as], 'if you want to get from here to here this is how you do it'.

Models of care thus afforded an abstract understanding of service delivery and of the relationships among various component of the healthcare system.

• *Clinical evidence: evaluating and recommending clinical best practice*

The diabetes project group was populated mainly by clinicians (hospital consultants, GPwSI, nurses, PH consultant), and, perhaps not surprisingly, great emphasis was put on identifying those elements of clinical care that should be recommended for the new service. One of the consultants recalled:

"We had access to a librarian at the time… A person who would help us look for best practice evidence... We also had one of our community pharmacists, who was going to look at all the drugs. And we also used a lot of the NICE guidelines that were available at the time and since then it's been renewed. So that's the sort of evidence that we've used… And we didn't really need to reinvent the wheel because a lot of the NICE guidelines were there and we were largely NICE compliant…"

The librarian also confirmed that most questions posed to her by the group related to "*the evidence behind the Diabetes QOF indicators, Copy of the ABCD algorithm for hypertension from the BHS, Benefits of physical activity for peripheral neuropathy, increased risk of fall with diabetic foot problems*, etc.". In short, it seems that a lot of effort was put into defining, from a clinical perspective, which cases could be safely managed outside the hospital, and into developing the best diabetes pathway.

In addition to using authoritative clinical evidence, there was also consideration of local competencies and knowledge of healthcare professionals in the area.

- *Information about Local Knowledge and Competences*

The consultant diabetologist recalled how such information was crucial and facilitated discussions and the collective finding of an acceptable solution throughout the design stage of the project.

"The first sort of difficulty I remember was about Type 1 diabetes, whether all people with Type 1 diabetes should be automatically looked after in hospital… There is a lot of fear associated with the care of people with Type 1 but in fact it's easier to look after for many people, I won't say for all, than it is for Type 2 diabetes. So we agreed that if patients were stable with Type 1 eventually would be looked after in the community as well. There was no evidence used during these discussions. Discussions were based on local competence and local sort of knowledge. It wasn't based on any evidence that patients say with nephropathy do better if they're looked after in hospital. No [there was no evidence]."

In her reflections about the process, the GP with Special Interest (GPwSI) in Diabetes also suggested that there was an overemphasis on abstract models of care, which might have distracted the project group from attending to commissioning practicalities and local knowledge:

"I think from we were very much into models. We didn't actually say what's actually going to happen to... our nursing team. At the end of the day, the diabetes service is the staff, their skills and their delivery to the patients..."

The consultant also recalled that there was limited exploration and understanding of how local competences, roles and practical arrangements had to be configured differently according to the proposed new model:

"People [PCT leads] should have clarified roles. For instance, what is my role? Am I providing full-time clinical care? Am I just setting up a service that will look after itself and providing guidance when needed? And in terms of practical issues that need to be dealt with such as: what happens to the revenue that is lost? Because [if] I now go and practice in the community that means the hospital is seeing less patients because now there is a running intermediate care service. So those are the discussions that make a difference in terms of what structure any community project takes."

- *Information about user needs: involving a patient and public representative (LINK)*

With the involvement of a patient and public representative, the diabetes group also attended to the patient-centred element of diabetes care. The representative found her engagement rewarding in that she could challenge decisions and ask questions regarding, for example, accessibility of services. On the other hand, she was at times presented with evidence (e.g. complex specifications), which she could not understand and express an opinion about. She also felt that at times her involvement was not meaningful, because of the technical nature of the discussions:

"You only have an hour or so [during meetings] and if I asked 'what does that mean', it is very difficult... I still do fine, but there were times when I was asked to comment and found it quite difficult to comment. [So] that's what happened: the draft was written and I was commenting, but the document had already been written".

- *Financial, procurement and commissioning-related information (contractual options)*

Despite all the efforts to develop the best possible clinical service specification, the specification was not practical, from a commissioning perspective. In the face of increasing financial pressures and more serious consideration of contractual implications, different kinds of evidence became more salient: "complex background of contracts and payments", "costing information", etc. It was recognised that "procurement options had to be identified much earlier on" (Progress report June 2010). In her reflections, the project lead suggested that:

"We didn't actually know what we were trying to do, in what contractual framework. And I got different information or different advice from different people [about the contractual framework]… Feedback from PCT Directors and PEC was nebulous… Because it wasn't my area of expertise… nobody quite knew how to do something. And the other thing is that nobody had ever commissioned [such a] pathway here before… [we realised that] you almost need to look at what the contract 'looks like' before you even write the service specification..."

Evidence of procurement and contracting options had not been utilized, yet should have been considered at the first stage of the project. The lack of contractual input was also confirmed by the contract manager:

"There were implications around staff that hadn't been thought through and there were staff that would have to come out of the hospital. There were all sorts of

things that hadn't been looked at at all. Costings hadn't been considered at all... At the same time obviously there was a question mark about well, 'Are we paying for out patients appointments for the people who are being seen in hospital? And if we're paying for those then we're also paying for some of the nursing staff in those clinics?' So, you see, there was an element of double payment possibly, which was quite, very complicated... I don't think that was clear. I'm not sure whether it's clear or not now."

Furthermore, there was limited consideration of such evidence among the group members during the service design stage. The hospital consultant attributed many subsequent problematic situations to that lack of attention to financial information:

"We designed a gold standard spec because there was no idea forthcoming from the PCT as to how much money they had. They said go ahead and design a service and we designed the best possible service within reason….They [PCT staff] soon got back saying 'oh, well, that's too expensive, we can't afford this, there is no way we can afford this'. I think data like real number of patients and how much money is available etc etc should be upfront because then you have less variables."

- *Specific Feedback from Knowledgeable Colleague: Leveraging Experience about practicalities*

In her reflections, the PCT PH consultant stated that the evidence that she found most useful was the specific feedback she received (towards the ends of the project) from a consultant diabetologist, who had set up his own community-based service. She liaised with that consultant through the Diabetes network. That feedback referred mainly to the following elements: targets and outcomes to monitor contract, budgeting information, referral procedures, triage practicalities, accessibility practicalities, measures that assess impact on other areas of the 'system' (e.g. ambulance calls, requirements for joint working with e.g. A&E), practicalities to link with other teams (e.g. Mental Health), decision making rights, performance management responsibilities, selling points for provider, strategies to reduce length of stay and so on. She also recognised the feedback from '*others who have set up a community service*' as very useful because it gave the diabetes project lead a better idea of how to render on-going delivery of the new service practicable, monitorable, and measurable. Unfortunately, that sort of evidence was not mobilised until the very end of the project, when the final set of service specifications was pretty much completed.

Table 8. Summary of Evidence Used throughout the Diabetes Redesign Project

What evidence was used?	*Type of evidence*	*How was evidence engaged?*	*How was evidence mobilised? When?*
Primary care and secondary care data	Universalistic, produced nationally	Justifying project to explore drivers of poor performance and improvement	Paying attention to public reports and collating data from hospital statistics; from the beginning of the project
Clinical evidence	Universalistic, produced scientifically	Debating, evaluating and recommending best clinical practice	Librarian used specialist databases: Map of Medicine / NICE / SIGN, DynaMed Diabetes Specialist Library (NLH), Cochrane, National data from PHO (clinical expertise was available and used); used throughout the initial project stage
Models of care	Universalistic, produced haphazardly	Facilitating abstract discussion about the most suitable diabetic healthcare system for the area	Librarian searched for models (limited input from commissioning experts or experienced colleagues); throughout the initial project stage
Local knowledge and Competences	Local, produced in context	Exploring what is locally possible and acceptable	Medical and nursing input during project meetings; yet, it was not explored with respect to *commissioning* practicalities.
User needs	Local, produced in context	Link representatives challenged some solutions from a 'lay perspective'	Involving public representatives in the project group, limited input from actual patients; throughout the initial project stage
Financial, procurement and contracting-related information	Local, produced in context	In order to 'cost' the service, identify supplier	*Reactive* search for legal and contracts, finance expertise. Mobilised only after services specs handed over from Public Health to Contracts.
Specific Feedback from Knowledgeable Colleague	Local, produced in context	Specific commissioning proposal sent to a professional with relevant experience, who provided 30 practical points for consideration	Through local diabetes network. It was perceived as unfortunate that such feedback was sought at the very last stage

Interdependences and emerging boundaries

In order to get their tasks done, the project team attended to a large number of interdependences and attempted to address those proactively as well as reactively. Below, we briefly present how 'interdependence management' appeared to have unfolded in practice.

Proactive management

As mentioned earlier, the group generally focussed on managing proactively the following interdependencies:

• Project work related:
  o engaging with clinicians and encouraging their involvement in the group (*interdependence: assembling the necessary resources*);

- o following existing ratification processes within the PCT (*interdependence: project group decisions need to be officially approved*),

- o clarifying roles and responsibilities among individuals (*interdependence: clarifying how each project member contributes to the whole task*)

- Service Design related:

  - o workforce development issues, e.g. specifying training needs (*interdependence: new service requires specially skilled healthcare professionals*),

  - o clinical interface between primary care and secondary care (e.g. up skilling primary care may result in reduced 'unnecessary' hospital admissions),

  - o assembling the locally available clinical expertise to review evidence and determine best service (*interdependence: designing a good service requires reviewing the available evidence, interdependence: new services should be owned by clinicians*)

  - o understanding primary care contracts (*interdependence: commissioning from primary care involves contractual relationships with GPs*)

The emphasis on dealing with interdependencies was also reflected in the main objectives the project group had articulated in the project's official (e.g. "*to facilitate a discussion on the technical issues of the new pathway*"… "*involve clinicians and patients*", "*ensure service was primary care led and evidence-based*" - Group Terms of reference and project remit). Such emphasis was also reflected in the project success criteria:

"*[We will measure success] by comparing clinical outcome before and after the new pathway and model of care, e.g. HbA1C*", "*reduction in hospital admission and referral rates*", "*number of practices adopting new model*", and "*number of patients transferred to new service*" (progress report).

Clearly, the diabetes group was mindful of important interdependencies. Despite great efforts to manage them, however, such efforts were undermined by other kinds of interdependencies, which became salient at later stages of the project.

Emergence of Boundaries and Management of Interdependencies

Our analysis suggests that many of the challenges faced by this group were primarily associated with boundaries which the project group encountered in the course of carrying out their work. While such boundaries needed to be crossed in order for the underlying interdependencies to be addressed and for the project to be eventually completed, nothing in the process prepared the members for this and no tools were available to anticipate them. Boundaries included:

- <u>Project work related boundaries</u>:
  - o NOT engaging with finance, information department, contracts representatives (no one was included in the project group),
  - o NOT proactively clarifying the commercial sensitivities of involving multi-party collaboration,
  - o NOT seeking approval from those responsible for funding and managing the future contract (emphasis to get approval primarily from PEC)

- <u>Design related boundaries</u>:
  - o grasping service redesign as independent of contractual implications,
  - o presupposing linear model of design and implementation, i.e. first design a service and then procure and contact,
  - o clinical pathway probed irrespectively of financial and practical commissioning implications,
  - o being unmindful of procurement constraints and legal issues.

In essence the diabetes project group ended up disregarding important interdependences and not proactively managing these. This, in turn, created a number of obstacles – in particular, design and procurement were treated as separate and sequential activities, which created contractual and legal problems). Moreover interdependencies between service scope and service cost went unmanaged, which required de-scoping. It was only when difficulties occurred - such as stumbling blocks at the procurement stage - that some of those hidden interdependencies were finally identified and dealt with.

A summary of interdependencies is provided in Table 9.

Table 9. Interdependencies and boundaries during the Diabetes project

	Source of Interdependence	Response to interdependence	Consequences
Acknowledged interdependencies	*Project work related*: role definition, resource assembling, decision approval	Proactive management, e.g. setting relevant goals	Successful engagement with clinicians and primary care
	Design related: new service requires skilled workforce, good design requires evidence, etc.	Proactive management	Up skilling of primary care re: diabetes
Unacknowledged interdependencies (boundaries)	*Project work related*: contracts and information experts have relevant expertise, interface with future contracts managers, etc.	Reactive management, e.g. attending to experts only after a breakdown occurred	Delays, misunderstandings, frustrations throughout the commissioning process
	Design related: design and implementation highly intermingled, service scope has cost implications, etc.	Reactive management	Compromised service, de-scoping

Co-production of Commissioning Solutions

With regards to co-production, a paradox was observed. Whilst collaboration with PBC, nurses, consultants and other clinicians was very much needed, desirable and at the heart of the project, the close working relationship created unintended conflicts of interests. This became apparent when the service specification was 'handed over' (in their terms) to the contracts directorate. The Head of Primary Care contracts recalled:

"People involved in [the design of the new service] were also shareholders within the practice that were about to get the service. I just found all of that incredible, that it had managed to get to that level… That just rang so many alarm bells to me… that just goes against any procurement rules!... A lot could have been avoided if we had started with the right people involved in those groups at the beginning, as opposed to – 'your team picks up on contracting at the end'. Contracting needs to be involved in the beginning to be able to knock out some of the obvious [contracting constraints]."

Having been involved in setting the agenda, there was a fear that, intentionally or unintentionally, the PBC consortium could have shaped the specifications to make it more attractive for their own business. The case was one of imbalance between co-production and collaboration as too much co-production harmed the multi-party collaboration. The solution would have been a clearer distinction between the two:

"… halfway through the process it became clear to everybody that even PBC had a potentially vested interest. And if you really wanted to have a competitive thing you had to tell people [other parties, clinicians, consultants, etc.] 'thank you for your input'. You [commissioner] should then go away and write the service specification without referring to them at all…"

Bringing everyone around the table was not a sensible way forward from a procurement viewpoint because there were potential conflicts of interest. Competition rules had not been accounted for. For example, in order to conduct procurement, any willing bidder needs to be given equal opportunities to submit a bid for the contract and this led to legal problems[15].

In sum, whilst co-producing a better model of care was initially perceived as an intellectual enterprise - i.e. co-developing a clinically evidence-based and safe diabetes pathway - this gradually almost defeated its purpose. With a lack of basic understanding of major interdependences, and without actively involving the PCT contracts team at early stages, the whole commissioning process was compromised. Furthermore, it appears that the diabetes project group pursued co-production with only some actors of the local health system and only on a limited number of issues/objectives. This was at the expense of co-producing a solution with other actors (e.g. contracts team), whose involvement turned out to have been crucial. In essence, the group failed to recognise that commissioning the kind of service described in the community-based service specification required untangling their dependence on the various external actors for their expertise and knowledge. That is, the PCT members of the diabetes group were heedless of the fact that leveraging expertise from various clinicians should have been controlled in order to have allowed for the so-called 'objective identification' of the best possible deliverer of the service in accordance and compliance with procurement law, i.e. through market mechanisms. Table 12 summarises these co-production aspects.

---

[15] Not everyone agreed. For example, the director of the PCB argued the PCT was obsessed with putting everything through competitive tendering; "[The PCT] failed to understand what they are supposed to do to procure service change and they seem to adopt the view that everything has to be comprehensively tendered. There is a fundamental flaw in taking everything out to tender. Because the procurement guidance actually says that procurement is supposed to be driven by the financial and health economy needs and your local considerations, not by some rules from Brussels ... People deliver high quality by working together, it's about cooperation, it's about developing a cultural change.

Table 10. Summary of co-production aspects of the Diabetes Redesign project

Whose expertise was leveraged?	On what issue?	How was expertise leveraged and synthesised? When?
Clinicians (GPwSI, hospital consultants, public health, PBC, community pharmacist, nurses)	Clinical elements of the pathway, localised model of community-based care	In initial project meetings, when focus was on reviewing the current service and best evidence
Diabetes Specialist Nurse	Implementation of aspects of the model (re: Care planning approach)	In initial project meetings and through discussions
Librarian	Searching and sourcing different kinds of evidence	In meetings
Contracts team	Contracting options	Reactively, and after service model was finalised
Legal team	Legality of initial procurement option	Reactively, and after service model was finalised
Finance and procurement team	Financial implications and procurement strategy	Reactively, and after service model was finalised

4.4 CASE STUDY B: COMMISSIONING PATHWAY FOR THE MANAGEMENT OF TRANSIENT IASCHAEMIC ATTACK (TIA)

The second case study examines the successful effort of improving the management of TIA in a large PCT. While the Diabetes case study foregrounded some of the challenges of co-production, the current case highlights some critical success factors. Data for this case study were derived both from direct observations and from a number of interviews. Details of the data sources are provided in **Error! Reference source not found.** below.

Table 11. Summary of data used for the TIA project case study

Project participants/involved throughout the project	PCT: service redesign managers, Ass. Director of Commissioning Others: GPs, providers representatives (3 acute hospital trusts), stroke consultants, clinical network leads, national leads for stroke
Meetings observed	*5* meetings
Public documents	DH policies (National Stroke Strategy), Service specifications from other PCTs, NICE Guidance, Research Papers, National Audits, RCP guidelines, Vital signs definitions, NHS improvement (stroke national programme), DoH guidance on Payment by Results (2011) – *in total 84 documents*
Confidential documents	Service Specifications (6 different versions), meeting minutes, formal letters, provider responses, spreadsheets, accompanying documents (e.g. competency frameworks), emails (approx. 25)

4.4.1 Background

In the last few years, increasing attention has been paid in England to the effort of improving the management of stroke, in general, and Transient Ischemic Attack (TIA or "mini-stroke"), in particular. A key driver for the increased policy interest in TIA management and treatment has been the development of scientific knowledge. Evidence shows that if patients presenting with TIA symptoms are treated within 1-2 days, the risk of subsequently having a full stroke can be reduced by as much as 80% (111). Professional associations (RCP), NICE, and the Department of Health (DH) acted upon such significant scientific findings through the development of a series of interrelated national policies (e.g. National Stroke Strategy, 2007), guidelines (mainly the NICE national clinical guideline for diagnosis and initial management of acute stroke and TIA*)*, the NHS Improvement national *'Stroke Improvement Programme'*, national vital sign monitoring indicator, and 'Best Practice Tariffs' (BPT), i.e. financial incentives for the adoption of best practice for stroke and TIA.

In the light of the growing policy interest for TIA management, PCT W commissioners decided to define and agree with three acute providers (hospitals) a commonly accepted set of service specifications which would reflect the best practice with regards to the management of TIA. In autumn 2009, a workshop took place to review the stroke and TIA pathway and in which GPs, hospital consultants, nurses, hospital managers, commissioners and members of the regional NHS improvement cardiovascular (CVD) network took part. The workshop helped participants   realise that there was lack of clarity with regard to TIA service specifications and commissioning expectations. Services were not equal across the area and the standards were not the same for all three providers. The report by the regional stroke networks for the PCT's geographical area arrived at similar conclusions:

"The service for patients with TIA was not yet well-developed. Neurovascular assessment was not available daily. Patients with high risk TIAs therefore waited more than 24 hours for assessment... the service was not yet achieving expected national targets."

The TIA pathway redesign project was identified as a priority for the PCT. The aim was to accelerate implementation of the quality markers 5 and 6 of the national stroke strategy (see **Error! Reference source not found.**). The PCT commissioners delegated the writing of draft service specifications as well as the organisation of relevant meetings to the CVD network.

Figure 3. Snapshots from the National Stroke Strategy

TIA and minor stroke

QM5. Assessment – referral to specialist

Markers of a quality service

- Immediate referral for appropriately urgent specialist assessment and investigation is considered in all patients presenting with a recent TIA or minor stroke
- A system which identifies as urgent those with early risk of potentially preventable full stroke – to be assessed within 24 hours in high-risk cases; all other cases are assessed within seven days
- Provision to enable brain imaging within 24 hours and carotid intervention, echocardiography and ECG within 48 hours where clinically indicated.

> ## QM6. Treatment
> ### Marker of a quality service
> - All patients with TIA or minor stroke are followed up one month after the event, either in primary or secondary care.

Tina (CVD network manager) explained how she went about drafting the TIA service specifications:

"I became responsible for writing the service specs. Being part of the National NHS improvement network, I was able to liaise with other cardiovascular networks and share information with other network colleagues. I also attended a workshop about the TIA pathway… it was a very interesting day. I found out a lot about how others were redesigning TIA[16]. That [workshop] was before I started writing the service specs… A lot of the wording of the specs was taken from the Stroke Strategy the RCP guidance and NICE."

The specification was the main vehicle through which the clinical pathway, service standards, and workforce issues were to be clearly defined and agreed upon. The centrality of the specification is well illustrated by the words used by Lara, the Assistant Director of Commissioning leading the TIA project. At the beginning of the first meeting of the redesign group (attended by the lead stroke consultants from the three hospitals, hospital managers, PCTW commissioners, and CVD network managers), she emphatically said:

"As commissioners we want robust and sustainable TIA pathway… (But) first and foremost… we (need to) get the clinical pathway right… We want to make sure the wording (in the specification) is appropriate… (we don't want) to make it so prescriptive… but we also need to specify standard.... We need to look at the specification… paragraph by paragraph."

Commissioners sought the cooperation of providers (acute hospital trusts) on the issue of improving TIA services by reaffirming their priorities (setting standards), whilst taking into consideration providers' concerns (e.g. feasibility, workforce related issues, meaningful metrics). Over a series of

---

[16] In 2009-2010, the NHS improvement set up the Stroke Improvement Programme 2009-10. A key component of the programme was the TIA national project, which covered implementation of quality markers five and six of the National Stroke Strategy. The NHS improvement TIA project was delivered at 10 NHS 'demonstration sites'. In 10 geographical areas, the improvement of TIA services was pursued through the active involvement of stroke networks, acute hospital trusts and (in some cases) commissioners. Tina attended one of the workshops organised by the NHS improvement TIA national project. For more information about the TIA national project see, (http://www.improvement.nhs.uk/stroke/NationalProjects/TransientIschaemicAttackTIA/tabid/77/Default.aspx)

planned meetings, PCT W and the hospitals collaborated in order to agree the specification and worked together to modify and refine the document containing them. Lara, the TIA project leader, explained why such an emphasis was deemed essential:

"The purpose of the [service specifications] document is… this will go into what (for a foundation trust) is a legally binding contract…. And if I put this in your contract then I, as the commissioner, can come in and visit your services and you should be delivering on every single one of the points in here [showing paragraphs in the service specs]... So this, this becomes important because this is the bible, if you like, this is what I judge your performance against. If this is badly described how do I prove that the quality of service?"

The service specification is, therefore, both a contract and a yardstick. It was thus very important for commissioners and providers to articulate and clarify the implications of sentences included in the specifications. On the one hand, commissioners needed to specify standards for complying with national requirements (especially regarding the 7-day service and the monitoring of vital sign indicators). They also needed to ensure that providers would agree to comply with those standards. On the other hand, providers wished to untangle the wording and be assured that they would only be responsible for 'sensible' things, i.e. things they were able to deliver. Lara explained as follows why defining those standards was critical and how considerations of delivery capability became one of the most controversial issues in the TIA project:

"[According to national standards] each organisation that's providing the service has to have manpower that can cover it seven days a week. So one of the most contentious issues for us was the fact that two of our [general district] hospitals wanted to provide services for all TIAs, but only had one or two stroke physicians. And if you've only got two consultants in stroke medicine, how are you going to cover a seven-day a week service, 365 days a year?... The other provider [teaching hospital] had obviously got enough resource…The smaller hospitals became very scared that the big hospital would suck up all the resource and they would end up with nothing. They were terrified that if they went into collaboration with the big hospital… it would become a takeover. So it became a really difficult dynamic to manage in a meeting…"

Through a series of mundane and challenging discussions at face-to-face, as well as virtual (email based), meetings, agreement over the content of the TIA pathway specification between providers and commissioners was gradually achieved. A large number of issues were raised and addressed through discussing, modifying, amending, compromising, agreeing upon,

and signing off the written statements included in the specification text (see Table 14 for a summary of the key issues).

Table 12. Summary of issues raised and resolved during the TIA specification development

Issues Identified	Who raised issue	Approach taken to address it
24 hour vital sign target: defining start point	Providers wishing to clarify how they will be measured	Developing common understanding of national definitions, commissioners facilitated a mutually agreed a starting point
Workforce issues	Commissioners	Asking providers to provide responses in writing to each element of the specification, replying in writing, allowing [general district] hospitals to work together
Key Performance indicators (KPIs)	Commissioners	Asking providers to provide responses in writing
Plans to recruit additional staff where needed (e.g. radiologist)	Commissioners	Asking providers to provide responses in writing
Clarifying staff availability	Commissioners	Asking providers to provide responses in writing
Training needs	Commissioners	Asking providers to provide responses in writing
Access to diagnostics	Commissioners	Repeating the 'must-do' nature of the standard, allowing time for response
Required competences and staffing model	Commissioners	Inviting national stroke lead to raise any issues of inadequate staffing model, allowing time for hospitals to respond, commissioners prepared extensively for meetings with all 3 providers and shared the feedback received from all 3 providers, compromising (allowing DGHs to use less specialist staff and facilities)
Carotid ultrasound staff requirements and availability	Commissioners	Development of an additional specification

The majority of these issues were resolved and the TIA project became one of the most successful redesign projects in the PCT W. As one of the commissioners put it:

"Even though it took some time, the TIA pathway is one of the best specifications we've probably got because it is quite detailed now, and we have worked hard with providers to try to get them to detail what it is that they will provide."

Given the very different outcome from Case A, what enabled the collaboration and the gradual agreement upon the clauses of the specification document? As we explain below, the success was based, at least in part, on the use of different and more appropriate forms of evidence, the pro-active management of multiple interdependencies and the better enactment of co-production processes.

4.4.2 EMERGING THEMES

Evidence in use

Table 13. Evidence used during the TIA project

What evidence was used?	How was evidence engaged?	How was evidence mobilised? When?
Public health data	To Understand prevalence and cause of ill health	PH report, embedded in strategic plan
Clinical evidence (NICE guidelines)	When defining specific standards for the local TIA service; in order to convince clinicians that a change in pathway was essential.	'Lifting up' wording from national documents, 'copying and pasting' sentences and clinical practice recommendations
Secondary data (outpatient appointments)	To understand current service output (data was not always reliable)	Information departments
Service Standards (NSS quality markers)	Standards seen as resources for defining and measuring consistent delivery, must do (e.g. 7 day service), and universal yardsticks to improve the current pathway	'Lifting up' wording from national documents, 'copying and pasting' sentences and best practice statements
Local knowledge and Competences	To explore and agree what is locally possible and acceptable via 'gap analysis'; to negotiate the details on issues such as manpower which were not specified in the national guidance"	Through involvement of all relevant actors e.g. clinicians, hospital managers
Monitoring data (e.g. on 'how fast high risk patients are seen', vital sign, locally developed KPIs)	Metrics to be embedded in the specs in order to measure 'implementation of pathway'	Nationally specified monitoring return (vital sign) mandated
Financial information (best practice tariff	To specify remuneration for new pathway	Nationally specified best practice tariff for TIA outpatients

Of note here is the particular use of the National standard as negotiating tools. One of the key observations made by the Associate Director of Commissioning at PCTW was that "If we didn't have the national work it would have taken us longer to get to an agreement on a specification"

He explains that,

"Where there is national evidence or stuff that's been well researched it's much easier to say to clinicians 'you're being overly protective now and actually that's the national evidence, that's what national best practice is, that is what you need to do'."

While national standards can be used to reduce the number of issues that can (and need) to be negotiated, they still need to be adapted locally:

"That said, even with national work …there are some things, like workforce issues, which are open to interpretation… you still have an incredibly turgid process to go through to get everybody to agree…the evidence base is, you know, more difficult to translate into a specification for what would work locally."

The strong evidence base as well as the orchestrated national policies appeared to have facilitated the 'effective' commissioning of the new TIA pathway. This was because all parties accepted unconditionally the supremacy of the emerging evidence. The readiness to conform to national standards is also observed in other TIA improvement projects across the country. However, we would also argue that the credibility and acceptance of the authoritative value of the evidence was not the only lever and enabler for the successful commissioning of TIA pathway. Great attention was paid to localise a solution, manage a number of key interdependencies as well as facilitate meaningful co-production among all the parties involved in the collaboration.

Interdependences and emerging boundaries

The following Table 14 highlights the key interdependences of the TIA commissioning project

Table 14. Interdependencies and boundaries during the TIA project

	Source of Interdependence	Response to interdependence	Consequences
Acknowledged interdependencies	*Project work related*: **contractual** (defining conditions of contract), **role interdependences** (who is doing what, how and when, liaising with those affected by service specs, e.g. contracts); **relational** (good relationships enable cooperation)	Setting common objectives, clarity of roles and responsibilities, evolving jointly set of service specs (10 versions)	Mutually acceptable solution
	Commissioning related: effective interventions require **strong evidence**; effective commissioning should address key **strategic priorities** (tackling major killers); **temporality** of the (causal) relationship between TIA management and actual health outcome (reduced number of strokes)	Proactive management: embedding evidence, taking evidence at face value (investing without imposing strict time horizon for outcomes)	Project considered vital and 'virtuous'
Unacknowledged interdependencies (boundaries)	*Project work related*: **project governance** interdependence (e.g. monitoring of milestones)	Strict project management practices suspended (PCT W preferred organising well-attended meetings, which took more time than expected)	Delay in completing the project
	Commissioning related: interdependence **across pathways** (stroke, TIA, rehabilitation), **financial** interdependence (understanding financial impacts of new service)	*"We broke pathways into sensible chunks".* *"We hope that because it should deliver a better outcome it will cost us less in the long run. Financially, we are taking a leap of faith"*	Limited anticipation of financial impact

Co-production of Commissioning Solutions

To a great extent, the TIA project was deemed successful because it enabled the effective co-production of the final outcome (agreed set of service specs). Commissioners regarded the cultivation of relationships as key to proactively facilitate co-production.

"If you've got a mature long-term strategic partnership with a provider you can say 'look, broadly speaking this is what I'm trying to achieve, this is how I want the service to work'. And they'll work with you to co-create it. If you're working on a much more transactional basis that partnership isn't quite there, you have to be prescriptive and then they respond to what you've prescribed and it's slower actually…"

The development of a so-called 'mature relationship' was pursued through a continuous effort of prioritising, understanding the competing stakes of the parties involved, and exploring ways to achieve a compromise that was mutually acceptable. The PCT commissioner explains as follows how such relationship was sustained throughout the TIA project:

"Providers want enough flexibility to be able to determine their own workforce. What we had to do was focus on the bits that we think were really critical to the quality of service. So for TIA what was critical was [to ask] 'what level of expertise should be in that clinic when that patient is seen for their assessment? Is it okay to have a clinic that is managed by a nurse or does a doctor have to be there? And if a doctor has to be there how much training should that doctor have had? … And then you've got some flexibility as a provider to adjust your skill mix to do it in the most cost effective way and I've not forced you into bankruptcy…"

In conclusion, commissioning the TIA pathway was an intensely co-produced outcome, not only because the service specification were co-created incrementally through almost ten collaborative reiterations of the same document, but primarily because a balance and compromise among the initially competing stakes of the multiple parties was achieved. The PCT commissioners' suspension of (so-called) 'threats' to smaller hospitals and their active willingness to develop a mature relationship with all providers appeared to have been catalytic in this sense.

4.5 CASE STUDY C: COMMISSIONING COMPREHENSIVE HEALTH IMPROVEMENT INTERVENTIONS (CHII)

The third case study included here illustrates another critical aspect of evidence utilization, namely that, even in the presence of abundant evidence, co-production can fail if interdependencies are not properly managed. As in the case of the TIA project, data for this case study were derived from direct observations of project activities and meetings, interviews, and document analysis. Details of the data sources are provided in Table 15 below.

Table 15. Summary of Data sources and Information about the CHII project

Interviews	1 with Project Manager – 13 with other PCT staff
Project participants/involved throughout the project	From PCT: PH director, project officer, project manager, PH consultant, public engagement, commissioners of various services (MH, joint commissioners, health improvement, etc), CEO, finance, PCT board, PCT executive team, procurement Commercial organisation ('ResearchCo'): Project manager & Director, researchers, Workstream leads
Meetings observed	*6* meetings
Public meeting minutes	9 board meetings
Public documents	Press releases, project progress reports, strategic plans, Q&A project reports, project deliverables, governance structures, timetables, PCT forms

4.5.1 Background

The CHII project took off as an ambitious and expensive initiative (with a budget of about £10m over 3.5 years) that aimed at tackling the biggest preventable causes of ill health and death in the borough of PCT Z. The PCT was determined to tackle the main causes of morbidity, mortality and, most importantly health inequalities (as identified over many years in all their strategies) in an innovative way. The aspiration was that in-depth local research would "*examine the behaviour and attitude of people across a diverse population*" (study synopsis). Furthermore, research results would inform the development of bespoke and suitable to the local context health promotion and improvement interventions and services.

The PCT allocated a substantial amount of funds to undertake this project, which was delivered mainly with the support of a commercial partner (a FESC qualified organisation[17]). The procured partner – hereafter called

---

[17] A policy issued by the Department of Health in February 2007 *'for procuring External Support for Commissioners (FESC) will provide Primary Care Trusts with easy access to a framework of expert suppliers who can support them in undertaking*

ResearchCo (a pseudonym) – was commissioned to design and carry out a sophisticated research study that, if successful, would constitute the basis for the delivery of a series of comprehensive health improvement services. The research involved designing, conducting and administering a residential survey as well as reviewing international evidence of health improvement interventions and evaluations; and was sponsored by the PCT Public Health (PH) Director. ResearchCo was also to carry out a health needs assessment, develop an engagement strategy and implementation of suitable customised health promotion interventions, and devise an intervention evaluation framework.

ResearchCo worked closely with the PCT to deliver the required outputs for each workstream. For example, there was a lot of data sharing with the PCT for carrying out the needs analysis. There was also a lot of interaction with the Communications Department of the PCT with regard to e.g. the survey. Most significantly, frequent project meetings allowed PCT's staff to provide necessary input into certain aspects of the project (e.g. information about interrelated initiatives leg by e.g. Local Authority) and monitor ResearchCo's progress. In addition, 2 senior members of ResearchCo spent 2 days per week each at the PCT offices. Finally, the PCT at an executive team level made a special effort in involving various stakeholders (voluntary organisations, local authority, etc.) and in making sure that the work was widely publicised, referenced and integrated with other major developments (see Table 15 above).

As far as the project's outcomes were concerned, the initial research was deemed very successful. Thousands of questionnaires from local residents were returned and a number of qualitative interviews were also conducted. Towards the end of the research, and in the middle of the uncertainties following the announcement of major reforms in the NHS, PCT Z set out to assess ResearchCo's proposals and business case for a set of health promotion interventions that would follow up, and build upon, the results of the research. A series of meetings were held between ResearchCo and the PCT (including bot the project sponsor and other commissioners) in order to consider the commissioning of a comprehensive programme of health improvement interventions (CHII).

ResearchCo, whose revenue stream derived from contracts, had a big stake in the CHII initiative. The end of the initial research project was approaching, and so was the potential termination of their contract. A

successful business case would secure an important source of income over the coming months.

The changes in the commercial relationship corresponded to a shift in the interactions between ResearchCo and the PCT staff. For example, ResearchCo delayed sharing their proposals with PCT staff; they insisted that the proposal would be packaged in a specific way. They also priced the new contract at more than £1.5m without providing a breakdown of the costs. The PH Director and project and contract manager were supportive of some elements of the proposals, yet ResearchCo staff was disinclined to provide financial details. This created tensions between PCT and ResearchCo, as manifested in the following dialogue that took place at a meeting.

PCT project manager: *Can we have a breakdown of the costs of your proposals?*
ResearchCo staff: That is not possible at the moment…
PCT project manager: We need to understand the financial assumption… when commissioners see the proposals, they will need to know the breakdown… because some of what is there [in the proposal] may be produced in house… how did you get to £1.5m (overall value of the ResearchCo proposal?
ResearchCo staff: Maybe I made an error there….
PCT project manager: Without numbers the business case doesn't mean anything to commissioners). They will need a number attached to each element (of the proposal)… otherwise it doesn't have a value! We need the detail of information… We like the approach, we agree on that (content of proposals)… but not for that amount of money! You (ResearchCo) need to succinctly demonstrate value.

Another source of friction was the so-called 'return on investment' (ROI) of the proposals. Each business case submitted to the PCT investment panel should demonstrate 'good' ROI. In this instance, however, the calculation of ROI was not straightforward, as Sheila from ResearchCo tried to explain to the PH Director:

Sheila, ResearchCo: It is difficult to do a return on investment on these things [referring to health promotion proposals]. It is difficult to know what impact they will have…

PH Director: I don't think ROI is hard… you just create a model… We've got the evidence (contribution of preventative causes to ill-health and death) from the needs assessment…

Sheila, ResearchCo: (Objecting kindly) When you put ROI in a contract, it is quite different… It is difficult to put in a contract how many people will actually stop smoking as a result of a particular intervention… Helen [in charge for ResearchCo's business case] doesn't want to put finance (in the proposals)

> because if she doesn't deliver, she will lose her job. That's how it works in the commercial sector… (Sheila, ResearchCo)

> _PCT Project manager_: (But) People (commissioners) will become disinterested (without a ROI)…

A number of important difficulties gradually emerged. On the one hand, the PCT wanted the business case proposal to be very detailed and demonstrate succinctly investment value and within a short time period (6 months). This was particularly important for commissioners in the current restrained financial climate. On the other hand, ResearchCo concluded that delivering specific, measureable health improvement targets would have been very difficult to hit within the required timeframes. This meant that they were disinclined to define concrete improvements in health outcomes as contractual deliverables.

When the final business case was submitted, the significance of these difficulties was exacerbated in light of the "_whole new financial situation_". Commissioners, finance, and PH staff met and jointly discussed the merits of ResearchCo's proposals, at the core of which was the use of media as a means to create engagement with specific patient groups at which the health promotion interventions were to be targeted. Some expressed their uncertainty about value for money (VFM). Others were very sceptical about ResearchCo's intensive involvement in specifying the content of the commissioning proposals and with the lack of transparency of how these proposals came about. Most were uncomfortable with the '_lack of options_' (ResearchCo had provided only one set of proposals). Other staff with previous experience of using various media as engagement tools with hard to reach groups (e.g. people with learning difficulties), also felt that the recommended implementations were a 'jump' from the research. They understood the approach but were surprised by the high cost of the proposed initiative. They felt that they were being duped and expressed their anger about it. Collectively, PCT staff expressed dissatisfaction with the proposals, scepticism, frustration, guilt (because an exemplary project might not actually deliver anything substantial in terms of commissioning and strategic benefits), even cynicism (one PCT commissioner dubbed the proposals plainly as "_an attack on our NHS_!").

The final decision on ResearchCo's business case was discussed at an important _project board_ meeting attended by the PCT CEO, senior PCT staff and ResearchCo senior project members. Although ResearchCo were pitching again their business case with the motto "these are evidence-based proposals", they refused to modify the proposals in order to accommodate some of the PCT's requirements for e.g. alternative delivery vehicles and greater number of options.

The outcome was that the PCT did not approve the ResearchCo's business case. Differences were not reconciled. While the business case addressed ResearchCo's needs it did not comply with the PCT requirements. The proposal was in fact developed as a complete, and in many ways sealed, package. This fitted ResearchCo's capabilities and its pressure to generate income, but did not provide options or demonstrate value for money as required by the PCT. In effect, the all or nothing rhetorical strategy adopted here not only severely undermined the PCT's commissioning aspirations for a comprehensive set of health improvement interventions, but also affected its ability to achieve its strategic objective to reduce health inequalities.
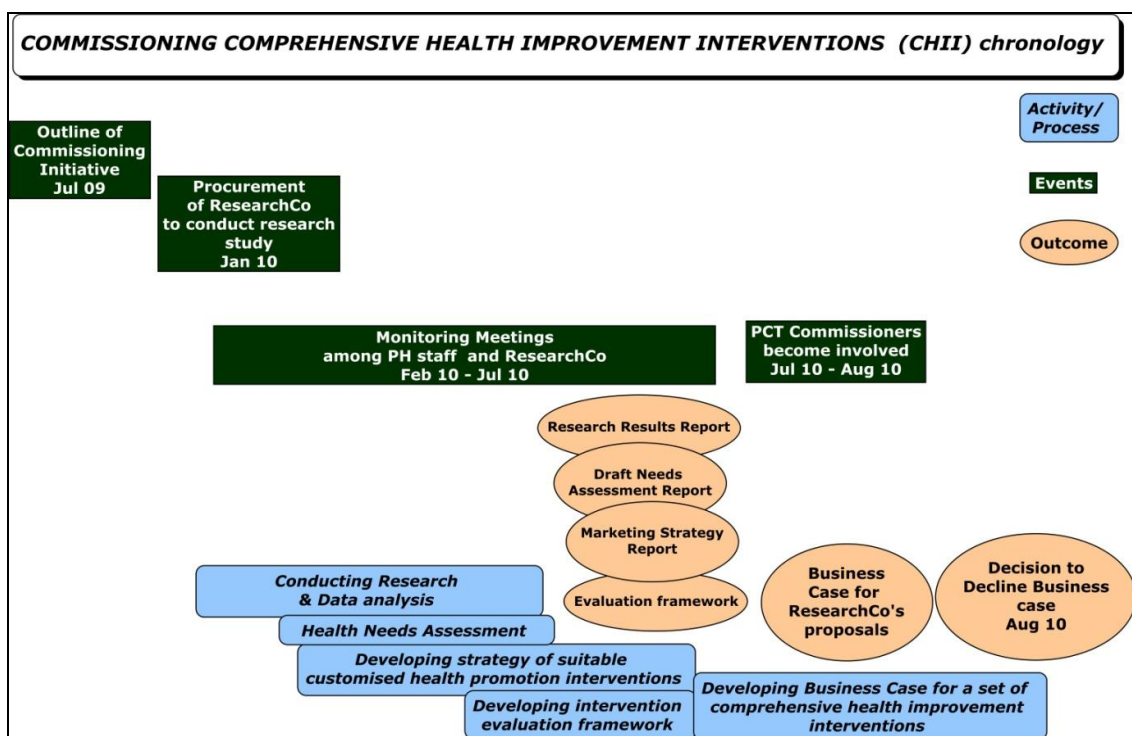

Figure 4. Chronology of the key events, activities and outcomes of the CHII project

4.5.2 EMERGING THEMES

Evidence in use

Since our interest lay in commissioning, we focused on the business case development and evaluation, and on the ways multiple kinds of evidence were used at that stage. Due to space limitations, we summarise our key findings in the following Table 16.

Table 16. Evidence in use during the CHII project

What evidence was used?	How was evidence engaged?	How was evidence mobilised?
Public Health Intelligence: Evidence of where inequalities exist and why Universal: nationally and scientifically created	Enabled public health experts to talk about the problem of health inequalities to non-experts and to communicate with reasons what could be done, i.e. focus on the key causes of preventable ill health and invest in opportunities to tackle health inequalities; afforded justification of investment decision (PCT Z's decision to procure ResearchCo); legitimation of the decision in the eyes of multiple audiences (SHA, DoH, non-executive directors, LA)	In PH director's report, in PCT strategies, in annual reports, in conversations at board meetings
Local Health Needs assessment & findings from local research into residents' lifestyles and attitudes Local: scientifically produced and in context	By way of 'reporting' key findings, highlighting 'high-level' research results through narrative means (e.g. ResearchCo rep reported that "the interesting stuff that is coming out is that 'young people are cross at older people' regarding their drinking habits"), using quotes that illustrate key findings, concentrating on certain results & fitting emerging research findings with ResearchCo proposals; e.g. those in greatest need, also wish to give up smoking, therefore we need such and such interventions	In meeting presentations, in executive summary reports.
Evidence related to health improvement and marketing interventions Universal: scientifically produced	In order to explore what population to target; claim the 'evidence-basedness' of proposals; raise credibility of proposals through referring to authoritative body of knowledge (e.g. 'judgement heuristics', 'theory of interpersonal behaviour', behavioural economics, stage-matched model of behavioural change); claim rigorousness of proposals	Embedded in presentations and introduction to proposals.
Evidence of effectiveness of proposed interventions, i.e. of causal relationship between interventions and measurable outcomes	Limited evidence was provided, even though PCT requested repeatedly; e.g. why the 'co-creation of health promotion messaging' was a suitable mechanism to e.g. help someone give up smoking[1]; generally hard to quantify?	Through business case forms and at pitching meetings
Business case supporting evidence: strategic, economic, commercial, financial, project management case Local: produced in context	In order to raise argument for the benefits of investing in ResearchCo proposals; in order for the PCT to scrutinise the investment merits of the proposals. The evidence for economic, financial and commercial case appeared to have been scant. Value was not succinctly demonstrated[2]. The cost of the proposals was denounced as 'disproportionate', while the proposed targeted population was deemed inadequate or even inappropriate to address health inequalities (i.e. targeting some cohorts of people would not lead to a reduction in health inequalities)	Through Investment Business Case forms and at pitching meetings

Despite the abundance of evidence produced and used throughout the life of the initiative, from a commissioning perspective the proposal was far from evidence-based. The effectiveness of the proposed interventions had not been proved, and the supporting evidence for the business case was regarded as unsubstantial. Although the failed business case could be attributed to ResearchCo's inability to produce relevant evidence, as well as wider institutional influences on PCT processes[18], it could also be argued

[18] At the start of the project, the 'institutional environment' was favourable to the innovation and risk that the PCT was taking. The PCT was 'ticking' a lot of the national policy boxes (e.g. World Class Commissioning, WCC); for example, they were 'needs led' and looking at innovation, engaging private sector partners etc. Then, in summer 2010 when the business case was about to be considered, there was a seismic change –first the news of a forthcoming election and financial austerity, quickly followed by a new government, white paper, abolition of QUANGOs, scrapping of WCC etc. The broader institutional 'rules of the game' were no longer valid, the known strategies for maintaining legitimacy appeared to have been

that the final decision to reject the business case was conditioned by the inability of both ResearchCo and the PCT to manage key interdependencies in the process.

Interdependences and emerging boundaries

ResearchCo and PCT staff had to deal with a wide range of interdependences. Our analysis suggests that many of the challenges they faced were associated with boundaries, which were drawn within the process – including, particularly, those defined by ResearchCo in the course of developing and pitching their business case. Table 17 summarises our key findings regarding the interdependencies experienced throughout this initiative.

Table 17. Interdependencies in the CHII initiative

	Source of Interdependence	Response to interdependence	Consequences
Acknowledged interdependencies	*Project work related*: **project governance** interdependence (e.g. who reports formally to whom for what, milestones), **contractual** (defining conditions of contract), **role interdependences** (who is doing what, how and when), **expertise** (assembling and integrating dispersed expertise from both ResearchCo and PCT), **stakeholder management**	Strict project management, e.g. setting relevant objectives and structures	Significant Project progress (deliverables, achieving milestones etc.)
	Commissioning related: Commissioning health improvement interventions (CHII) should be based **on strong evidence**; aligned with key **strategic priority** (tackling health inequalities); CHII depends on engagement with targeted groups	Proactive management: defining clear scope of programme as evidence-based, proposals aimed to engage residents	Project scope considered highly innovative & exemplary
Unacknowledged interdependencies (boundaries)	*Project work related*: **procedural** (providing the detail of information required by investment forms), **relational** (good relationships enable cooperation), **rhetorical** (e.g. convincing PCT commissioners about proposals through the creation of options), **expertise** (commissioning input required for making business case more polished)	No management (e.g. ResearchCo did not develop rapport with PCT regarding proposal benefits, PCT staff felt duped)	Distrust
	Commissioning related: **demonstration of ROI** (interdependence: investment merits determined through provision of specific measureable returns), **proof of effectiveness of interventions** (interdependence: investment justification requires strong evidence of intervention effectiveness); **temporality** of the causal relationship between CHII and actual health outcome (health benefits can be yielded in long time periods)	Poor management (despite PCT's request, ResearchCo failed to justify the selection of interventions, temporal interdependence unacknowledged)	Decline of proposals

---

obsolete … PCT staff panicked, became risk averse, and didn't even want to share the 'good part' (findings of their local research), in case they would be criticised and bear legitimacy losses.

Co-production of Commissioning Solutions

Commissioning the CHII programme was a two-party (client- consultant) collaboration. Whilst at some level co-production of certain outcomes was achieved e.g. of needs assessment reports, research findings reports, etc., co-production of the business case was severely compromised. As we highlighted earlier, ResearchCo refrained from engaging with commissioners, and failed to take their perspective into account. As a result of ineffective co-production, the business case was eventually declined.

While PCT Z intended to leverage expertise in the commercial sector, their search for clear value for money within a relatively short time period clashed with ResearchCo's interest in securing a commercially successful contract. A series of action that followed these diverging set of needs and interests exacerbated the differences and eventually led to the final PCT decision to decline the business case proposal.

Table 18. Co-production during the CHII project

Whose expertise was leveraged?	On what issue?	How was expertise leveraged and synthesised? When?
ResearchCo	Designing, developing, delivering four work streams of a major research study	On the basis of formal contractual obligations, co-location, etc.
PCT Public Health	Needs assessments, fit of proposals with strategic objective, monitoring evidence production by ResearchCo	Monitoring ResearchCo's drafts and deliverables.
PCT Commissioners	Business case evaluation	It was used to make a conclusive investment decision.
PCT communications team	Health promotion and public engagement proposals	Through meetings
Finance team	Business case evaluation	It was used to make a conclusive investment decision.

4.6 CASE STUDY D: MAKING INDIVIDUAL FUNDING REQUEST (IFR) DECISIONS

The final case study addresses Individual funding requests (IFRs); a particular type of commissioning decision related to exceptional cases. IFRs are quite different from other commissioning decisions, in terms of time span, implication, criteria adopted, and processes of co-production. As this is a divergent case, the themes here do not map exactly to those in the other cases. However, the IFRs, as a distinctive decision making context, provides interesting findings in its own right, and helps shed some light on the rest of our fieldwork data.

Our discussion builds on direct observation of 118 IFR cases (38, 23 and 57 cases for PCT W, X, Y respectively. We did not observe IFR decision-making in PCT Z. The data set for the present section is provided in the table below. Please note that 'Time/decision' means here a rough average time dedicated to discuss a case. We did not account for the time spent on a case prior to discussions.

Table 19. Descriptive statistics of IFR observations

	PCT Y	PCT X	PCT W	Total
Time per decision[1] (minutes/decision)	4.74	31.76	8.68	
No of meetings observed and/or minuted	3	5	5	13
No of decisions observed and/or minuted	57	23	38	118
Core Panel Members	GPs, Nurses, Public health (PH) Consultant, Non-executive director, IFR officer	PH consultant, ass. Director (commissioning & finance), GP, pharmaceutical advisor, non-executive director, knowledge services, IFR officer	GPs, Public health Consultant, ass. Director commissioning, Non-executive director, IFR officer	

4.6.1 Background

Individual funding requests (IFRs) for exceptional cases are made by individual patients or their doctors. The sources of these requests are usually multiple, and typically in circumstances where: a particular intervention is requested that is not usually commissioned by the NHS; the need for commissioning has not been identified; or, a new drug has been developed for a particular condition, but has not been accredited and qualified for its suitability in the NHS. Although the total annual cost of

approved IFRs is relatively low for each PCT, dealing with IFRs is crucial for maintaining and protecting organisational reputation. PCTs are officially required to deal with IFRs very seriously, since the reputation of the *National Health Service* as a universal healthcare system is at stake, too. Indeed, a poorly made decision may attract regional or even national media attention. For example, the BBC programme 'Panorama' (18th August 2008) highlighted popular criticism of IFRs by showing a number examples of people who were presented as 'victims' of this process (e.g. cancer patients not being able to receive life-saving drugs, etc.)

For these reasons, the IFR process has recently attracted significant policy attention. A formal letter of the former NHS chief executive, David Nicholson, to all NHS commissioning organisations, alluded to the need to *"address perceptions that variations in the availability of important treatments can sometimes occur at random, rather than as the result of a clear and conscious commissioning process".* Variations across PCTs undermine the reputation of the NHS. The letter also highlighted the newly-established *"right in the NHS Constitution to expect rational decisions"* about IFRs (112). According to Section 2a of the NHS Constitution:

"You [any NHS patient] have the right to expect local decisions on funding of other drugs and treatments to be made rationally following a proper consideration of the evidence. If the local NHS decides not to fund a drug or treatment that you and your doctor feel would be right for you, they will explain that decision to you." (113)*.

In response to these pressures, the three PCTs we studied (as well as most PCTs in England) have published their IFR policies on their websites. Common elements in these policies are as follows: (i) the establishment of decision-making groups, with a clearly designated focus of accountability, (ii) robust decision-making procedures, (iii) clearly defined standard criteria for decision making, (iv) a formalised process for documenting the application of decision-making procedures and the rationale for each decision, and (v) an appeals process for decisions made on individual funding requests, which patients/their doctors can have recourse to, if they feel their request has not been treated fairly. These policies outline in a more or less detailed way the principles underpinning the IFR process. All the PCTs in our study embrace principles, which are strikingly similar (please see appendix 4).

In all PCTs we observed, IFRs were routinely discussed by independent groups of experts. The official remit of the IFR groups was to make rational decisions on IFRs after careful consideration of IFR information and on the basis of specific criteria. Members of these groups (so-called 'IFR panels)

were usually different kinds of experts (see the Table 19 above for more details). IFR panels had the delegated authority to make decisions in respect of funding individual cases and assumed no other role.

4.6.2 IFR decision making in practice

In all the PCTs we observed, decisions on IFRs were arrived at mainly through three kinds of activities: (i) *performing procedural requirements, (ii) making sense of IFR cases, (iii) deliberating the funding merits of a request.* In what follows, we examine in details the way in which IFR decision making is carried out. Our findings are summarised in Table 20.

Table 20. IFR decision making activities

	IFR decision making activities		
	Performing Procedural Requirements	**Making sense of IFR Cases**	**Deliberating Funding merits**
Activities	- *Documenting* every aspect of communications - *Certifying* that a request is IFR - Compiling and *circulating* IFR case evidence *before* discussion - *Formally reporting* decisions and reasons for a decision	- *Categorising* a request on the basis of conventional codes - *Authenticating* a request, i.e. establishing its genuineness - *Narrativising* requests, i.e. creating and redrafting a story about it	- *Mobilising* the universal *NHS principles* and re-interpreting a request in light of these principles - Articulating, sharing and debating *arguments* regarding the funding merits of a request on the basis of - Formulating consensually a *rational decision*, which is justified on reasons which allude to the NHS principles at stake
Actors	Administrator, public health physician, librarian, IFR Chair	Administrator (circulates his/her story before meeting) Core IFR panel members	Core IFR panel members, who have to quorate in order to make a decision
Useful Artefacts/ Evidence	Emails, literature review, commissioning policies, reported letters, IFR form, minutes	Case contextual information, application letters, documentation	IFR case, research papers, decision making framework, commissioning policies

Performing Procedural Requirements

From the moment a request is received, the main practical concern of IFR chairs and administrators is to comply with a number of procedures. Firstly, every communication with the person making the request (e.g. emails and letters to and from the panel) and all other relevant information (e.g. the completed IFR form as well as other diagnostic test results, and reports) needs to be documented. It thus *de facto* constitutes case evidence. Secondly, the administrator needs to ascertain that the request is indeed an IFR and falls within the remit of the panel. In some cases, the requested treatment is already available. In others, the request could easily be accepted/declined according to the patient's evident eligibility re the criteria outlined in clinical commissioning policies. Thirdly, the documentation for

each IFR is printed off and forwarded to all panel members at least one or two weeks before the panel meets, so that every core IFR panel member has the opportunity to examine the information and the case evidence. Fourthly, a librarian may be asked to conduct a literature search for published evidence relating to the requested intervention; any relevant research papers are attached to the voluminous pack of documents (not infrequently of the size of 150-200 pages), which the administrator circulates to panel members prior to the meeting. Fifthly, at the end of each IFR meeting, the panel's decision (approval or decline of a request) is recorded in a formal report and/or a letter, which explains the reasons for the decision. In most PCTs these procedures are included in the official PCT policies for handling IFRs (see Table 21. Formalised IFR procedure as documented in the IFR policy of PCT X).

	Responsible Officer	Decision Making Body	Action and Timescales
Initial Receipt of IFR Request	IFR Officer	None	IFR request date stamped and logged on IFR database. Acknowledgement to referrer* within 3 working days.
Screening of IFR request to determine whether covered by existing contracts, SLAs etc.	IFR Officer	IFR Officer	IFR Officer to advise referrer within 5 working days of date of acknowledgement letter if request covered by existing contracts OR need to submit Treatment Request form.
Referrer wishes to discuss request/help to complete Treatment Request form	Public Health Directorate	None	All communication recorded in writing.
Referrer submits Treatment Request form	IFR Officer	None	Acknowledgement to referrer of Treatment Request form within 3 working days.
Triage of Treatment Request form	IFR Officer	IFR Officer and DPH or nominated deputy (Screening Pair)	Request either approved if covered by existing policy OR referred to IFR Panel OR rejected within 10 working days, unless additional information requested from referrer, when a further 10 working days is granted.
IFR Panel	Chair of the IFR Panel	Members of the panel	Panel to be convened within 20 working days of triage meeting. Panel decision to referrer from Chair of IFR Panel within 5 working days.
Reconsideration	IFR Officer	IFR Officer and DPH or nominated deputy (Screening Pair)	Further information from referrer considered within 10 working days and if significant a new IFR Panel convened within 20 working days.
Review Panel	Chair of the Review Panel	Members of the Panel	Request for a Review must be lodged within 20 working days (with discretion). Review Panel to be convened within 10 working days of receipt of request if grounds for a review are accepted. Review Panel decision to appellant from Chair of Panel within 5 working days.

* All correspondence is copied to the patient/carer or guardian and the GP of the patient

Table 21. Formalised IFR procedure as documented in the IFR policy of PCT X

Whilst in most of the meetings we observed, panel members performed the required procedural requirements without problems, occasionally, they were faced with procedural 'glitches'. For example, at one meeting in PCT Y, the Public Health physician could not certify that a request was an IFR: "I don't understand why this case is in this panel. This shouldn't be an IFR! We already commission this treatment". At other times, the decision over a request was postponed because case evidence was too limited for a rational decision to be reached. In such cases, making a decision would not be 'procedurally sound'.

Adherence to procedure was widely viewed as a guarantee of equity in decision-making. This is well illustrated by the following example where a doctor argues that a case where a person's life was saved, but the procedure was bypassed, actually constitutes a "badly made decision":

Caroline, a Public Health physician, says that in the past she made a quick decision to give a patient a life-saving treatment (an expensive drug). She refers to the circumstances under which the decision was made. She says that the patient's doctor called her and told her: "basically the patient is dying! That drug is the only available treatment"... So, I said 'yes'". Caroline says that the patient was saved. The chair says: "So, it was a good decision". Caroline replies uncomfortably: "[It was] a badly made decision!" (Caroline felt guilty, as the procedures e.g. considering case evidence prior to a decision had not been followed…)

IFR decision makers thus viewed decisions made purely on the grounds of urgency or expediency as less legitimate. From their perspective, accommodating urgency jeopardised *procedural soundness* and prevented the pursuit of rational judgements. Procedural soundness was not only seen as a precondition for 'rational' decision making, but was repeatedly invoked as an on-going practical concern for panel members.

Making sense of IFR cases

IFR panels' attempts to make rational decisions not only involved attention to procedure but also required a significant investment in sensemaking activities. Once a request arrived on the desk of the IFR officer, IFR panel members were prompted to apply to them a number of sensemaking activities (114), which we have termed *categorisation, authentication* and *narrativisation* (which means giving something the form of a narrative). *Categorising*, preceded all other sensemaking processes, and involved the giving of a name to a request (e.g. IVF, bariatric surgery, acupuncture). Panel members used pre-existing categories (diagnostic clinical codes) to bracket the request and make it a 'type of case' – most commonly labelling

it according to the requested intervention. The IFR form, which requestors used, played a key role, because it guided applicants and receivers of the request to provide and interpret information about the patient's condition and the requested treatment/intervention (see Figure 5 for an example of the IFR form).

PATIENT PERSONAL DETAILS

Patient Name:

Date of Birth:

NHS Number:

GP Details:

Please note that all personal information will be removed prior to the consideration by the Individual Funding Request process. This information is collected for monitoring purposes only.

TREATMENT REQUESTED

DETAILS OF REQUESTER (include Consultant contact details in the event of query or need for clarification)

Name:

Trust/Surgery:

Contact phone number:

CLINICAL BACKGROUND

Outline the clinical situation. Please include:
- Previous therapies tried and current treatment including intolerance and response
- Current performance status/symptoms
- Anticipated prognosis if treatment requested is not funded (include what treatment will be given to the patient)

Figure 5. Example of IFR form

The receipt of a form triggered the interpretation and categorisation of a case. Subsequently, *authentication* involved establishing whether an IFR was genuine, or whether the requestor's motives were questionable. Although in most cases the genuineness of an IFR was implicitly assumed, in a number of cases IFR panels would speculate as to why the requestor had applied for individual funding:

Pat from PCT Y (pharmaceutical advisor): [Talking about a case requesting funding for low back pain treatment] Clearly, in this case the patient went to the GP and asked the GP: "Could the NHS pay for this?" Patients can always pay by themselves! We will not pick up the cost for treatments that should be funded privately… [Excerpt from fieldnotes]

Whilst authenticating a request, IFR panel members were also predominantly concerned with *narrativisation*; i.e. they constructed a story that encompassed who applied, why, under what circumstances, and how the requested treatment might be deemed suitable. Usually, and prior to the commencement of a discussion, the IFR administrator narrated the case and in many cases this was summarised in one page attached to the voluminous IFR documentation. Quite frequently, narrativisation was problematic, because crucial information was missing. Bart, Public Health Consultant at PCT Z, noted at a meeting:

Bart: The big question for me is: what are they asking for?... (Also) The evidence base is really a series of references, rather than evidence. I was unable to quantify benefits. There is a learning for us… how to request evidence.

Adam (GP): I am (also) not sure… When did they stop the previous treatment? We also need more information on the proposed treatment plan.

Gary (IFR chair): it sounds like we can't make a decision.

Bart: I am happy to talk to the consultant to understand more about the patient's condition. I will send you an email by Wednesday… [Excerpt from fieldnotes]

Narrativisation of requests was crucial because it allowed IFR panel members to imagine the immediate consequences of their decisions, giving answers to the following: 'Is it going to work? How much would it cost? Will the patient benefit? Are there already available alternative treatments? Dealing with an IFR case effectively entailed the collective redrafting of an emerging story, as a case was gradually being talked about among panel members. Such redrafting aimed at making a story more comprehensible and was colloquial in character. Often, panel members used their own personal experiences to fill in gaps in a case story, for example, regarding the length of the requested treatment, the cost, etc. In the absence of direct interaction with the requestor, opportunities for clarification were very few and so gaps tended to be filled on the basis of prior social experience. In short, story making and telling was an ongoing practical concern for IFR panel members and was essential for dealing with a case.

Although performing procedural requirements and making sense of an IFR (categorising, authenticating, and narrativising) formed an important part of IFR decision making, what actually dominated meetings was a particular

form of discussion: the deliberation of the funding merits of requests on the basis of the NHS principles.

Deliberating the IFR Funding Merits

During the actual decision making discussion, IFR panel members focused their attention on 'calculating', debating and reaching consensus about the funding merits of a request. Deliberation was performed mainly through collectively re-interpreting a request in light of the NHS principles (though not necessarily all principles). Deliberation entailed the articulation, sharing and debating of arguments by IFR panel members. The practical concern of IFR panel members was to formulate a single verdict, to be agreed by all, that valorised reasons as to why a decision was fair and thus constituted a publicly defendable justification. In all panels we observed, actors were particularly preoccupied with legitimating their decisions in the eyes of the general public. Many times they wondered: "*How do we sell this [decision, rationale] to the public?*", "*the public would find no logic in our argument*", "*I am more than happy to face the public and explain our reasons for this* [decision to decline]".

In light of perceived imperatives to justify, actors were mindful to construct a decision that demonstrated compatibility with NHS principles, as outlined in IFR policies and ethical frameworks. This situated mobilisation of NHS principles included, as a minimum, effort to identify a case as more or less '*exceptional*'. The following excerpt from field notes taken at an IFR meeting in PCT X illustrates this process:

Kathryn (IFR officer) summarises the second case [funding request for sodium oxybate for narcolepsy] ... When she finishes, Adam (GP) says: "it's definitely service development [the development of a new service which is in principle available to all]. It is not exceptional!" Bart agrees and says that, "even though the number of other individuals who could also benefit is small, it's predictable. A large proportion is anticipated, so the case is not exceptional. I think it is service development. The patient is not exceptional…This is not the same as exceptional, there is no evidence of exceptionality..." [excerpt from fieldnotes]

The IFR case here was re-interpreted. It was no longer a request for the prescription of sodium oxybate for narcolepsy (a rare mental health condition). It was now probed in relation to a higher-order principle or public good - whether it was, or was not, *exceptional*. For the IFR panel members, the lack of (so-called) 'evidence of exceptionality' highlighted equity issues. Approving a non-exceptional case meant that they, de facto, treated unfairly all other people, to whom the requested treatment could/should also be available. The identification of a cohort of similar patients implied that the IFR panel, if they were to be rational, had to

conclude on grounds of equity and social fairness, that the request be declined. Had the patient been 'exceptional', the panel would have been in a position to dissociate the case from the general population and perhaps come to a different decision. Issues of equity and fairness were also manifested when panel members across PCTs experienced the need to be consistent across time and space in their handling of IFR cases. The notion of *consistency* was often drawn upon to ground an argument and decision. For instance, if the panel had approved a procedure for a similar patient in the past, i.e. there was a precedent, this constituted grounds for accepting the next IFR that requested the same procedure. The decision-making here was more akin to that used in normative professions (such as law), which rely on judgements of value, than in scientific professions (medicine and law), which rely on judgements of fact (115). This is an important point since it highlights that a model of evidence utilization developed for medical decision making (EBM) cannot simply be applied to the practice of management decision-making.

Quite often the mobilisation of principles in a particular context was problematic. For example, IFR panel members would not always agree on their understanding and application of the principles. Often this led to debating and clarifying the meaning of a definition, as the following excerpt from notes taken at a meeting in PCT Y suggests:

Caroline, Public Health consultant, says that, "this case is exceptional!" Pat, pharmaceutical advisor, disagrees and argues that, "it is a service development, it is about a new drug!" Caroline then replies that, "it all depends on your definition of exceptionality". "So, what is your definition of exceptionality?" Pat immediately questions. Caroline hesitantly says, "I don't remember, that the patient has an exceptional ability to benefit." [excerpt from fieldnotes]

Reaching consensus over the definition of 'exceptionality' looks like a theoretical issue. Yet, in the IFR context, it was a pragmatic issue, because the definition, when applied, enabled the 'calculation' of the request's funding merits. Without agreeing on what exceptional meant, the panel members were not able to re-interpret a case as 'exceptional' or not. The clarification of principles was thus crucial for appraising the funding merits of a request. Building confidence in the application of principles allowed IFR panel members to formulate a more coherent argument, i.e. an argument that demonstrably safeguarded the common good at stake (equity in this example).

In most cases agreement on the funding merits of IFRs was straightforward and consensus regarding the rational premise of the decision was reached seamlessly. Sometimes, however, a case was recognised as more complex

and deliberation was lengthier, more arduous and challenging, especially when *more than one principle* was mobilised. This is exemplified in the following excerpt taken from observations of the PCT Y IFR panel, where the principle of clinical effectiveness is brought to bear, alongside equity.

*They all finally seem to agree that this IFR case (a complicated cancer patient) is exceptional and that there is no issue of equity. Caroline, Public Health consultant, however, says that, "I am against (approving the request)… on different grounds. I am not sure about the evidence of (clinical) effectiveness"... John (IFR chair) is also worried that they are likely to miss something. They are looking at the abstracts of 6-7 papers sourced from an extensive literature search (attached to the IFR documentation). Bill (Finance manager) says that, "there is some evidence of clinical effectiveness". Caroline says that there is a big problem with the RCT paper: "From that (RCT paper's) point of view the treatment is experimental…". Pat concludes then that there is, "no evidence of clinical effectiveness. It's a no!". Caroline corrects him and says that, "there is **limited** evidence… The way I am reading it (the paper)… The clinical evidence is insufficient... I wish I had a better evidence base!" … [excerpt from fieldnotes]*

In this example, the IFR panel members deliberated the merits of the IFR on several grounds – not just 'exceptionality'. While the case was re-interpreted as exceptional and, so, worthy of funding (from an equity point of view), what became more salient and, indeed, problematic was an effort to ascertain the worth of the request in terms of *evidence of clinical effectiveness*. The panel members were seeking strong evidence (from a scientific paper), which would enable them to craft a coherent conclusion. Caroline's wish for a "better evidence base" reflects her anxiety to demonstrate effectively that a decision would guarantee 'objectively' (i.e. on the basis of an external object) that the principle of the clinical effectiveness would be safeguarded. That was important because, without such evidence, the case could not be deemed 'experimental' or 'clinically effective' (according to Caroline) and a rational decision could not be drawn. According to standards of clinical excellence, to which the panel members referred, strong, authoritative, and peer-reviewed evidence was a prerequisite for 'calculating' the merits of the requested intervention and thus for reaching a conclusion to decline or approve the IFR.

From this analysis it becomes clear that the 'rational' decision making in the IFR context was an emergent, complex, and precarious accomplishment, which depended on performing a locally constructed assemblage of procedural requirements, IFR sensemaking and deliberating merits. Table 22 summarises this.

Table 22. Summary of IFR Decision Making Analysis

	Procedural Requirements	Sensemaking	Deliberating
Practical concern	*Procedural soundness*	*Drafting a complete story*	*Enhance general legitimacy of decision*
Main Activity	*Assembling and circulating materials*	*Informal discussion*	*Mobilisation of NHS principles and debate*
Main challenges	*Procedural glitches*	*Incomprehensible story*	*Inability to 'calculate' funding merits*

4.6.3 The thorny interface between IFR and commissioning

In many ways, making IFR decisions appears to be straight-forward: IFR panels simply follow certain stringent procedures, interpret requests as narratives and judge them for their funding merits by utilizing some of very explicit and specific rules. Our investigation of the IFR process across three PCTs, however, reveals that there is a thorny interface between individual patient decision making and population-based commissioning decisions.

- *Commissioning related interdependence: individual decisions are intrinsically linked to population-based commissioning policies*

In all PCTs the main medium through which the interface between individual funding decisions and population-based interests is supposed to be handled is through the development of commissioning policies. One of the senior national policy advisors on IFR issues explained that dealing with the fundamental interdependence between individually-based IFR decision and population-based commissioning policies becomes really challenging in practice.

"There is something about population and individual. And our recommendation has been for the last fifteen years that you [as commissioner] don't get caught up in all of the individual cases… from a commissioner's point of view, you have to make decisions at population level, and then for the individuals you have to decide: what is different about this individual that makes this drug more effective, more cost effective and with less side effects? Or is it just a case of you feel sorry for them... As a commissioner you have to try and maintain some objectivity. So you rely on finding whatever published evidence you can… audit data or some sensible clinical dialogue with local clinicians who are the experts. That doesn't necessarily mean they're always right. You have to focus on the merit of the intervention [emphasis original]. Otherwise you, the trap is that you try and manage all the individuals!

You can't! What you shouldn't do, as a commissioner, is use an IFR as a way of managing all the policy decisions you didn't make, or even a way of bypassing [policy] decisions you did make."

One of the IFR panel chairs also confirmed the criticality of this interface: compliance with commissioning policies was deemed critical and essential for making individual IFR decisions.

"There was one IFR case for a drug eye treatment; the lady was going to go blind without it. My view was: quite clearly there's no strong evidence that it would work, and.. This patient is not exceptional, in terms of her ability to benefit from this treatment. Although it's very sad, that potentially without further treatment this person may go blind anyway, but [even though she] may go blind, if you follow our policy, then the only decision you can make is not to fund. And that's the difficulty of IFR decisions…"

Our data suggest that managing this crucial interface required suitable organisational arrangements that would allow requests that did not fall within the classification, and yet required swift action, to be addressed. The IFR panel chair of PCT X confessed that as an organisation they had major difficulty in managing this kind of interdependence:

"That's why we have so much trouble at the IFR panel because we've not got a proper system… if a patient asks for a treatment, which is not rare and we haven't got a policy for it, it's a service development. They [IFR requestors] will have to wait until we decide whether or not a service development is going to be funded, and they may die in the process... We're expressly restricted now in what we consider, so if it's not an IFR, where does it go?... There is a problem, a problem in the organization… a problem with actually writing [commissioning] policies."

At almost every meeting we observed at PCT X, there were problems with IFR cases, for which the development of a commissioning policy was needed, yet was not available. PCT W, also, had not renewed its policies for the last 3 years and did not have a dedicated group for developing new commissioning policies. Delays in managing the demand for service developments were observed throughout our observations. PCT W and X therefore struggled significantly with 'non-IFR' cases.

Conversely, in PCT Y the interface between commissioning policy development and IFR was more thoroughly and explicitly managed. In conjunction with other PCTs in the region, PCT Y has established a commissioning priorities group, whose explicit role is to review and develop

commissioning policies. As a result of this more comprehensive approach, there are many more policies available at PCT Y's disposal, while it has also become possible to adopt a 'lean method' to deal with and process requests. A key member of the commissioning policy development group explained why this is the case:

"[For example] …our PCT has adopted a policy which says that functional electrical stimulation is low priority for post-stroke drop foot… because the evidence is not convincing that it is clinically effective. So in reality it shouldn't be an IFR. The only things that should be going through IFR are the ones that are different, the exceptions. We shouldn't be spending loads of time looking at these … What the PCT should be doing is turning them away and saying 'this doesn't fit with our policy, go away'. Now there are other PCTs that will actually look into every single one of these and spend hours and hours and hours on it."

Hence we find that the process of commissioning policy development has a direct impact on how IFR decision making happens insofar as a policy outlines the merits and priority status of an intervention and defines eligibility criteria. Notably, the development of local commissioning policies far from eliminates 'postcode lottery', as PCT W Associate Director of Commissioning explained to us:

"People tend to be loath to specify nationally that you won't pay for X, Y, Z. Because nobody likes making those sorts of decisions. Saying 'yes' [to an IFR] is easier than 'no'. So nationally they tend to say… it's for local determination as to what's in a commissioning policy. And that's why you get different PCTs with different eligibility criteria. Because it's all left to local determination."

IFR process interdependence: assembling and synthesising relevant expertise and local knowledge

Our findings suggest, further, that IFR decision making becomes complex and challenging because there is a need to assemble and synthesise relevant expertise: doing IFR decision making, as group work, inevitably depended on who took part in discussions and in what ways she/he made a contribution to the deliberations. For all the key IFR activities – performing procedural requirements, sensemaking, and deliberating the funding merits – assembling and synthesising expertise was a key enabler. Simon, chair of the PCT X IFR panel, provided his insight into this important aspect:

"All of us on the panel have a kind of individual responsibility to take a lay view of a case… to take the view of 'we are just people'. But we're also there, individually, to

provide a certain level of expertise. Phillip is there from finance to be able to give finance support. Commissioning managers are there to give commissioning kind of input, particularly around the contracting things. Public health are leading the clinical discussions…"

Table 23 summarises how various IFR work-related interdependencies manifested in practice.

Table 23. IFR process interdependencies

IFR work activity	IFR work-related interdependence	Expertise needed	Examples
Performing procedural requirements	Establishing if a request lies within the remit of the IFR panel	Commissioning/public health expertise	An IFR panel member found out that a policy existed and was in the contract, yet the Trust had made unnecessarily a request; the expertise of the relevant contracts manager was sought.
Making sense of IFRs	- Understanding the clinical characteristics of a request - Understanding why a request is made under existing service delivery arrangements	- Relevant clinical expertise - Commissioning, PH, 'hands on' experience in NHS commissioning and delivery	One PCT paused making a decision about a dental case because the expertise was lacking. An IFR member suggested an alternative, already existing route to deal with the request.
Deliberating the funding merits of IFRs	- Understanding intervention/drug merits - Understanding exceptional circumstances	- Public health, Evidence-based medicine skills, pharmacists, specialist physician (hospital consultant)	At one PCT, the IFR chair requested an external hospital consultant to review a case

Our research indicates that the making of IFR decisions entails sophisticated management of both commissioning-related interdependence (interface between commissioning policies and IFR), and IFR work-related interdependences (key contingencies affecting the accomplishment of the core IFR activities).

4.7 Limitations of Qualitative methods

Whilst our study draws on some very rich empirical material – real-time observations of discussions and decision making in commissioning organisations, interviews and an abundance of corporate documents – we should also acknowledge the limitations of our methods and methodology. In particular, the main limitations of our study include:

- We focussed mainly on meetings and thus we were unable to examine how evidence was mobilised by individuals in non-interactional situations. We took the pragmatic methodological decision to concentrate on collecting data about how evidence was utilised as part of collective decision making processes. We thus did not account for how e.g. commissioning managers used evidence for accomplishing their individual tasks. Whilst this is a limitation, undoubtedly, we believe it is not detrimental to addressing our research questions. This is because we assumed that even when evidence was mobilised individually, in order for it to be utilised collectively for organisational decision making, it had to be communicated. This means that, even though the process of individual mobilisation is an important one, e.g. how managers look for and interpret research papers, what was even more significant for our research purposes was the process of "bringing the evidence to the common table" of decision making.

- In some cases we could not observe the final outcome of a decision making process. For example, we did not collect data about how the Diabetes service redesign project improved health outcomes or about how the TIA pathway specification was actually implemented at the contracting stage. Despite this important limitation, we argue that it did not affect the quality of our findings. We should also point out that extending the data collection period would probably have caused important delays to our project. After all, we were more interested in the process of decision making. We do recommend though, that future research projects attempt to link more explicitly decision making process and outcomes.

- We could not compare very similar kinds of redesign initiatives across sites. Whilst, undoubtedly, we could have probably learnt more about, had we observed e.g. how each PCT redesigned diabetes services, that was not possible for a number of reasons. First of all,

even though we pursued observing similar projects during our designated period of data collection, the organisations we observed had different priorities and were undertaking different projects. This was a fact we had to deal with. For the purposes of our project, it was also far more crucial to focus on projects that were 'live' in order to observe actual instances of evidence utilisation in commissioning; than to attempt to observe retrospectively similar initiatives. Had we used random sampling we would have jeopardised the meaningful use of naturalistic methods. Accordingly, we consciously took the measure to maximise opportunities for comparative analysis by focusing on the umbrella context of service redesign initiatives. By taking this measure, we could, and managed to, ensure that comparisons were made across redesign projects, i.e. across situations, which are underpinned by comparable abstract characteristics.

- Finally, an important limitation of our data was that we did not explore the views and perspectives of healthcare provider organisations (with the exception of Diabetes project). For example, we didn't explore the views of ResearchCo (Case study 3) or providers of TIA services (Case study 2). Although we did pursue interviewing providers, unfortunately, we were not able to do so (our requests were declined). We were not given reasons for having had our requests declined. We had to cope with the harsh reality that, sometimes, qualitative data collection might be compromised. Had we had access to providers' views and perspectives, we would have probably enhanced our accounts of redesign initiatives. Nevertheless, our rich observations of interactions among commissioners and providers were important sources of information, which compensated for this methodological shortcoming. Also, when analysing our data and reporting our findings, we were careful not to jump to conclusions about the intentions and interests of providers; we were cautious to examine only the ways commissioners *perceived* providers' actions. We do recommend though that future research projects attempt to elicit the diverse perspectives of both commissioners and providers.

5 Survey Results

We undertook a survey to further test and extend insights from the qualitative work. In this section we turn to the survey findings. In this first section we give a descriptive overview of participants and responses. These were further analysed using mixed modelling techniques and factor analysis described in Section 5.5.

5.1   Characteristics of respondents

The questionnaire was circulated to 440 individuals across 11 PCTs. (Sampling methods are described in Section 3.)The questionnaire is included in Appendix 1.

 Response by PCT is shown in table 26.

Table 24. PCT Population Response rates by population size and IMD

	IMD Quint 1	IMD Quint 2	IMD Quint 3	IMD Quint 4	IMD Quint 5	Totals
Pop Third 1	23/30 (77%)	78/95 (82%)	X	X	17/20 (85%)	118/145 (81%)
Pop Third 2	X	31/34 (91%)	46/56 (82%)	X	21/28 (75%)	98/118 (83%)
Pop Third 3	14/15 (93%)	13/22 (59%)	37/53 (70%)	41/57 (72%)	24/30 (80%)	129/177 (73%)
Totals	37/45 (82%)	122/151 (80%)	83/109 (76%)	41/57 (72%)	62/78 (79%)	345/440 (78%)

Cleaning of PCT lists (See Section 3.3.5) gave an updated overall response rate of 345/440 (78%). Our lowest response rate at 72% was in IMD Quintile 4.

We assessed PCT characteristics using routine NHS data and these were collated to provide comparisons between participating PCTs and those which declined.

A table of these results is shown in Appendix 3.

Section two of the questionnaire was designed to collect data about participant's personal and professional qualities and characteristics. Table 27 shows age and gender responses of the participants of the survey compared with equivalent data collected from the NHS Information Centre (2010) for staff working in PCTs. The sample proved to be a reasonably good match, with the composition of the NHS workforce in terms of gender and age distribution.

Table 25. Comparison of Age and Gender of Survey Participants with PCT Staff characteristics in England.

Age & Gender	Respondents (n)	%	England PCT's %*
Age Group: (N=345)			
Under 25	1	<1%	5%
25-34	53	15%	18%
35-44	106	31%	25%
45-54	118	34%	31%
55-64	40	12%	19%
64 +	5	2%	2%
No response	22	6%	_
Gender: (N=345)			
Male	111	32%	32%
Female	216	63%	68%
No response	18	5%	-

* Data collected from the NHS Information Centre Infrastructure Support Staff Statistics (116)

Thirty one per cent (n=107) of respondents were qualified health or allied health professionals, although only 1%(n=3) were currently also primarily employed in a clinical setting. Sixty-nine per cent (n=239) held a higher degree (Masters, NHS management Qualification or PhD). The largest single group of respondents

(43%, n=149) were working in a commissioning role, with 33% (n=114) working in Public Health roles. Seven per cent (n=24) of respondents worked in finance departments. Fifteen per cent of respondents (n=52) were spread across other commissioning settings. Participants had a variety of length of commissioning experience within healthcare and commissioning settings. (See table 28):

Table 26. Participants' commissioning experience

Commissioning Experience N=345	Years employed in the healthcare sector n (%)	Years engaged in NHS commissioning work n (%)	Years engaged in commissioning work outside the NHS n (%)
Under 5 Years	60 (18)	163 (47)	118 (34)
6-10 Years	38 (11)	104 (30)	13 (4)
11-15 Years	22 (6)	24 (7)	2 (1)
Over 15 Years	100 (29)	23 (7)	9 (2)
No response	125 (36)	31 (9)	203 (59)

As illustrated above, many participants tended to have worked within the healthcare sector for a number of years although not necessarily in a commissioning role.

Participants were asked to state their point on NHS pay scales as a proxy for seniority and as a screening tool to exclude the most junior members of staff (below grade 7). Table 29 shows pay scales indicating that most respondents were at NHS scale 8.

Table 27. Pay scales of participants

Respondents' grade on the NHS pay scale	n (%)
N=345	
7	79 (23)
8a	61 (17)
8b	43 (12)
8c	47 (14)
8d	40 (12)
9	8 (2)
Clinical/Medical	18 (5)
Other	26 (8)
No response	23 (7)

'Other' included voluntary lay members if committees and those co-opted from other organisations

5.2 Characteristics of the decision

In Section three of the questionnaire, participants were asked to think of an occasion when they had been involved in a commissioning decision-making process. They were then instructed to answer the rest of the questionnaire in relation to that specific decision.

Three categories of decision were described and participants asked to choose the category into which their chosen decision fitted best. (Figure 7).

Figure 6. Types of decision chosen by participants
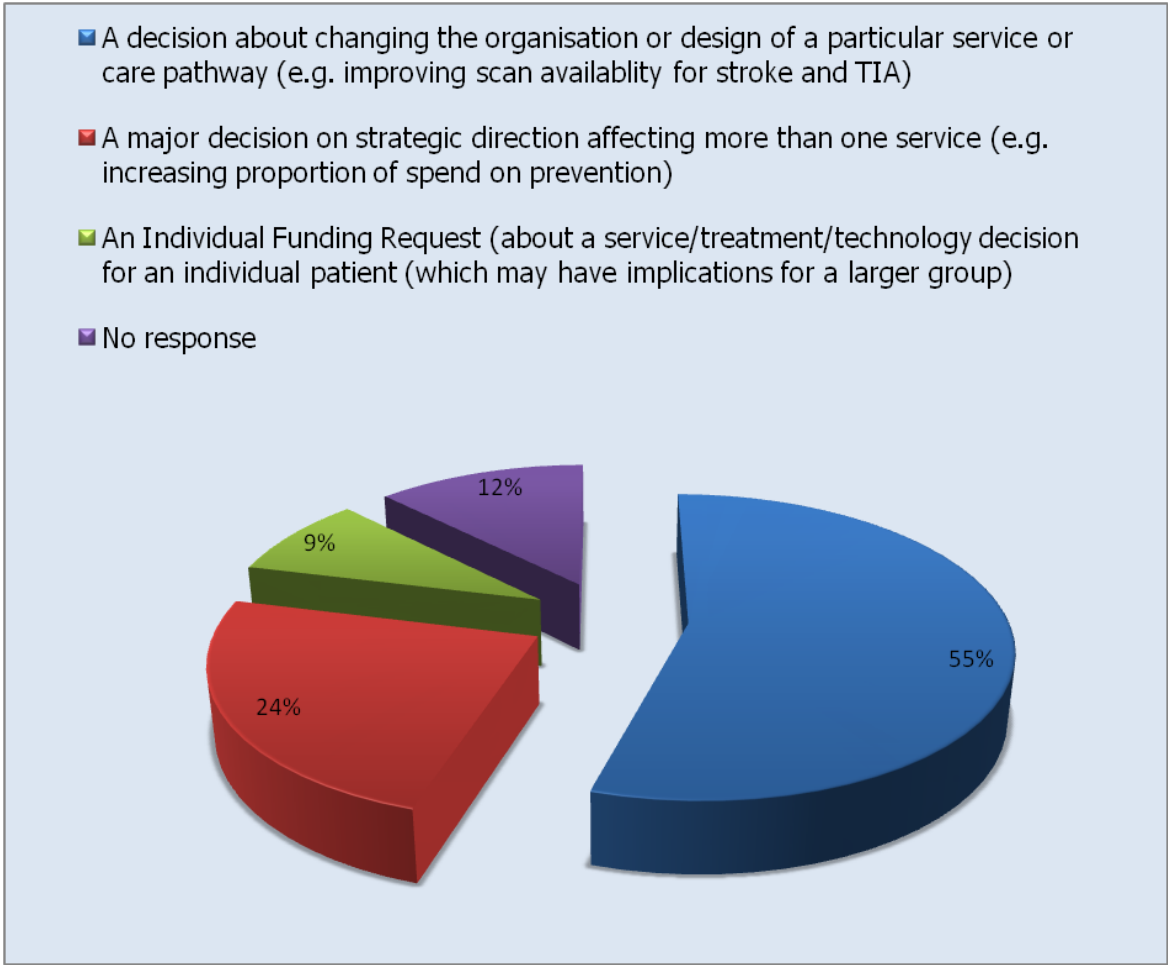
The most common choice of decision type selected by 189 participants (55%) was 'changing the organisation or design of a particular service'.

This was followed by a 'major decision on strategic direction' selected by 83 (24%) participants. Individual Funding requests (IFRs) were selected by 30 (9%) of participants. 43 (12%) respondents did not chose a decision and did not answer subsequent decision related questions. The following figures and tables refer to the 302 participants who described a specific decision.

Participants were asked to select which category of healthcare their decision belonged to using a recognised list (http://www.mrc.ac.uk/Ourresearch/Priorities/index.htm). (Figure 8)This question however proved one of the least consistently answered, with 'other' being the most frequently chosen option accounting for 30% of answers. This may be in part because some of the decisions described, covered more than one service, concerned services relating to more than one medical condition or related to broader public health activity. Figure 9 gives the distribution of the 120

'other' responses. (Figure 9)Some respondents chose more than one category of healthcare, and that is why there are more answers than respondents (405 response in all).

Figure 7. Numbers of participant selecting clinical areas for commissioning decisions taken
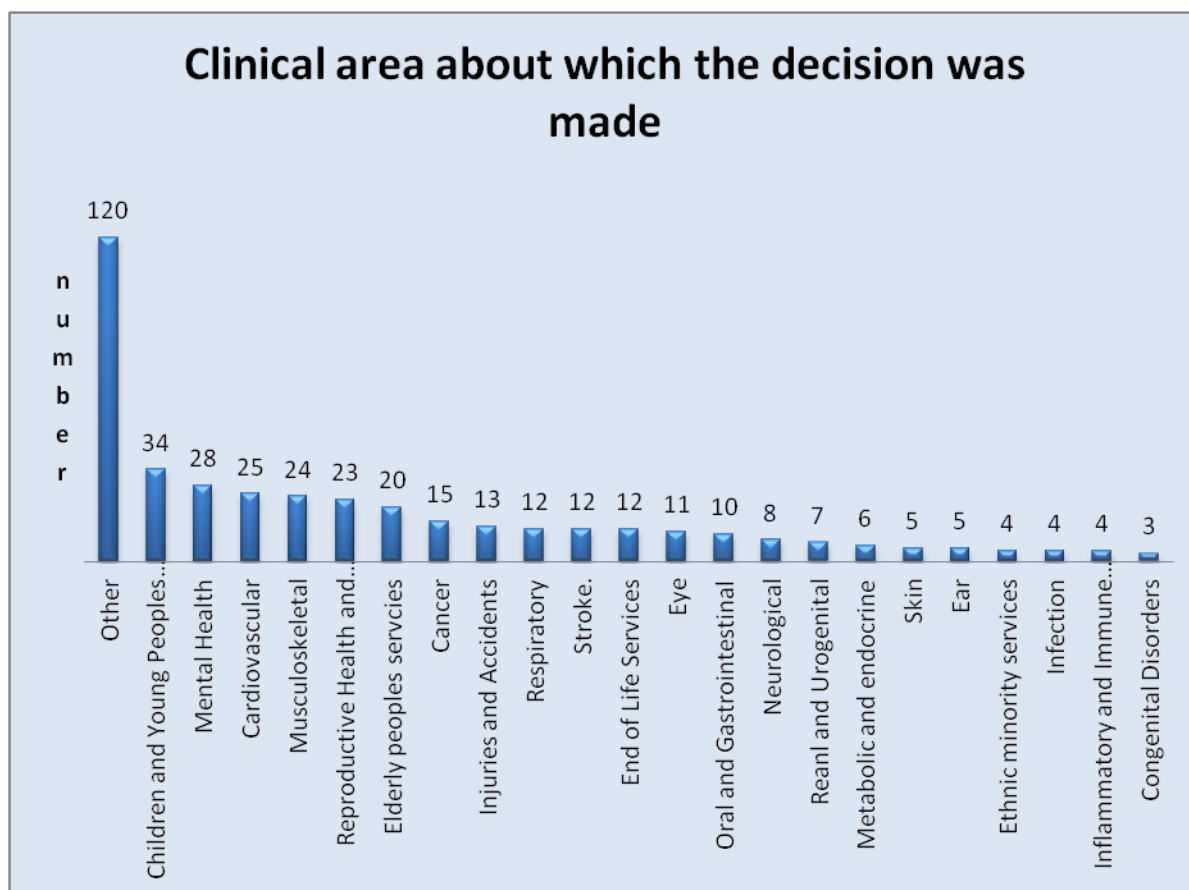
Figure 8. Description (number) of 'other' types of decision

Descriptions given of 'other' types of decision
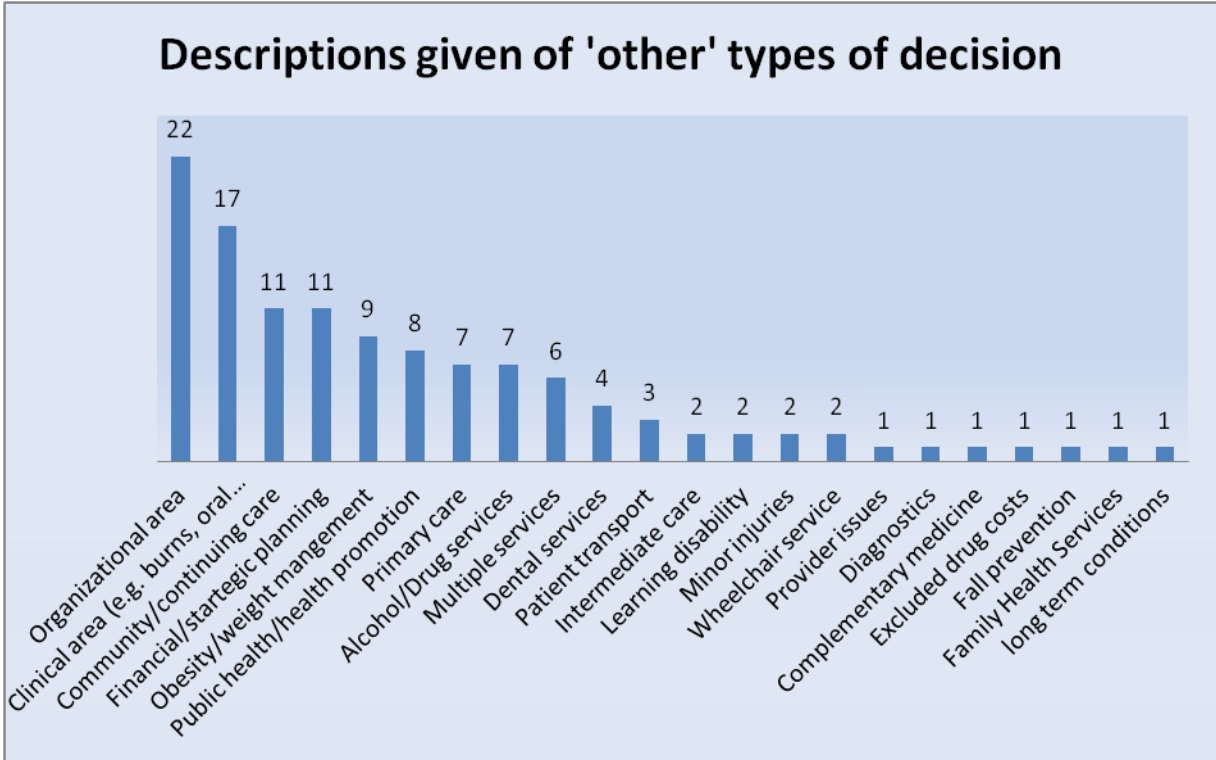
Participants were asked to provide details about the nature, size and potential cost impact of the decision. (See Table 28)

Table 28. Decision Characteristics

Size and Cost of Decision N=302	IFR n=30 n (%)	Organisational n=189 n (%)	Strategic n=83 n (%)
Size of population potentially affected by the decision:			
Less than 1000	19 (63)	42 (22)	9 (11)
1000 - 100,000	6 (20)	88 (47)	34 (41)
More than 100,000	2 (7)	33 (17)	32 (38)
Unsure	1 (3)	16 (9)	5 (6)
No response	2 (7)	10 (5)	3 (4)
Potential cost of implementing the decision:			
Less than £100,000	12 (40)	26 (14)	3 (4)
£100,000 to £1 million	7 (24)	75 (40)	24 (29)
£1 million to £10 million	4 (13)	39 (20)	22 (26)
More than £10 million	1 (3)	11 (6)	23 (28)
Unsure	3 (10)	29 (15)	7 (8)
No response	3 (10)	9 (5)	4 (5)

Responses to these questions were broadly in line with expectations given the nature of decision choices outlined above; with IFR decisions estimated as costing less than organisational decisions and these in turn costing less than major strategic decisions. Overall most decisions were estimated by participants to cost less than £1 million and to affect less than 100,000 people.

5.3 Decision-making Processes

In section four, participants were asked to provide information about the decision making process and their opinions of it.

They were firstly asked to indicate how long the decision making process had taken and how many meetings had taken place: Again as table 31 shows, findings are broadly as might be expected with IFR decisions requiring the least time in terms of number and timings of meetings and larger strategic decisions the most.

Table 29. Decision making process

Decision making process N = 302	IFR n = 30 n (%)	Organisational n = 189 n (%)	Strategic n = 83 n (%)
Time taken to reach a decision:			
1 - 3 months	20 (67)	57 (30)	26 (32)
4 - 6 months	6 (20)	72 (38)	19 (23)
More than 6 months	4 (13)	54 (29)	31 (37)
No answer	0 (0)	6 (3)	7 (8)
Number of meetings at which the decision was discussed:			
1 -5	26 (87)	77 (41)	27 (33)
6 - 10	4 (13)	57 (30)	16 (19)
11 or more	0 (0)	46 (24)	33 (40)
No answer	0 (0)	9 (5)	7 (8)
Length of time for which the decision was discussed at each meeting:			
0.5 hours or less	14 (48)	25 (13)	11 (13)
1 hour	9(30)	61 (33)	26 (32)
1.5 hours	4 (13)	47 (25)	16 (19)
2 hours	0 (0)	38 (20)	15 (18)
2.5 hours	1 (3)	6 (3)	2 (2)
3 hours or longer	1 (3)	4 (2)	3 (4)
No answer	1 (3)	8 (4)	10 (12)

Participants were asked to what extent they agreed with a number of statements about the decision making process, ranking their opinions on a Likert scale; (Q16)

Figure 9. Participants views of aspects of the decision making process
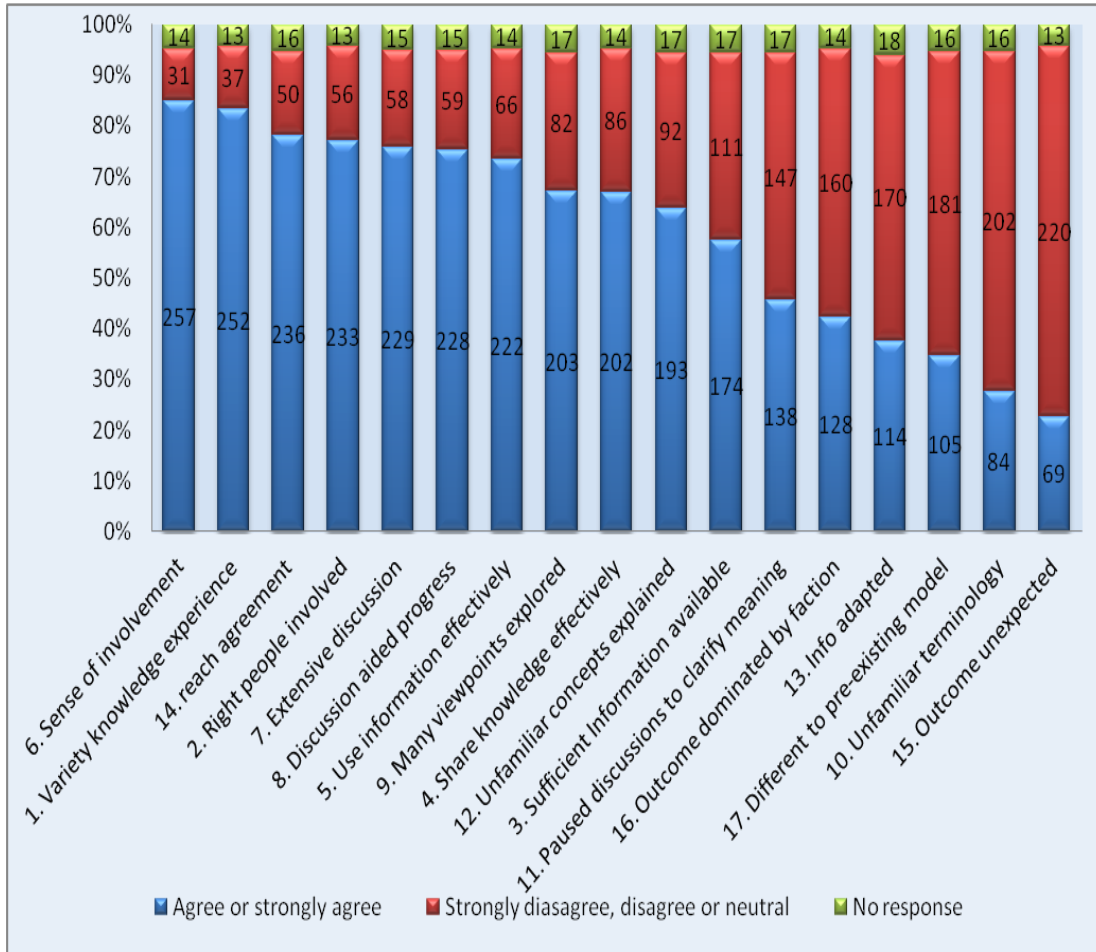
Figure 10 gives numbers and percentages of participants responding to each of the statements about the decision making process. (Numbers refer to question numbers. 'Strongly agree', and 'agree' are grouped and 'neutral', 'disagree', and 'strongly disagree' are grouped). These items were later used to construct the co-production scale. Respondents were positive about the decision making process. More than 80% of participants agreed that they had 'a sense of involvement', 'a variety of knowledge and experience' and the 'ability to reach agreement.' Just over 20% however, considered that the 'outcome of the decision was unexpected.'

Respondents were asked which professional and stakeholder groups were involved in the decision making process and to rank their level of influence on the decision making process.

Figure 10. Types of people involved in the decision making process and their level of involvement by number and percentage in decision studied with 95% confidence intervals
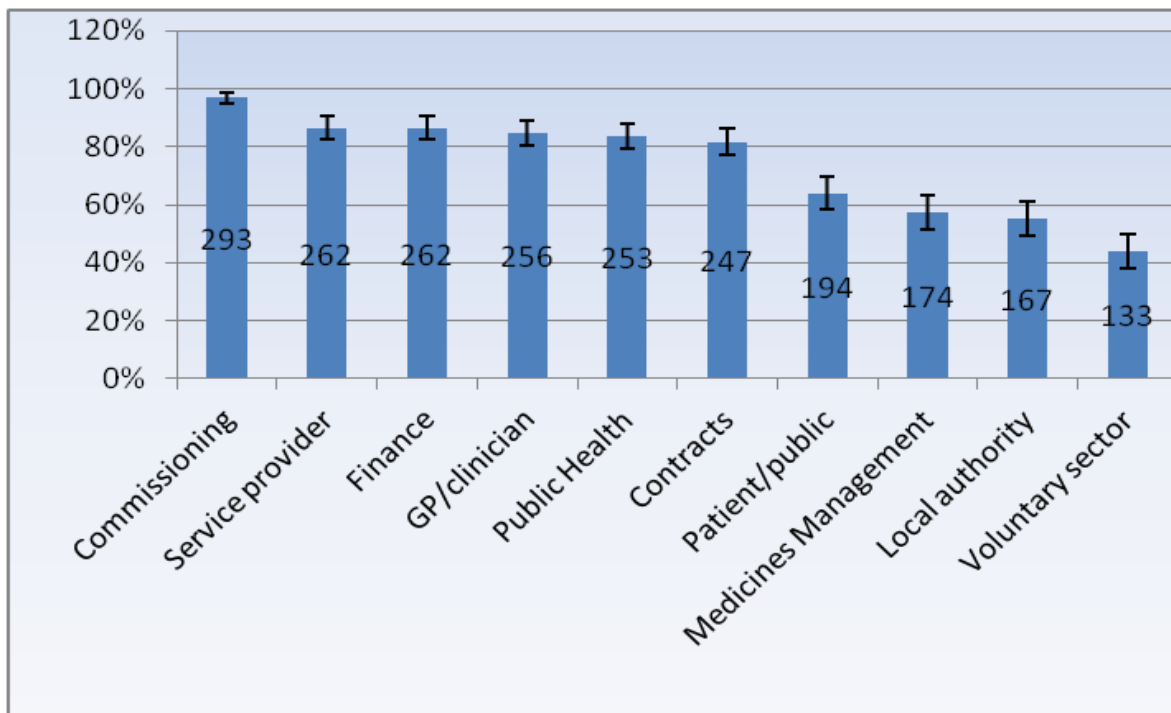
Figure 11 shows that commissioning staff were involved in almost all the decisions described. The voluntary sector was involved much less (although still in just under half of the decisions).

Respondents were asked for their opinions about a range of practical issues encountered during the decision making process. Categories were derived from the qualitative work. Figure 12 shows number and percentage response to the 5 statements again dichotomised into 'agree', 'strongly agree' and 'strongly disagree', 'disagree' or 'neutral.' A majority agreed that that the 'formal process for arriving at a decision was understood' that 'there was a lot of time pressure,' and that 'the people and materials needed for the decision making process were available.' Most disagreed or were neutral that the 'problem was difficult to frame' or that the work was 'interrupted by cancelled or poorly attended meetings'. However, 34% agreed with the statement that that the work was interrupted by 'reorganisation, restructuring or change of personnel.

Figure 11. Participants views of aspects of the decision making process
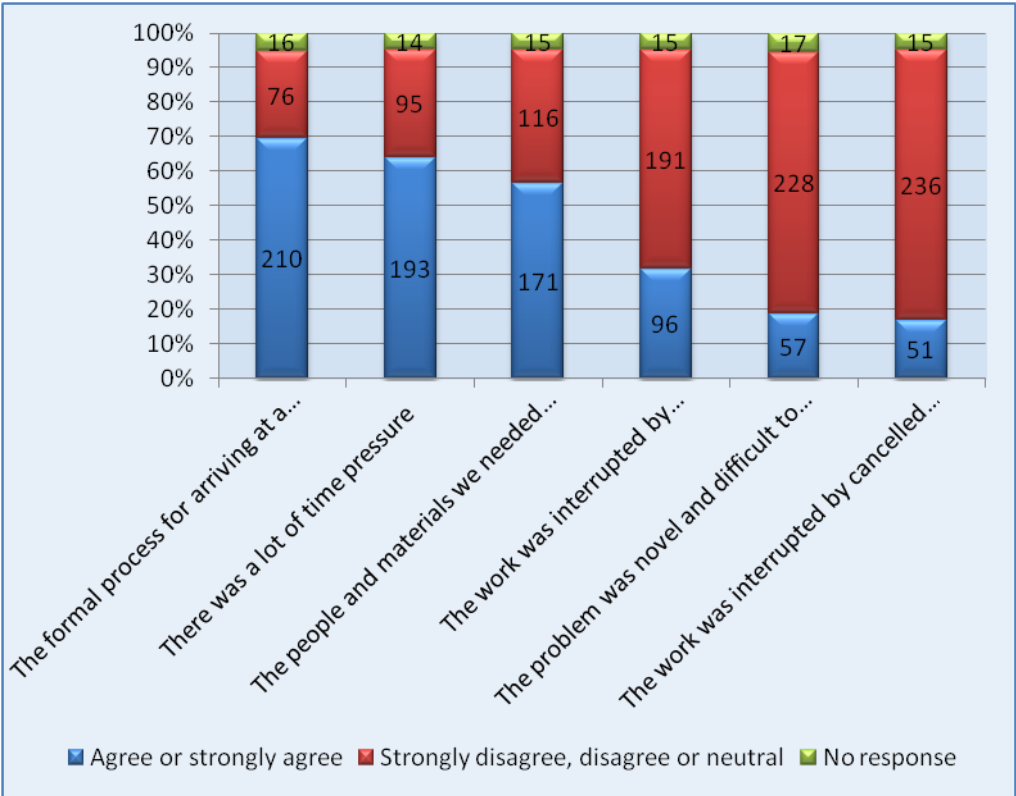
Participants were asked to rank the importance of different factors in the decision making process, using the Gallego scale (104)(Bracket 1 in Figure 13) and a list of factors developed from our qualitative work (Bracket 2 in Figure 13) .

Figure 12. Perceived importance of different factors in the decision making process
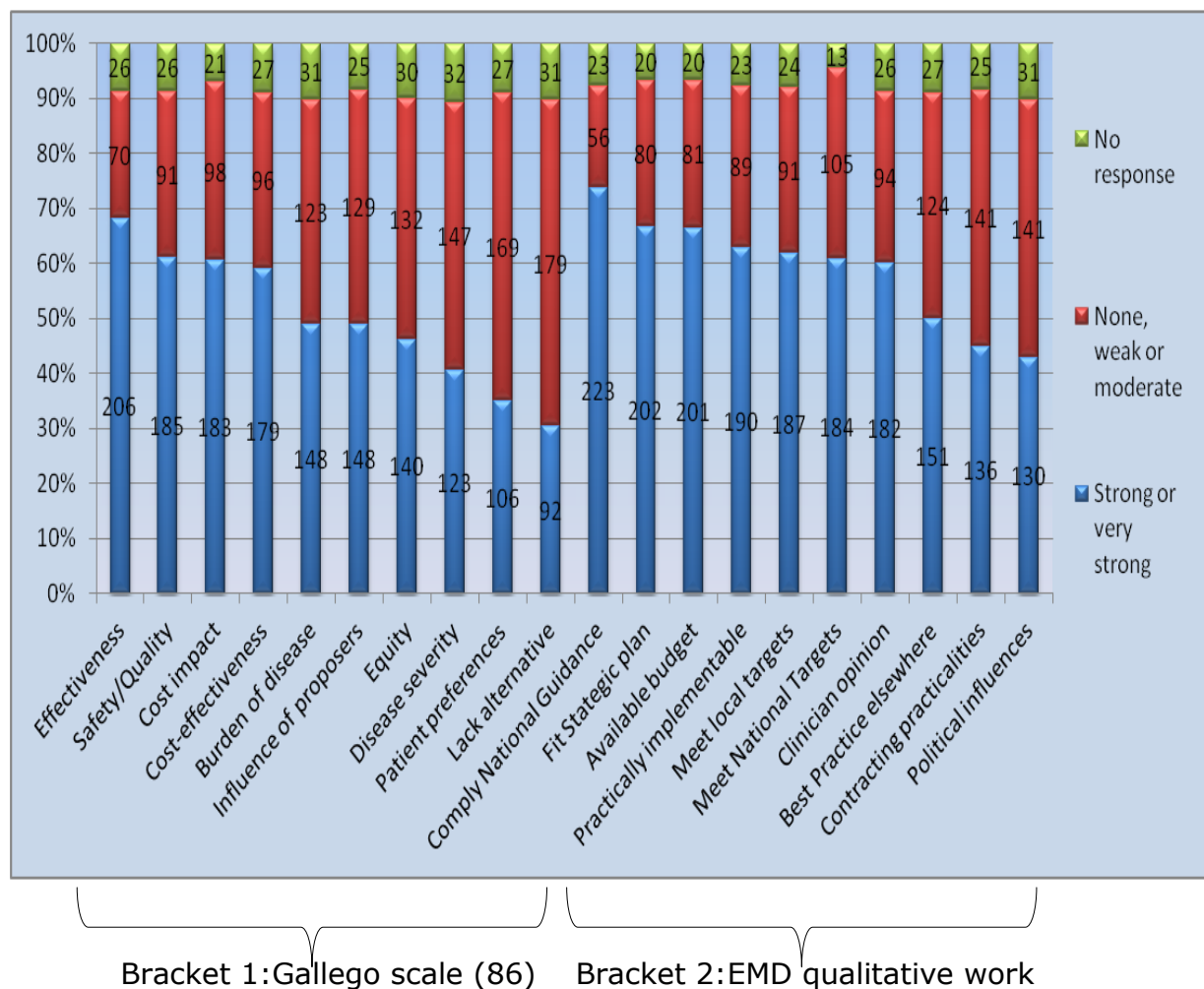
As can be seen from Figure 13, in this context factors considered important by our respondents included items both from the Gallego scale and derived from our own qualitative work. Respondents were asked to select the single most important factor from the combined list or to suggest one themselves. Figure 14 demonstrates the importance to our respondents of the factors introduced by our own qualitative work – for example "available budget" which was selected as the single most important factor in the decision by the highest number of 16% of the respondents. Complying with national guidelines was also regarded as an important factor, highlighted by over 12% of respondents.

Figure 13. Perceived single most important factor in the decision making process (percentage indicating item)
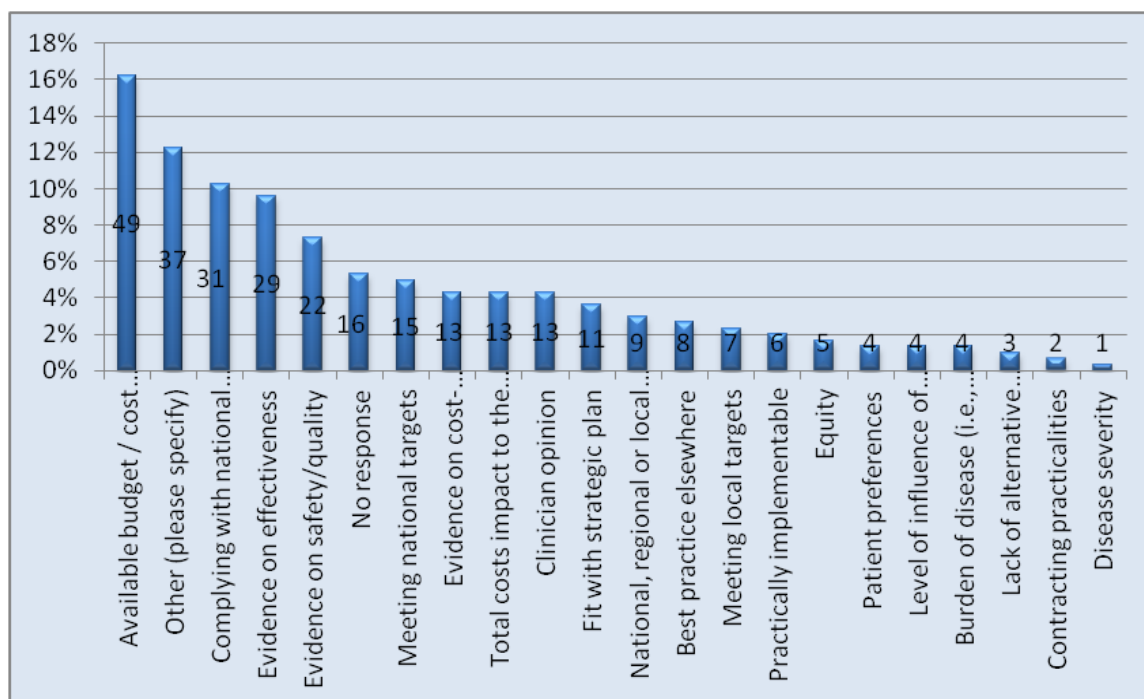
In addition to the important *factors*, respondents were asked to rate different *sources* of information and evidence in the decision making process. (Qs25 & 26 in questionnaire: see Appendix 1). Again these questions were derived both from a previously used scale (103) and from items derived from our qualitative work. Figure 15 shows the percentage for each item identified as the single most important source of information or evidence. As can be seen, respondents expressed a clear preference for locally based information and evidence over nationally available sources such as NICE guidance for example.

Figure 14. Perceived single most important source of information or evidence (percentage indicating item)
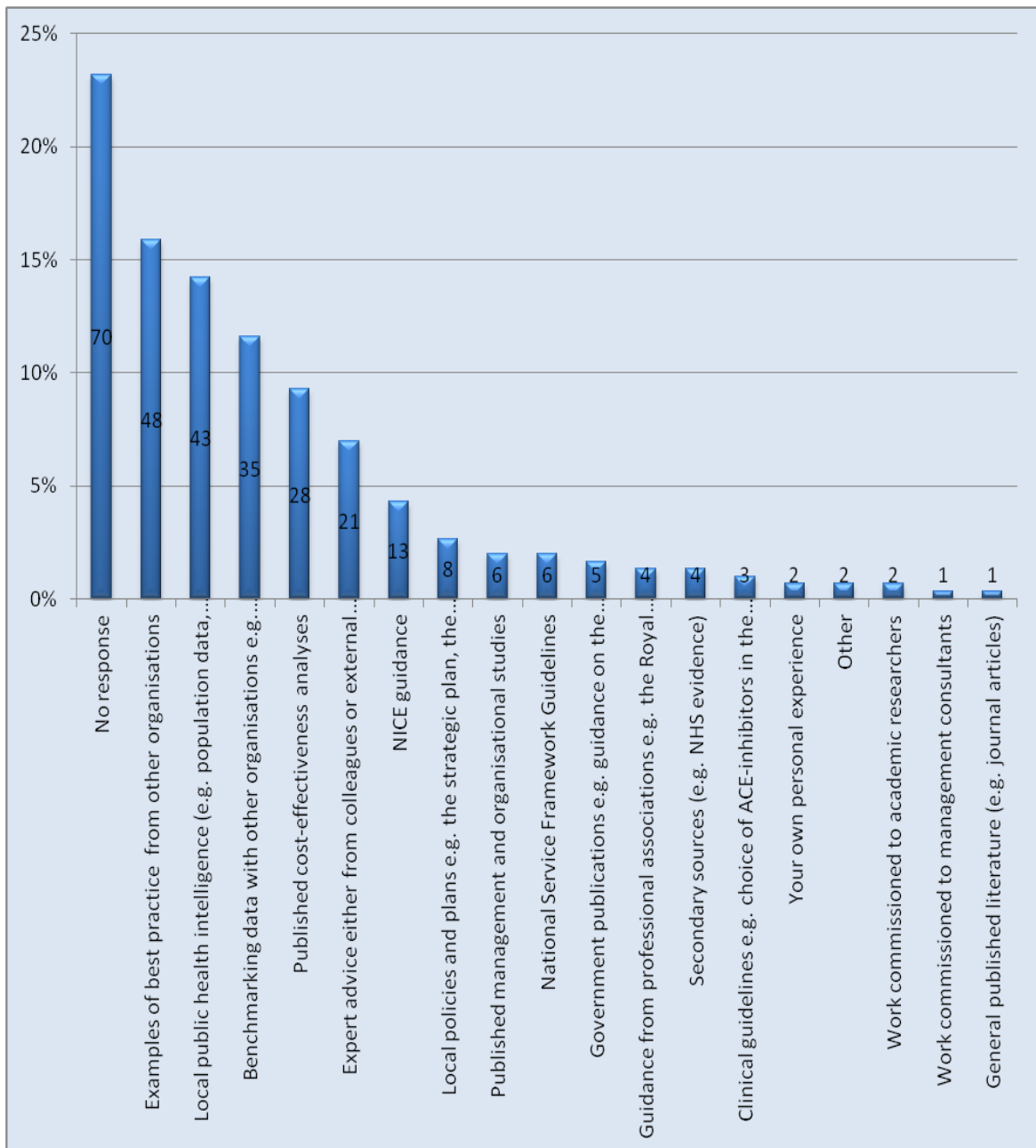
Respondents were asked questions concerning the availability of desired evidence at meetings. The majority of respondents (57%) indicated that the required evidence or information was available at all or most of their decision meetings. When discussion identified that more evidence was required however, only (45%) said that this could mostly be made available in time for the next meeting. And in general, although sourcing of evidence and information did not appear to be a particular problem for most respondents, (16%) identified that if further information were needed - it would rarely be available for the next meeting.

Respondents were next asked to rate how they felt about the outcomes of the decision making process. The percentage of participants who 'agree,' or 'strongly agree' and the percentages, who 'strongly disagree,' 'disagree' or who are 'neutral' about each statement is indicated in Figure 16. The first four items reflect questions from a subscale of the Decisional Conflict scale (117).

Figure 15 Views on the outcome of the decision making process.
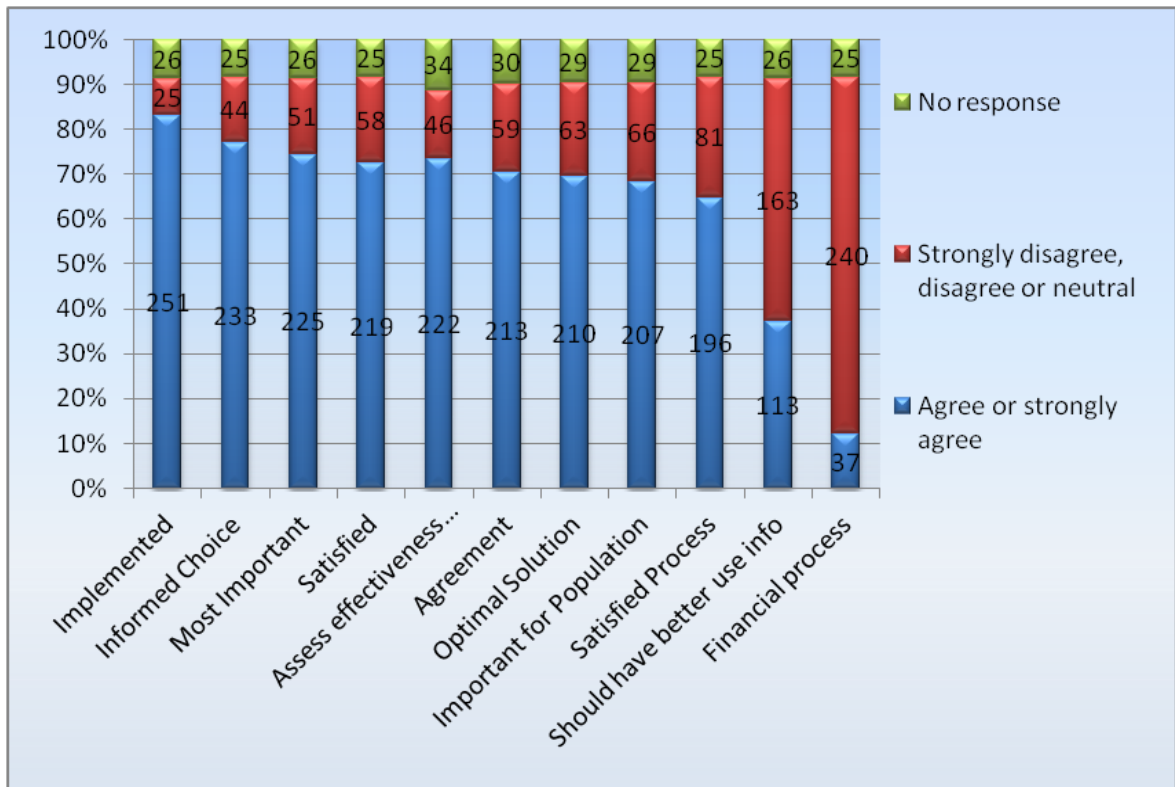
As can be seen from Figure 16 there were very high levels of satisfaction with decisions taken, for example with the statements: 'I expect the decision to be implemented,' 'I feel we have made an informed choice'; 'the decision reflects what is most important for the organisation,' and 'I am satisfied with the decision'. Forty per cent of respondents believed that 'we should have made better use of information in the decision.' And very few respondents concurred with the statement that 'it was a purely financial process.'

Participants were asked which of a number of formal decision making tools had been used as part of the decision making process.

Figure 16. Proportions of respondents who used seven well known formal decision making tools in their decision
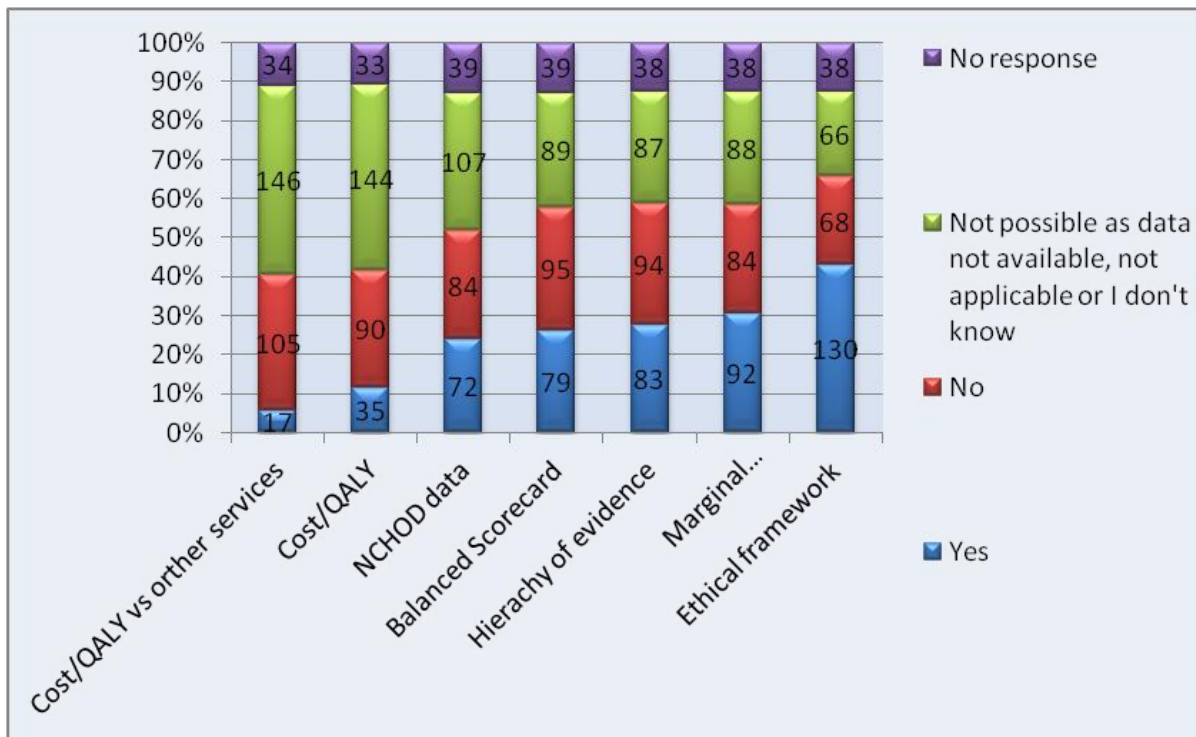
Although these more traditional medical/health economics tools are developed for commissioning decision making, many are not well used. As Figure 17 demonstrates, less than 50% of respondents indicated that they had used cost/QALY comparisons or data, National centre for Health Outcomes Development (NCHOD) data, a balanced scorecard or the hierarchy of evidence. All 345 respondents were then asked to provide details about the use of QALYs within their organisation in general.

Figure 17. Respondents knowledge of the use of QALYs within their organisation (N=345)
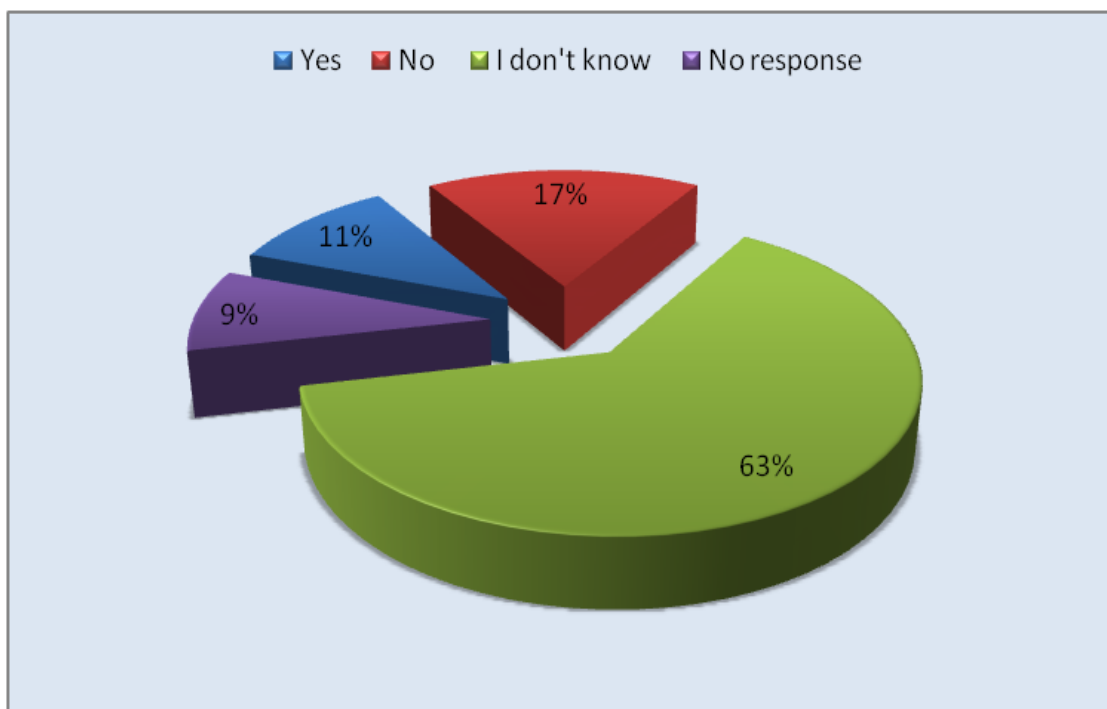
Figure 18 shows that nearly three quarters of the 345 respondents either indicated that they did not know if QALYs were used as a decision-making tool in their organisation or left the question blank

5.4   Test –retest reliability

As discussed in the methods section, participants from three PCTs were asked to complete the survey twice with a time interval of two weeks in order to test the reliability of the questionnaire. Across the three PCTs, 58 re-test invitations were sent and 30 responses received. Incomplete responses were removed leaving 25 completed surveys for comparison, 7% of the original completed surveys.

Test-retest reliability was measured using Cronbachs alpha to compare co-production scores (calculated by multiplying each item by the factor score coefficient matrix) from the original survey and for the retest 2 weeks later. For the coproduction factor Cronbachs alpha was 0.95 indicating very good internal consistency.

5.5   *Statistical Analysis*

The responses were collected from individuals within 11 English PCTs, and therefore clustering by PCT was considered in statistical analyses chosen.

Four research questions were addressed in this analysis as follows:

1. Which respondent characteristics are associated with greater importance attached to use of empirical evidence?
2. Is co-production a single measurable factor?
3. If so, what influences levels of co-production?
4. What influences decision satisfaction?

The respondent characteristics associated with the greatest importance attached to use of empirical evidence were analysed using a single level logistic regression. In this case, multi-level modelling was not considered necessary because although these data are clustered by PCT, no characteristics associated with the PCT were to be included in the model, since we have no reason to believe that responses will vary by PCT.

We wanted, first, to establish whether our co-production questions had produced a single measurable factor. This was addressed using a factor analysis of all 17 items of survey question 16, which were designed to indicate co-production (based on the qualitative findings). Factor analysis was used to determine whether some, or all, of these questions loaded onto the same factor in a manner which would describe co-production as a construct.

The predictors of co-production were then analysed using mixed modelling of the predictors of the co-production factor, clustered by PCT. The influences on decision satisfaction were analysed using mixed modelling of the predictors of the modified subscale of the decisional conflict score (modified for organisational application) (100) again clustered by PCT. Mixed modelling was used for these two analyses because PCT level effects are of interest, and because responses could potentially be clustered by PCT (the relationships under investigation may be affected by organisational characteristics).

5.5.1 Method: Which respondent characteristics are associated with greater importance attached to empirical evidence use?

To understand the personal characteristics associated with assigning greater importance to empirical evidence, logistic regression analysis was undertaken using SPSS. Multi-level modelling was not required as PCT level characteristics were considered unlikely to influence the variables in question. The sources of empirical evidence are as described in Table 36. The dependent variable was binary: whether the median score assigned to questions about the importance of sources of empirical evidence was quite/very important, or limited importance/not important/not used. These were explored in a backward stepwise logistic regression analyses with the following predictors: age, gender, years' experience in NHS commissioning, whether the respondent is a qualified medical doctor, pay (dichotomised to grade 7/8a or grade 8b/8c/8d/9), and work role (Public Health, Commissioning and Contracts, Finance, or other). All six predictors were placed in the model, and assessed at each step against criteria to remain in the model ($p<0.1$). The analysis stopped when all predictors remaining in the model met the criteria. Model evaluation, goodness of fit, and validation of predicted probabilities were calculated using the likelihood ratio test, the Hosmer-Lemeshow test and the c-statistic [30]. The Wald statistic was used to determine whether each independent variable was a significant contributor.

5.5.2 Method: Is Co-production a single measurable factor?

A factor analysis was conducted to ascertain whether co-production is a single measurable factor and if so which items load onto it. The co-production questions and their scoring are described in Table 32. Two questions were phrased and scored in the reverse order to the others with the aim of discouraging respondents from developing a pattern of responses

Table 30. The co-production questions and the scoring system applied.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
There was a variety of knowledge and experience	1	2	3	4	5
The right people were involved	1	2	3	4	5
We had sufficient information available	1	2	3	4	5
We were able to share knowledge and information effectively	1	2	3	4	5
We were able to use the information effectively	1	2	3	4	5
I had a sense of being involved	1	2	3	4	5
There was extensive discussion	1	2	3	4	5
The discussion helped us to make progress	1	2	3	4	5
Many different viewpoints were explored	1	2	3	4	5
People used terminology that I was not familiar with	5	4	3	2	1
We paused discussions to clarify the meaning behind certain terms	1	2	3	4	5
Individuals explained unfamiliar concepts and terms where necessary	1	2	3	4	5
External information had to be significantly adapted to fit the problem and local context	1	2	3	4	5
We were able to reach agreement	1	2	3	4	5
The decision outcome was not what I expected at the outset	1	2	3	4	5
The decision outcome was dominated by one group/faction/individual	5	4	3	2	1
The decision outcome was significantly different to any pre-existing model	1	2	3	4	5

All seventeen of these items from the survey were entered into an exploratory factor analysis. Maximum likelihood (ML) extraction was used to enable generalization beyond the sample. The assumption of normality was tested by visual inspection of the histograms and Q-Q plots. Principal axis factoring was also conducted as a sensitivity analysis to determine whether the choice of method had a significant impact on results. Factor loadings less than 0.298 were considered insignificant and suppressed based on an 0.01 alpha level (two tailed). Direct oblimin rotation was employed with delta=0 (direct quartimin rotation), which allows for factors to be correlated but not very highly correlated. This is appropriate to the dataset as

theoretically it is anticipated that all seventeen items may be correlated. Inspection of the *R*-matrix (correlation matrix) was used to test for multicollinearity or singularity, with correlation scores >0.9 considered to indicate multicollinearity; and the determinant of the *R*-matrix of greater than <.00001 indicating singularity. The Kaiser-Meyer-Olkin (KMO) statistic was used to measure sampling adequacy. Bartlett's test of sphericity was used to measure whether the *R*-matrix was significantly different to an identity matrix, and therefore whether there were sufficient relationships between variables to render factor analysis appropriate. Kaisers criterion was used to determine the number of factors to be extracted, alongside visual inspection of the scree plot. Internal reliability of each factor was measured using Cronbach's alpha, values between 0.7 and 0.9 were considered acceptable, reflecting a desirable balance between internal consistency and redundancy of items. The extent to which the model fits the data was measured using comparison of the observed item correlations to those predicted by the model, with differences (residuals) of less than 0.5 for less than 50% of comparisons considered acceptable.

5.5.3 Method: What Influences Levels of Co-Production?

Mixed Modelling

The same approach to mixed modelling was used for the analysis of what influences co-production, and what influences decision satisfaction. The scores for the dependent variable and all predictors in both analyses were checked for normality using visual inspection of the histogram of responses and Q-Q plots, alongside measurements of skewness and kurtosis. MLwiN version 2.22 was used for the modelling.

A likelihood ratio test to compare the null single level model to the null multi-level model was used to determine the influence of PCT level effects. If there was no improvement a single level model was fitted.

We ran a separate model for each predictor to determine which would be included in the main model. (equation 1 if PCT level effects significant, equation 2 if PCT level effects not significant). Those predictors which significantly improved their separate model according to the likelihood ratio test at significance p=0.05 were included in the main model.

$$Y_{ij} \sim N(XB, \Omega)$$

$$Y_{ij} = \beta_{0ij}\text{constant} + \beta_1 x \qquad\qquad (1)$$

$$Y_{ij} = \beta_{0i}\text{constant} + \beta_1 x \qquad\qquad (2)$$

Where x=the predictor being tested, y=dependent variable (co-production factor score or decisional conflict score) of the ith individual respondent in the jth PCT

One overall model was made by adding predictors stepwise in descending order of individual impact on decision satisfaction (determined by change in -2log likelihood in their separate models - representing quantity of improvement of model fit). Predictors were retained in the main model if they significantly (at the p=0.05 level) improved the model fit.

The co-production model

The effect on co-production factor score of the following predictors was assessed:
- How often was the required information/ evidence available at the meetings? (Dichotomised: at every meeting / other)
- How frequently did the discussion identify areas where more information/ evidence was needed? (Dichotomised: at every or most meetings / other)
- If the group identified that more information/evidence was required, approximately how often was that information/evidence sourced in time for the next meeting? (Dichotomised: all the time / other)
- Agree or strongly agree to the following positively worded questions
  - The people and materials we needed for the decision making process were available to us
  - The formal process for arriving at a decision was generally understood
- Disagree or strongly disagree to the following negatively worded questions
  - There was a lot of time pressure
  - The work was interrupted by cancelled or poorly attended meetings
  - The work was interrupted by reorganization/restructuring/ change of personnel
- The problem was novel and difficult to frame

- Years of experience in NHS commissioning
- Whether the respondent had medical qualifications (including doctors, nurses and professions allied to medicine)
- Decision size (Individual funding request in comparison to larger population based decisions)
- Number of different types of people involved
- Number of meetings at which the decision was discussed (Dichotomised: 1 to 5 / 6 or more)
- Average length of discussion per meeting (Dichotomised: 1 hour or less / over 1 hour)

5.5.4 Method: What Influences Levels of Decision Satisfaction?

Mixed modelling was used as described in the previous section. The effect on decisional conflict score of 11 predictors was assessed:
- co-production score (factor 1 from factor analysis),
- factor 2 from factor analysis (lack of correct people present or information),
- number of decision making tools used,
- decision size (whether the cost implications exceed £1million),
- respondent years of experience in NHS commissioning,
- whether the respondent has a medical background,
- PCT population size
- PCT index of multiple deprivation
- Median score for the ten questions on sources of evidence defined by (85) dichotomised into quite/very important or limited importance/not important/did not use
- mean score from the seven questions on use of evidence derived as a result of our qualitative work dichotomised into quite/very important or limited importance/not important/did not use
- Difference between the median score for use of practical evidence and use of empirical evidence, as defined in table 40, dichotomised into greater use of practical than empirical evidence or not

These predictors were selected a priori based on the research literature and the qualitative research. A conceptual model is shown in Figure 19.

Figure 18. Conceptual model of potential predictors of decision satisfaction
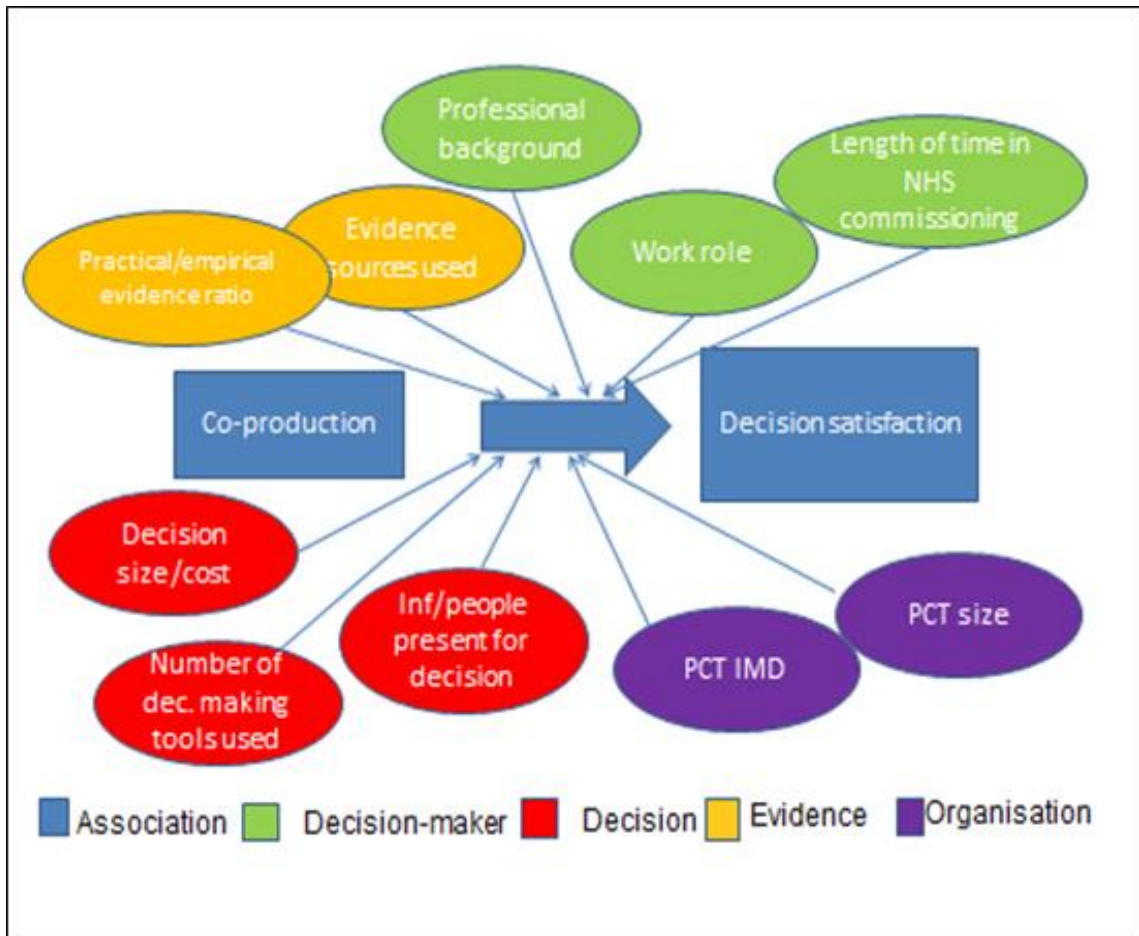
Table 31 Scoring applied to questions about sources of evidence. Those labelled E contributed to the median score for empirical evidence. Those labelled P contributed to the median score for practical evidence.

Empirical or Practical	Evidence Source	Very Important	Quite Important	Limited Importance	Not Important	Did not use
	Sources of Evidence from Weatherly					
E	National Service Framework Guidelines	5	4	3	2	1
E	NICE guidance	5	4	3	2	1
E	Government publications e.g. guidance on the commissioning of cancer services for improving colorectal cancer	5	4	3	2	1
E	Clinical guidelines e.g. choice of ACE-inhibitors in the primary care management of adults with symptomatic heart failure	5	4	3	2	1
E	Guidance from professional associations e.g. the Royal College of Surgeons	5	4	3	2	1
E	Secondary sources (e.g. NHS evidence)	5	4	3	2	1
E	Published cost-effectiveness analyses	5	4	3	2	1
E	Work commissioned to academic researchers	5	4	3	2	1
	Work commissioned to management consultants	5	4	3	2	1
E	General published literature (e.g. journal articles)	5	4	3	2	1
	Sources of Evidence Derived from the qualitative research					
P	Local public health intelligence (e.g. population data, needs analysis, health outcomes, activity and capacity modelling etc.)	5	4	3	2	1
P	Expert advice either from colleagues or external experts e.g. from the local authority, department of health etc...	5	4	3	2	1
P	Examples of best practice from other organisations	5	4	3	2	1
P	Your own personal experience	5	4	3	2	1
	Published management and organisational studies	5	4	3	2	1
P	Local policies and plans e.g. the strategic plan, the operating plan, clinical policies, risk registers.	5	4	3	2	1
P	Benchmarking data with other organisations e.g. investment levels, outcomes, NCHOD data	5	4	3	2	1

5.5.5 Results: Respondent characteristics associated with attaching importance to empirical evidence

Logistic regression analysis (Table 34) showed that the significant predictors of the importance assigned to use of empirical evidence were gender and work role. Female respondents were more likely to report higher importance of empirical evidence in the decision they described, in comparison to their male counterparts (OR 1.8 95%CI= 1.01 – 3.1). Respondents working in Public Health were most likely to report higher importance of empirical evidence , with their colleagues in commissioning and contracts (OR=0.32, 95%CI= 0.18–0.57), finance (OR=0.19, 95%CI= 0.05–0.78), and other departments (OR=0.35, 95%CI= 0.17–0.71) all reporting lower use of empirical evidence in comparison to Public Health. The model was a good fit to the data (Hosmer and Lemeshow χ^2 (4)=1.1, p=0.9), and model predictions showed reasonable agreement with actual outcomes (c-statistic = 0.65).

Table 32 Logistic regression analysis of the importance assigned to empirical evidence. (median score of quite/very important in comparison to limited importance/not important/did not use)

Variable	Coefficient B	Standard Error of B	Wald Statistic	Degrees of freedom	Sig.	Odds Ratio Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Gender (1 = female, 0 = male)	.576	.290	3.937	1	.047	1.779	1.007	3.144
Role			18.471	3	.000			
Role (Commissioning and Contracts)	-1.139	.294	14.960	1	.000	.320	.180	.570
Role (Finance)	-1.638	.709	5.345	1	.021	.194	.048	.779
Role (Other)	-1.052	.365	8.338	1	.004	.349	.171	.713
Constant	.275	.287	.922	1	.337	1.317		

Reference category for role is Public Health. Variable(s) entered on step 1: gender, age, years' experience of NHS commissioning, work role, pay, and whether the respondent has any medical qualifications. Likelihood ratio test χ^2 (2)=25.3, p<0.0005, Cox and Snell R^2=0.09, Nagelkerke R^2=0.12, Hosmer and Lemeshow χ^2 (4)=1.1, p=0.9, c-statistic=0.65

5.5.6 Results: Factor Analysis

There were two iterations required to reach the final factor analysis. The first factor analysis was not acceptable due to the presence of a Heywood case, and so several items were removed in the second factor analysis to ameliorate this issue. The final solution demonstrated two factors, one reflecting co-production, and one reflecting lack of the necessary resources or information for decision making. Initial testing of the co-production factor shows promising qualities, including good internal consistency (Cronbachs Alpha =0.82). Both factors were used as predictors in the mixed model of decision satisfaction.

5.5.7 First factor analysis

Visual inspection of histograms and normality plots identified possible violations of the assumption of normality for some variables/items (typically a positive/right hand skew), albeit these were not severe. Transforming the data was therefore not undertaken given that the possible violations were not present for all items, and given that this would produce subsequent problems in interpretation of findings.

Five factors were extracted. Inspection of the R (correlation) matrix identified no evidence of multicollinearity or singularity; no items were correlated at the level of 0.9-1.0 with any other items and the determinant of the R matrix was 0.005. However, inspection of the significance of the correlation coefficients in the R matrix detected some items that were correlated with few or no other items ; items 17 and 13 and to a slightly lesser extent items 10 and 15.

The Kaiser-Meyer-Olkin (KMO) statistic was 0.82 indicating sampling adequacy and thus the factor analysis should yield distinct and reliable factors. Inspection of the diagonal elements of the anti-image correlation matrix showed KMO values greater than 0.5 for individual items with the exception of item 17 (.44). Partial correlations between items (i.e. off-diagonal elements) were relatively small, as required. Bartlett's test of sphericity indicated that the R matrix was significantly different to an identity matrix ($p<.0005$); therefore confirming some relationships between the variables indicating that factor analysis was appropriate.

The scree plot (figure 20) indicates that either a two factor or a five factor solution may be appropriate.
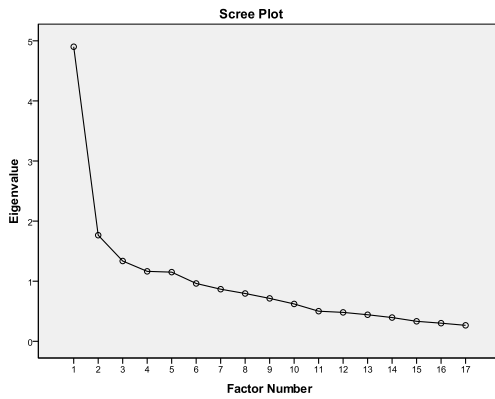
Figure 19. Scree plot of factor analysis of coproduction, based on all items in question 16 of the survey

A Heywood case was identified in the solution (item 11). This is a case with near zero or negative error variance (confirmed via inspection of the residuals in the reproduced correlations matrix) and a squared multiple correlation ≥1 (i.e. the proportion of variance in the item that is accounted for by the factors is greater than 100%), see table 35. Item 11 also loads onto factor 1 with a value >1.0. This identifies that a mis-specified model, including this item, may have been fitted to the data.

Table 33. Communalities in the first factor analysis. Extraction Method: Maximum Likelihood. A communality estimate greater than 1 was encountered during iterations indicating the resulting solution should be interpreted with caution.

		Initial	Extraction
Item 1	There was a variety of knowledge and experience	.324	.417
Item 2	The right people were involved	.428	.521
Item 3	We had sufficient information available	.461	.486
Item 4	We were able to share knowledge and information effectively	.525	.597
Item 5	We were able to use the information effectively	.554	.848
Item 6	I had a sense of being involved	.464	.478
Item 7	There was extensive discussion	.571	.683
Item 8	The discussion helped us to make progress	.562	.631
Item 9	Many different viewpoints were explored	.495	.588
Item 10	People used terminology that I was not familiar with	.145	.099
Item 11	We paused discussions to clarify the meaning behind certain terms	.357	***.997***
Item 12	Individuals explained unfamiliar concepts and terms where necessary	.339	.304
Item 13	External information had to be significantly adapted to fit the problem and local context	.089	.049
Item 14	We were able to reach agreement	.404	.658
Item 15	The decision outcome was not what I expected at the outset	.227	.256
Item 16	The decision outcome was dominated by one group/faction/individual	.264	.265
Item 17	The decision outcome was significantly different to any pre-existing model	.082	.033

5.5.8 Revised Factor Analysis

Removal of the item associated with the Heywood case and those items identified as having few or no correlations with all other variables in the R matrix (item 11 and items 10, 13, 15 and 17) eliminated the Heywood case (exclusion of item 11 alone was not sufficient). The revised factor analysis has no communalities for items greater than 0.7, with mean communality 0.31, see table 36.

Table 34. Communalities in the revised factor analysis. Extraction Method: Maximum Likelihood.

		Initial	Extraction
Item 1	There was a variety of knowledge and experience	.319	.259
Item 2	The right people were involved	.422	.414
Item 3	We had sufficient information available	.423	.493
Item 4	We were able to share knowledge and information effectively	.514	.575
Item 5	We were able to use the information effectively	.551	.662
Item 6	I had a sense of being involved	.418	.431
Item 7	There was extensive discussion	.553	.664
Item 8	The discussion helped us to make progress	.556	.564
Item 9	Many different viewpoints were explored	.474	.556
Item 12	Individuals explained unfamiliar concepts and terms where necessary	.124	.111
Item 14	We were able to reach agreement	.336	.263
Item 16	The decision outcome was NOT dominated by one group/faction/individual	.235	.223

Inspection of the *R*-matrix identified no evidence of multicollinearity or singularity; no items were correlated at the level of 0.9-1.0 with any other items and the determinant of the R matrix was 0.013.

The Kaiser-Meyer-Olkin (KMO) statistic was slightly improved at 0.86 indicating sampling adequacy and thus factor analysis should yield distinct

and reliable factors. Inspection of the diagonal elements of the anti-image correlation matrix showed KMO values greater than 0.5 for all individual items. Partial correlations between items (i.e. off-diagonal elements) were relatively small, as required.

Bartlett's test of sphericity once again indicated that the R matrix was significantly different to an identity matrix ($p<.0005$).

Seventeen (25%) of the reproduced correlation residuals were greater than .05, indicating that for 75% of pairs of items the correlation coefficient reproduced by the model was a good representation of the actual correlation coefficient, so the model was a good fit to the data.

The solution contained two factors- a good fit with the number of factors suggested by interpreting the scree plot. There are more than three significant item loadings on each factor –some argue this to be an important criterion for selecting factors in common factors analysis (Floyd & Wideman, 1995). Factor 1 is an excellent fit with co-production as defined in this project. Factor 2 describes decision making where the correct resources or information are not available, see table 37.

Table 35. Pattern Matrix for revised factor analysis. Extraction Method: Maximum Likelihood. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 6 iterations.

		Factor	
		1	**2**
Item 1	There was a variety of knowledge and experience	.393	
Item 2	The right people were involved	.346	-.398
Item 3	We had sufficient information available		-.718
Item 4	We were able to share knowledge and information effectively		-.692
Item 5	We were able to use the information effectively		-.808
Item 6	I had a sense of being involved	.582	
Item 7	There was extensive discussion	.896	
Item 8	The discussion helped us to make progress	.697	
Item 9	Many different viewpoints were explored	.819	
Item 12	Individuals explained unfamiliar concepts and terms where necessary	.317	
Item 14	We were able to reach agreement	.423	
Item 16	The decision outcome was NOT dominated by one group/faction/individual	.396	
	Cronbachs Alpha	**.82**	**.80**

Factor correlations: factors 1 and 2 are correlated and acceptable (r=-0.49, 25% of the factor's variance being shared with other factors). Principal factor analysis was conducted and resulted in the same two factors being extracted. The factor scores for each participant to use in the mixed modelling were calculated using the regression method, as correlations between factor scores are acceptable in this case.

5.5.9 Results: Influences on Co-Production

266 respondents filled in all co-production questions and were included in this analysis of influences on co-production.

The co-production factor score was found to follow a reasonable approximation to a normal distribution, see figure 21.
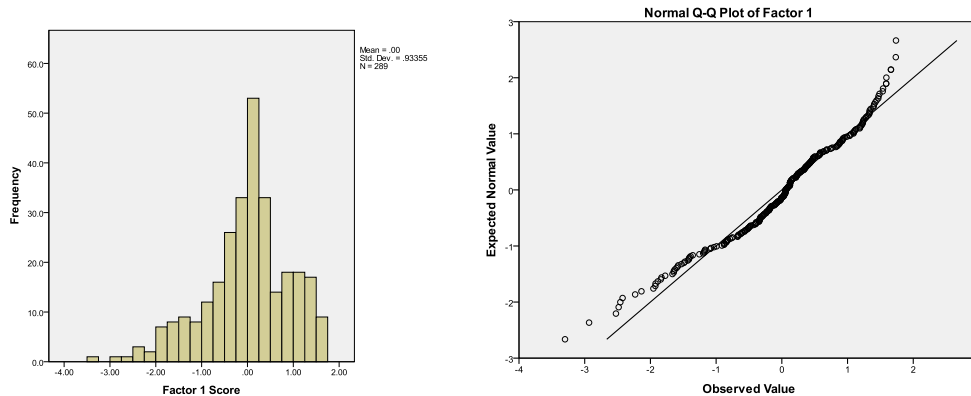

Figure 20. Histogram and Q-Q plot of co-production (Skewness = -0.6 kurtosis =0.5)

The null multi-level model did not significantly improve the null single level model (change in -2LL=849.3-847.5,χ^2(1)=2.2, p=0.14), indicating that co-production scores did not vary by PCT. Therefore a single level model (regression analysis) was used.

The effect of adding each individual predictor to the model is shown in table 38. The greatest model improvement was found by adding whether information or evidence was sourced in time for the meetings as required. Somewhat surprisingly, novel problems and decisions associated with high monetary cost were associated with reduced co-production, perhaps indicating that larger more novel problems were not tackled as effectively as more common problems. Individual funding requests were associated with a lower co-production score than larger decisions concerning more of the population. Interrupting the work either through cancelled/poorly attended meetings or through restructuring was found to be associated with a lower co-production score.

Table 36. The effect of adding each predictor separately to a null multi-level model, with dependent variable co-production factor score. -2 Log Likelihood of the null single level model was 849.3 *significant at p=0.05 **significant at p=0.01 ***significant at p=0.001

Predictor	Change in -2 Log Likelihood	Gradient (st err)	Unexplained variance σ_e (st err)
Information/evidence sourced in time for the next meeting every time	224.2***	0.554 (0.106)	0.706 (0.063)
Decision size (cost implications of £1million or more)	203.7***	0.133 (0.116)	0.799 (0.072)
Agree or strongly agree that the formal process for arriving at a decision was generally understood	115.5***	0.711 (0.117)	0.762 (0.064)
Required information/ evidence available at every meeting	109.9***	0.294 (0.135)	0.821 (0.069)
The discussion identified areas where more information/ evidence was needed at most or every meeting	108.2***	0.176 (0.119)	0.834 (0.071)
Number of different types of people involved	106.8***	0.135 (0.023)	0.778 (0.065)
Strongly disagree or disagree that he work was interrupted by cancelled or poorly attended meetings	101.5***	0.581 (0.116)	0.793 (0.066)
Agree or strongly agree that he people and materials we needed for the decision making process were available to us	100.4***	0.536 (0.107)	0.796 (0.066)
Average length of discussion per meeting is more than 1 hour	95.8***	0.357 (0.109)	0.839 (0.071)
The decision was discussed at more than 5 separate meetings	85.25***	0.201 (0.109)	0.847 (0.071)
Strongly disagree or disagree that the work was interrupted by reorganization/restructuring/ change of personnel	84.6***	0.309 (0.108)	0.841 (0.070)
Strongly disagree or disagree that the problem was novel and difficult to frame	83.6***	0.052 (0.112)	0.860 (0.072)
Strongly disagree or disagree that there was a lot of time pressure	74.8***	0.013 (0.158)	0.862 (0.072)
Decision size (Individual funding request in comparison to larger population based decisions)	53.4***	0.348 (0.183)	0.824 (0.067)
Years of experience in NHS commissioning	46.0***	0.005 (0.009)	0.756 (0.060)
Whether the respondent had medical qualifications (including doctors, nurses and professions allied to medicine)	6.2*	0.254 (0.101)	0.742 (0.058)

5.5.10 Influences on co-production. Final model

Table 37. The final model for influences on co-production.

Predictor	Gradient	Standard Error
Information/evidence sourced in time for the next meeting every time	0.34	0.11
Decision size (cost implications of £1million or more)	-0.10	0.11
Agree or strongly agree that the formal process for arriving at a decision was generally understood	0.29	0.13
Number of different types of people involved	0.13	0.03
Strongly disagree or disagree that he work was interrupted by cancelled or poorly attended meetings	0.35	0.12
Average length of discussion per meeting is more than 1 hour	0.30	0.11
Years of experience in NHS commissioning	-0.009	0.010
Constant	-1.46	0.21

The final model for co-production described in Table 39 indicates that co-production is associated with having a sufficient range of people involved at meetings, sourcing any unavailable information in time for the next meeting, and having a formal decision making process which is well understood. Greater co-production is associated with longer meetings about the decision (but the direction of causality is not known). Interruptions by cancelled or poorly attended meetings were found to be associated with less co-production. More surprisingly responses by decision makers with more experience in NHS commissioning, and decisions associated with greater monetary cost implications were found to be associated with reduced co-production, perhaps because such decisions may be constrained by tighter central guidance.

## 5.5.11   Results. Influences on Decision Satisfaction

Median scores for use of evidence sources as defined by Weatherly and in our qualitative researcher are shown in Table 40. The median score for importance of practical evidence was higher than that for importance of empirical evidence for 155 respondents, there was no difference for 85 respondents, and median score for importance of empirical evidence was higher than that for practical evidence for 34 respondents.

Table 38. Frequency of respondents with a median score of "did not use" to "very important" for importance of evidence as defined by (103) and from our qualitative research

	Frequency of median responses				
Evidence Source	Very Important	Quite Important	Limited Importance	Not Important	Did not use
Weatherly	31 (11%)	97 (35%)	76(28%)	20(7%)	51(19%)
Qualitative research	60 (22%)	136 (49%)	55 (20%)	12(4%)	16 (6%)

The modified decisional conflict scores were found to be leptokurtic (Skewness = 1.6 Kurtosis = 3.3), and therefore the data was transformed using a natural logarithm so that it met the normality assumptions of the model (Skewness = 0.4 kurtosis =-0.3).
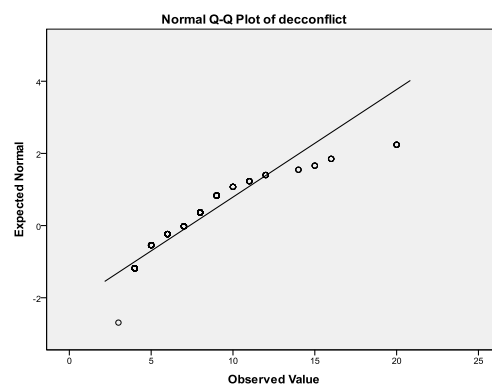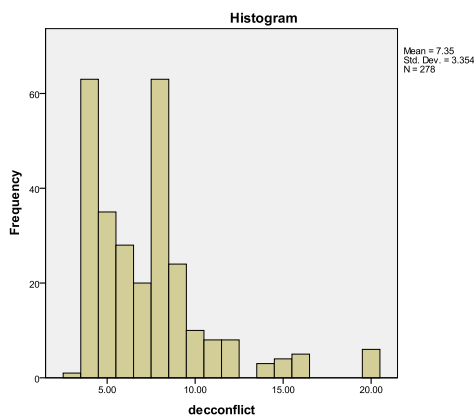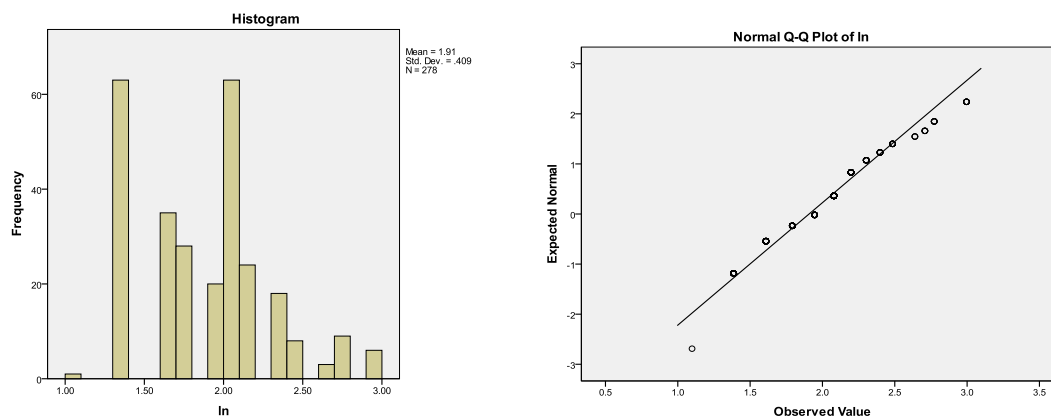
Figure 21. Histogram and Q-Q plot of decision conflict scores before (above) and after (below) transforming the data with a natural logarithm. (Skewness = 0.4 kurtosis =-0.3) (no longer leptokurtic).

The null multi-level model was an improvement on the null single level model (change in -2LL=294.9-290.7,$\chi^2(1)$=4.2, p<0.05), with a variance partition coefficient of 0.1 indicating that 10% of the variation in decision conflict scores can be explained by the PCT which the respondent belongs to.

The effect of adding each individual predictor to the model is shown in Table 41. The greatest model improvement was found by adding either decision size or co-production score to the model. Those items with a negative gradient indicate that a higher predictor score results in lower decisional conflict and therefore higher satisfaction with the decision. So increasing co-production, the number of decision making tools used, and the number of different types of people involved in the decision are associated with increased decision satisfaction. Additionally those decisions which have a greater median importance of practical evidence than empirical evidence are likely to be associated with greater decision satisfaction. Furthermore respondents with a medical qualification and with greater experience of NHS commissioning are more likely to report greater decision satisfaction.

Table 39. The effect of adding each predictor separately to the null multi-level model.

Predictor	Change in -2 Log Likelihood	Gradient	Explained variance σ_u (st err)	Unexplained variance σ_e (st err)
Decision size (service cost greater than £1million)	51.8***	0.004 (0.053)	0.0260 (0.0132)	0.143 (0.016)
Factor 1 coproduction	43.7***	-0.171 (0.025)	0.007 (0.007)	0.136 (0.013)
Factor 2 poor communication and wrong people present	38.0***	0.159 (0.025)	0.014 (0.009)	0.134 (0.013)
Number of decision making tools used	17.4***	-0.0408 (0.0166)	0.0141 (0.0098)	0.1490 (0.0147)
Years experience of NHS commissioning	12.8***	-0.0102 (0.0049)	0.0187 (0.0107)	0.1491 (0.0148)
Median score for influence of evidence as defined by the items from our qualitative findings "quite or very important"	9.2**	-0.131 (0.053)	0.014 (0.010)	0.151 (0.015)
Greater influence of practical than empirical evidence	6.8**	-0.039 (0.050)	0.014 (0.010)	0.155 (0.015)
Respondent medical qualification	6.4*	-0.1299 (0.0510)	0.0126 (0.0093)	0.1519 (0.0147)
Median score for influence of evidence as use of evidence as defined by Weatherly "quite or very important"	5.5*	-0.050 (0.051)	0.015 (0.010)	0.155 (0.015)
PCT Index of Multiple Deprivation	2.9	0.0056 (0.0032)	0.0109 (0.0091)	0.1552 (0.0150)
PCT population	0.1	0.0000 (0.0000)	0.0148 (0.0099)	0.1540 (0.0149)

The -2 Log likelihood of the null multi-level model was 290.7 *significant at p=0.05 **significant at p=0.01 ***significant at p=0.001.

5.5.12 Influences on Decision Satisfaction Overall Model

Predictors were added to the model in descending order of change to model fit (as measured by -2 log likelihood), those which significantly improved the model were retained. The final model for decision satisfaction is shown in table 42.

Table 40. The final model for predictors of decision satisfaction.

Predictor	Gradient	Standard Error
Decision size (service cost greater than £1million)	0.017	0.051
Factor 1 coproduction	-0.103	0.032
Factor 2 poor communication and wrong people present	0.102	0.031
Number of decision making tools used	-0.011	0.017
Years experience of NHS commissioning	-0.009	0.005
Constant	1.982	0.057

$\Omega u=0.017(0.010)$, $\Omega e=0.118(0.013)$

So overall we find more decision satisfaction associated with smaller decisions, with more co-production, with the right information and people involved, with using more decision making tools. Moreover, practical evidence, as defined in our qualitative research, has a greater influence on decision satisfaction as an individual predictor than the empirical evidence, as defined by Weatherly et al (103); Those decisions where more practical than empirical evidence was used also resulted in greater decision satisfaction. However, none of these terms remained significant in the final model. It may be that the co-production factor is already accounting for these associations.

The largest influences on decision satisfaction are the cost implications of the decision, and the score on the co-production factor. This dominance of co-production over median influence of different evidence sources could indicate that co-production is a more important contributor to decision satisfaction.

5.6 Survey Discussion and Conclusions

5.6.1 Summary of survey methods

To summarise, we used the theoretical and practical knowledge of the interdisciplinary research team, a rapid literature overview, and the outputs from the qualitative arm of the study, to design a questionnaire for those involved in commissioning health care in primary care trusts in England. From this we identified factors with a potential influence on decision making, potential sources of evidence and information, and formal decision making tools available to those working in health care commissioning in England. Using the qualitative arm of the study, we designed a novel scale of co-production which appears to be robust and the first of its kind. We adapted a measure of individual patient satisfaction with decisions, the Decisional Conflict Scale, as a tool to investigate manager's satisfaction with commissioning decisions. We described for different sizes of commissioning decisions

i)   sources and types of evidence and information were used

ii)   factors influencing evidence and information used

iii)   The number and type of formal decision making tools used

iv)   Individual perceptions of decision quality and decision satisfaction

v)   Awareness of a Cost/QALY limit used within the organisation.

We adjusted for demographic, professional and organisational variables to analyse

vi)   Individual factors associated with greater reported use of empirical evidence

vii)   Factors associated with co-production in commissioning decisions

viii)

ix)   The association between co-production and decision satisfaction.

5.6.2 Summary of survey results

A third of the participants had a clinical qualification, most were educated to Masters level and their commissioning experience had mainly been accrued whilst working within the NHS. Most of those who answered (189, 55%) chose to answer questions in relation to a decision on pathway re-design with a total cost of between £100,000 and £1,000,000. One of the biggest barriers identified to the use of information in commissioning decisions was it being insufficient or inaccessible. Factors from previously published research that were identified by a majority as having a strong or very strong influence on the decision included: evidence of effectiveness, and on safety and quality of the innovation, overall cost impact and cost effectiveness. Factors emerging from our own qualitative research and similarly identified by a majority as having a strong or very strong influence on the decision included: compliance with national guidelines, fit with the organisation's strategic plan, available budget, practical implementability, fit with local and national targets, and fit with clinical opinion. The single most important factor identified as having the strongest influence on the decision was available budget and cost savings, followed by compliance with national guidelines and frameworks.

The sources of evidence identified from previously published research that were identified as having a strong or very strong influence on the decision included: NICE guidance, government publications including National Service Frameworks and secondary research. In contrast (and rated by much higher percentages) the sources emanating from our qualitative research and, similarly, identified as having a strong or very strong influence on the decision included: local public health intelligence, expert advice and benchmarking data from other organisations. The single most important source of 'evidence' identified as having the strongest influence on the decision was "examples of best practice from other organisations", followed by local Public Health advice.

Taken together these findings on factors and sources highlight the perceived importance of the feasible, the practical, the local and the "must dos" - these were the essentials in commissioning decisions. This suggests that theories of bounded rationality may be useful in considering how commissioning decisions are *actually* taken.

Satisfaction with decisions taken was very high, with over 70% answering all the modified decisional conflict questions positively. There was still variation, however.

Formal decision making tools identified by 30% or more as being used in the decision were: an ethical framework and programme budgeting/marginal analysis. Fewer than 15% of respondents identified cost/QALY values as being used in the decision and supporting this finding, nearly three quarters of respondents were unaware of a cost/QALY limit within their organisation.

In a logistic regression analysis we found two individual factors associated with greater likelihood of use of empirical evidence – female gender and working in public health.

Drawing on our qualitative findings, we were able to identify a series of questions relating to co-production and constructed a "co-production" scale. This is a novel contribution in the form of a tool to assess the extent to which coproduction happens in practice. Using a mixed model, we found that resources and time were positively associated with co-production, including having the correct information and people involved at meetings, and when it is not available sourcing information in time for the next meeting. A formal decision making process which is well understood was also positively associated with co-production. This seems to run counter to common assumptions around the fluid and organic nature of co-production. Our findings indicate, in contrast, that for co-production to work well, formal processes also need to be in place to coordinate the (organic) process. Interruptions by cancelled, or poorly attended, meetings were detrimental to co-production, and co-production was positively associated with longer meetings to thrash out decisions.

Perhaps most surprisingly, previous experience of the decision maker in NHS commissioning was *negatively* associated with co-production, as were decisions which had greater monetary cost implications. These findings suggest that co-production is less likely to happen when (so-called) large complex decisions are being taken and when potential cost is high. Yet, arguably, these are the precisely conditions where it may be needed the most.

We adapted a subscale of the Decisional Conflict Scale for organisational decision making to derive an overall commissioning decision satisfaction score. The following factors were associated with decision satisfaction:
- decision size (service cost),
- co-production,
- the number of decision making tools used,

- an increased ratio of practical to empirical evidence used
- years of experience in NHS commissioning.

Scores on the co-production scale were also clearly significantly associated with decision satisfaction and the co-production scale showed excellent psychometric properties.

5.6.3 Survey strengths and limitations

Strengths

We have undertaken a nationally representative survey of NHS commissioners at a time of unprecedented organisational upheaval and change. The PCTS selected were geographically spread across England in both urban and rural situations and were representative in terms of IMD and overall size. The participants were representative nationally of commissioning staff in terms of age and gender.

In terms of socio economics

1. We achieved a high overall response rate (78% in participating PCTs)

2. Using theoretical underpinning and the findings from extensive in-depth qualitative investigation, we designed and used a scale of co-production for healthcare commissioning decisions that has impressive psychometric properties and which deserves further testing and investigation.

3. We have identified a number of relevant factors and sources of information and evidence used by commissioners which are not viewed as traditionally "evidence-based" and which confirm the importance of the critique of, and the need for a re-assessment of, the EBM approach to evidence-based policy in healthcare commissioning organisations.

4. Our findings are very topical given the current NHS reorganisation and the changes to commissioning which provide the opportunity for our insights to inform new commissioning practices.

Limitations

1. Identification of the sampling frame within each commissioning organisation

   Since there were no definitive lists of those employed in commissioning nationally and no uniform structure for commissioning across organisations, we relied on each PCT to provide us with lists of staff involved in commissioning. There was variability between PCTs in this process. Individual staff that we contacted occasionally had to be removed from lists as they found the questionnaire did not apply to the

work that they undertook. Despite this, it is very encouraging that our sample closely matched NHS employment statistics data.

2. Nine of the PCTs we approached declined or were unable to participate. Of those PCTs s responding we had a high response rate. Whilst response rates at 78% are excellent for this type of survey research and our respondents appear to be representative, nevertheless we are unable to comment on the views of the 24% non-responders. We are confident that non-responders did not differ substantially from responders in their job titles, roles and geographical distribution but they may differ in their knowledge and attitudes to evidence (both to factors involved and sources) used for commissioning decisions and they may differ in their approach to co-production.

3. We were undertaking this research at a very difficult time in the NHS – multiple change in the light of what has widely been regarded as the largest NHS re-organisation ever – most participants were anticipating the closure of their organisation and a strong possibility of redundancy or the prospect of having to find a new job in an extremely uncertain job market.

4. Both recall (and presentation) bias may have implications for the findings of this work. In asking respondents to choose a recent decision they are perhaps likely to choose one that (a) tells the story they want it to tell and/or (b) shows them in a good light.

5. Since the survey was cross sectional we can only examine associations. We may have found people who were either optimists or pessimists – who either responded to all scales with a positive outlook or with a negative outlook and this could lead to a spurious set of correlations allowing for an apparent link between co-production and decision satisfaction. We did not measure actual decision quality or health outcome. Perceived decision satisfaction may not relate to the actual quality of a decision made or its effect on the health of the population for whom health care is being commissioned.

   Our measure of decision satisfaction was a proxy for perceived decision quality. Because we were unable to find a relevant short measure of healthcare commissioning decision satisfaction, we adapted a well-known and well validated measure from individual health care decision making, the Decisional Conflict Scale. We have not subjected this adapted scale to full psychometric testing and we therefore recommend that a measure of health care decision satisfaction at the organisational level needs to be developed.

6 DISCUSSION OF RESEARCH FINDINGS

6.1 Introduction

In this section, we discuss the ways in which our findings inform existing understanding of knowledge utilization in healthcare, in general, and in healthcare commissioning in particular. Through our comparison of cases, we have illuminated evidence utilization *as an empirical phenomenon*, i.e. as a process that unfolds in healthcare organisations and is experienced in particular ways by commissioners situated in different organisations. As already seen we deliberately suspended imposing a particular theoretical model (e.g. one of the formal utilization models presented in the literature review) and instead focused on surfacing the experienced reality of utilizing knowledge *in practice*. We then used emerging, and empirically grounded, insights to explore, through the survey, more general characteristics of evidence utilization in NHS commissioning. This research strategy has been beneficial in several respects:

a) We now have a better understanding of the context-dependent nature of evidence and the complexities of mobilising multiple sources of evidence in the practical accomplishment of commissioning (81);

b) We have elucidated the (previously unacknowledged) significance of certain conditions underpinning evidence/knowledge utilization: principally the importance of managing diverse kinds of interdependencies;

c) We have shown how commissioning decision making is a collective, pluralistic and socially complex endeavour that depends fundamentally on *processes of co-production* and have also highlighted the difficulties that these processes incur.

In the following paragraphs, we elaborate further on these three key implications.

6.2 Context-dependent nature of evidence

The research demonstrates that evidence in management is not a stand-alone entity, with fixed, stable and transcendental qualities. Rather, we have shown that recognising and using something as evidence is an irreducibly context-dependent phenomenon. This means that what evidence *is* depends on how it *becomes part of* an activity and on the ways it is linked to practical accomplishments. Even so-called universal or 'context-free' sources of information - such as systematic reviews, scientific reports, and NICE guidelines - were probed and reinterpreted in the context of a specific activity. For example, NICE guidelines were used in one context as *a political weapon* (when the PCT W commissioner used them to force clinicians to accept that improvements in TIA services were needed). In another context (the diabetes project), guidelines were used as a *technical instrument*, enabling project members to identify the most effective and safest use of drugs throughout the pathway normally taken by diabetic patients. In yet another context, NICE guidelines and systematic reviews were used as *moral objects*, enabling IFR panel members to determine whether it was fair for an IFR request to be approved or declined. These different uses of knowledge products echo some of the differences in evidence utilization highlighted by Weiss, as for example, between problem-solving and political uses (58). From our study, however, we are able to relate these differences not to discrete models of utilization, but to the particular, multi-faceted and dynamic circumstances in which evidence manifests itself.

One conclusion, then, is that any knowledge product (e.g. a Public Health report, a NICE guideline, NHS Evidence etc.) acquires emergent properties. These properties are nested in a wider field of practices comprising particular socially recognisable sets of activities – for example, persuading rival clinicians to accept the need for a change in the current patient pathway, creating a clinically effective and safe diabetic care pathway, justifying the fairness of an individual decision. This means that in order to understand why evidence is used (or not) we need to consider its properties and status in relation to the task at hand and the stakeholders performing those tasks (118).

To be clear, we do **not** suggest that knowledge products are not useful. The commissioners and other experts we studied did appreciate and search for 'good evidence' because it enabled them to deepen their understanding and to evaluate their problems in more sophisticated ways. For example, the comprehensive health improvement initiative (CHII) was based on robust

and insightful evidence about residents' lifestyles and attitudes to eating, smoking and drinking. This sort of intelligence was celebrated by both Public Health experts and commissioners in the context of their project. Our survey findings also suggest that Public Health intelligence was one of the most sought after forms of evidence.

As we showed through our IFR findings, making judgements is also a social activity of proclaiming to be rational. Thus, even at moments of rational choice ('do we or don't we agree to this request'), 'evidence' was interpreted and became *enmeshed in an activity* (e.g. investigating the major causes of health inequalities) and *in the pursuit of a practical end* (e.g. commissioning a CHII that would reduce health inequalities).

In light of these findings, it is imperative to revisit assumptions, and key questions, about knowledge/evidence utilization in healthcare. In particular, such questions as 'how can we improve the uptake of evidence' or 'how can we put evidence into practice' seem to be the wrong place to start from. This is because these questions presuppose the existence of evidence *prior* to its utilization. They also assume that the role of managers is a largely technocratic one; i.e. to decide on the most efficient technology or process. We have shown, in contrast, that, especially in the context of commissioning decisions, evidence is not 'taken up' in practice. Rather, it is co-produced (or mutually constituted, in Orlikowski's terms) and becomes a prosthetic device that equips managers, and other actors, in their pursuit of decisions and practical ends (119). In this sense, evidence becomes meaningful as a tool for knowing in practice (79). Managers are artful, moreover, in how they deploy evidence for specific (and sometimes contradictory) purposes (e.g. political, technical/instrumental, and moral – see also (74).

Our findings thus extend the emerging critique of Evidence-Based Medicine (28) to the domain of Evidence-Based Management. They argue, strongly, for a re-phrasing of fundamental questions on evidence utilization. It may be more fruitful to ask: How are particular knowledge products drawn upon and recast in the context of a management practice? How do specific objects acquire 'evidential' properties when becoming part of a social activity? How do we construct and design sources of information and knowledge products such that they can act as evidence in particular contexts?

These may seem rather abstract questions but they have very *practical* consequences. Taking the last, for example, this might mean that, instead of focussing so heavily on 'universal' or 'best practice' information (and better routes to deliver it), we think about the form that information needs

to take in order to become useful and persuasive in particular contexts. To do this, we need to attend to the way information can support commissioning groups' knowing in practice as a social accomplishment (120). Robust case histories (as used in the practice of law) that combine scientific (forensic) results with cost projections, Public Health information and local population intelligence, might be more helpful for redesigning a service, for example, than guidelines focussed on clinical efficacy alone. Whilst scientific reports/information may be helpful for instrumental problem solving and technical understanding, such case histories might be more relevant, and therefore more readily *usable,* for managers seeking legitimacy and conceptual understanding, for example. Case histories could be practically deployed as past precedents, which systematise previous experience, relate this to local context, and anchor it in less anecdotal forms.

Our results suggest, then, a shift in emphasis in the design of knowledge products , with a focus, not just on 'is there enough evidence', but 'is 'evidence' *fit for purpose'*, taking due account of the different purposes to which it might be applied. Our findings also stress the need to recognise that it is *the relationships among* different kinds of activities, which interact on an ongoing basis, that provide the contours for evidence utilization (20).

Comparing across cases allowed us to identify (at least) three distinct practices brought to bear in commissioning management that interacted on a recurrent basis. These practices comprise, in Feldman and Orlikowski's terms, the 'repertoire' of commissioning management practice (121).

> **A)** *National policy practices*; main activities here included national guidance development, setting national priorities, and standards, managing performance of regional and local commissioners, and demonstrating public concern for maintaining consistent standards across the country.

> **B)** *Commissioning organisation practices*; main activities here included monitoring contracts and budget over/under spends, implementing national guidance, commissioning policy development, managing cross-departmental relationships (e.g. between commissioners, finance, Public Health, etc.), ratifying decisions made by individual projects, setting locally and nationally acceptable strategic priorities, reporting to the board, demonstrating quality assurance, monitoring target achievement, managing relationships with multiple healthcare providers and local authorities, cajoling GPs and other clinicians, doing returns, attending to national policy makers' statements, and understanding the extremely complex national payment infrastructure.

> **C)** *Project-specific decision making practices*; main activities here included organising meetings, managing project timelines and

budget, ensuring effective teamwork, assembling the required expertise, going through a decision making routine, requesting ratification of decisions by organisational boards, tweaking national policies to fit local circumstances, writing and agreeing service specifications, and making individual funding decisions..

In comparing case studies, we found recurrent interactions across these distinct practices that were consequential for the ways evidence was mobilised. Such practices then, were seen to be interdependent – overlapping and intersecting through the specific activities engaged in by individuals'. For instance, the Diabetes project started as a project for shifting diabetic services from acute to a community-based setting. That was a national priority - i.e. a product of national policy practices - which was then cascaded to the PCT's CEO for implementation. Thus it became part of organisational practices. The CEO then instructed the Diabetes project lead to 'move people out of the hospital' – in this way the national policy practices reached project level practices. The project lead, in turn, communicated to all parties involved in the Diabetes project that this objective was a 'must-do'. These interactions across practices at different levels (national policy, organisational and project) contributed to the commissioning management decision, whereby the imperative to develop a community-based setting was taken for granted. The feasibility of this objective was never questioned, nor was the evidence behind it, nor were new forms of evidence proactively sought.

Our findings highlight, then, that practices interact in very complex ways and *knowledge utilization in healthcare commissioning is nested within the nexus of practices at different levels - national policy making, commissioning organisation and project decision making.* Figure 22 summarizes this. Being attuned to this nexus of practices (how practices at different levels interact) also helps us to explain *why* knowledge and 'evidence' may not be used in practice.
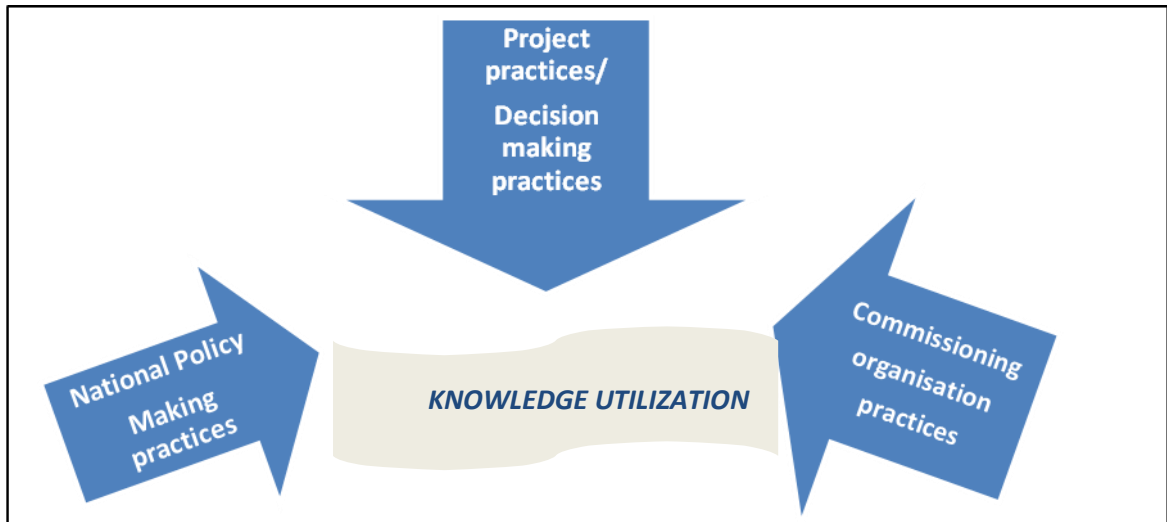
Figure 22. Knowledge Utilization nested within practices

6.3   The plurality of evidence in commissioning

In all projects we observed, multiple sources of information and knowledge products were mobilised for different purposes in the context of commissioning decisions. In particular, commissioners sought to mobilize **both** globally and scientifically created 'evidence' (in their terms) **and** locally produced 'evidence'.

Global 'evidence' included:

➢ standardised information produced nationally (e.g. secondary and primary care data, benchmarking data)

➢ intelligence produced through scientific procedures (e.g. Public Health data, needs assessment)

➢ clinical practice standards (e.g. National service frameworks, NICE guidelines, research papers)

➢ 'Models of care' and whole care pathways

➢ monitoring indicators (e.g. Vital sign)

Local 'evidence' included:

➢ Local knowledge and competences

➢ User needs/attitudes/lifestyles

➢ Financial information, costings

➢ Feedback from knowledgeable colleagues

- ➢ Narratives/examples of best practice

- ➢ Business case supporting information

- ➢ Contracting models

- ➢ Monitoring indicators

Survey results also confirm the *demand* for multiple sources of evidence (see figure 15). They suggested, moreover, that local 'evidence' was felt to be lacking. We can explain this demand for a plurality of 'evidence' on the following grounds:

(i) **Commissioning is technically complex.**

It was not surprising to find that commissioning decisions comprised multifaceted tasks, such as defining clinical quality/safety standards, financing healthcare, procuring, contracting, understanding and monitoring contract performance and health outcomes. Each specialised task also requires different forms of information and knowledge products (22). For example, models of care allow healthcare to be understood in abstract terms (e.g. as a system with layers/tiers), while clinical reports may enable judicious evaluations of what clinical care in a specific tier should be provided. However, it was not the tasks per se, but the way they were framed and rationalised, that played a greater role in decision-making in our study.

(ii) **Commissioning is underpinned by different rationalities or institutional logics** (122).

Institutional logics are defined as shared beliefs and practices that guide decision-making within an organizational field (123). They frame decision makers' efforts to create 'good solutions'. Our findings suggest that in commissioning, due to the technical complexity of the tasks involved, multiple logics – an efficiency logic, equity logic and a clinical efficacy/scientific logic – are usually brought to bear. Further, whichever comes to the forefront impinges upon what becomes accepted as evidence. For instance, if decision makers' ideas about rationality are framed by an efficiency logic (achieving productivity improvements at low cost), then they might consider benchmarking information as evidence, since through comparing and contrasting system performance across units they can identify efficiency savings. Conversely, if they shift their frame of reference to equity issues, benchmarking activity levels become less relevant and Public Health intelligence becomes the key source of evidence.

In the survey, respondents identified 'cost savings' as the single most important factor influencing commissioning improvement, suggesting a

preoccupation with an efficiency logic. However, it is also the case that actors in a field are skillful in 'artfully mobilizing' different logics to achieve purposeful action (124). It is simplistic to assume, then, that one logic (and associated forms of evidence) simply dominates and excludes others in commissioning decisions. Rather, as our cases showed, multiple logics, and associated forms of evidence, were always co-mingled (63). It was the skill (or sometimes luck) of actors in mobilizing particular logics and matching them to relevant forms of information (which could then become accepted as evidence) that drove decisions; and also drove out other, sometimes competing forms of 'evidence'.

(iii) **Actors' sensemaking is crucial**.

A crucial way that managers in our study reduced the technical complexity of the commissioning was by turning multiple sources of information into *narratives* (114). Hence it is not surprising that is the survey revealed great demand for narratives and examples of best practice. We showed that even the most purposefully 'rational' decisions (IFRs) always involved the construction of a story about 'what is requested' that included context, characters, plot, motives, morals etc. The significance of narratives as a form of evidence was also confirmed from our survey: examples of best practice from other organisations were the most sought form of evidence among PCT commissioning staff.

(iv) **Local knowledge and expertise is required to devise meaningful and technically sound solutions** (89).

In all the projects, as well as in the survey findings, effective commissioning solutions were seen as dependent on the ability to exploit local knowledge and competences. The perceived importance of local knowledge might be interpreted as reflecting unnecessary variation in commissioners' access to information; the implication being a need for greater standardization of information use, e.g. by means of a centralized database.

Our findings, however, do not support this conclusion for three reasons. First, as seen, evidence (what comes to count as evidence) is context and task-dependent. For example, in the context of the TIA or Health Child Programme implementation projects, information on contracting options had no relevance to commissioning because the contractual mechanisms were already accepted (i.e. acute or community services contracts). Conversely, the context posed by the diabetes redesign project was much more dependent on contractual information. Indeed, as we observed, in practice the absence of such information raised important challenges for the project. A similar observation applies to return on investment (ROI) information; the TIA project required no justification for the financial investment involved, while, in contrast, PCT Z commissioners required

detailed and persuasive ROI information on the child health improvement initiative (CHII).

Second, certain forms of 'evidence' become more or less useful at particular moments, i.e. what appears as 'evidence' is *time and/or stage-dependent*. For example, creating business case information in the CHII project, prior to conducting the large local research study in the PCT Z area, was not meaningful; business case 'evidence' was needed at a later stage. In the diabetes case study, contracting expertise and contracting options were considered *in retrospect*, only when a procurement stumbling block emerged. As the Diabetes project lead recalled, the timing of contracting considerations should have been taken very seriously: *"you almost need to look at what the contract 'looks like' before you even write the service specification..."* In short, practitioners' judgement is required in order to decide **when** evidence may be needed.

Thirdly, the mobilisation of evidence was, not surprisingly, dependent on having relevant experts present. This was crucial in order to take hold of a piece of information, or knowledge product. It was also crucial to **advocate for it** in a convincing manner*, in terms of what it offered to the problem at hand. For example, in the diabetes case, contracting expertise was absent from decision meetings and this triggered significant challenges. While it may be obvious that relevant experts need to be present in order to fully mobilize evidence, it was surprising how often this was *not* the case. Instead, decision groups often struggled to make sense of information that had been abstracted by experts prior to meetings but who were not actually present. In many cases this simply prolonged the decision while 'facts' had to be checked. In short, bringing the 'evidence' to the table without the expert is almost always inadequate. This is borne out by findings from the survey of the importance for co-production of having the right range of people involved at decision-making meetings.

In conclusion, making evidence utilization in commissioning decisions entails a plurality of forms of 'evidence', as shown in Figure 23. This is primarily due to the conditions surrounding knowledge mobilization. As shown in Figure 24, these conditions include high technical complexity, multiple logics underpinning justification decisions, the fundamental propensity of decision makers to narrativise their problems, and the need to leverage local knowledge in order to devise relevant solutions. Crucially, merely *sourcing information/knowledge products is not sufficient.* Vital questions concern 'when to seek certain forms of knowledge' not merely 'what knowledge to seek'.
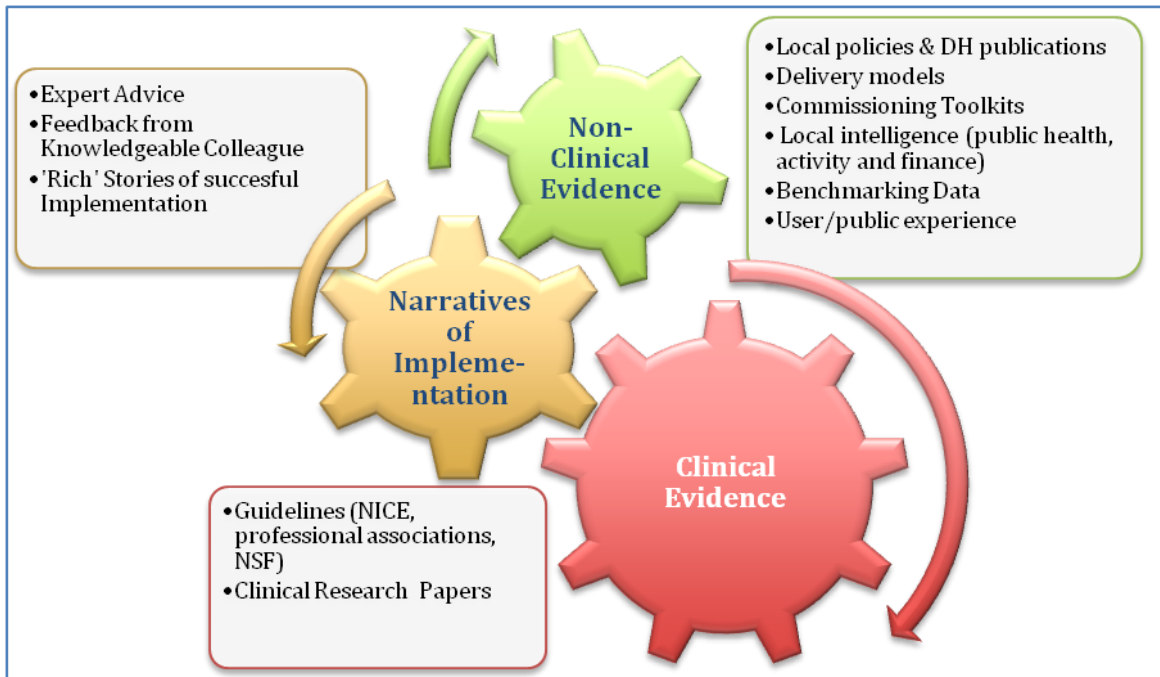
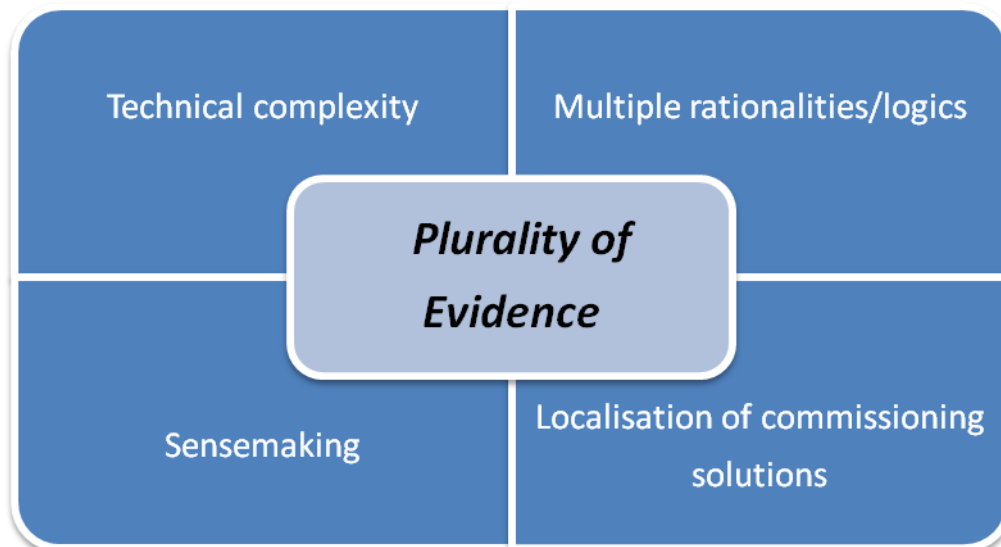Figure 23. A plurality of evidence was useful for making commissioning decisions

Figure 24. Conditions underpinning the need for a plurality of evidence

6.4 Enabling Evidence utilization through management of interdependencies

A recurrent theme in our data was the importance of managing interdependencies – this underscores the nature of commissioning as work distributed across time and organisational actors (110). We repeatedly observed organisational actors at PCTs seeking to manage well-known, as well as hidden, interdependencies in their practices and found this to be crucial to their ability to utilize knowledge. Broadly speaking, two kinds of interdependencies were focal to their management practice: 1) *process related*, and 2) *task related*.

6.4.1 Process interdependencies

These refer to interdependencies stemming from the ways in which projects needed to be delivered. Multiple such process interdependencies emerged in projects. As seen in Figure 25 these were:

- *Role-related* – i.e. clarifying expectations about each other's roles, activities and responsibilities (125)
- *Project management-related* – i.e. setting specific milestones, as well as monitoring time and cost constraints and generally embracing project management principles
- *Governance-related* – i.e. recognising that project group decisions had to be ratified by authoritative PCT boards with well-understood remits
- *Expertise-related* – i.e. assembling and integrating the required clinical and managerial expertise, and
- *Relational* – i.e. appreciating and cultivating good relationships with the parties involved.

Figure 25. Multiple *process interdependencies* were experienced in commissioning projects

Identifying and managing these process interdependencies was critical to the ability of commissioning groups to co-produce evidence and develop acceptable solutions. For example, the TIA project lead from PCT W was particularly alert to relational interdependencies, and sought to cultivate good relationships with the various parties involved, i.e. clinicians from three different hospitals, managers, as well other PCT colleagues. This awareness enabled better use of the information about the competences of the district's general hospitals, and ultimately contributed to the development of a mutually acceptable solution.

On the other hand, where such interdependencies were not managed, the co-production of evidence often ran into problems. For example, the Diabetes project experienced important implementation challenges because expertise and role-related interdependencies were not considered early enough. Because finance, information department, and contracts experts were not participating in the project group, consideration of the financial and contractual implications of the service redesign proposals came too late in the process.

6.4.2 Task interdependencies

A second kind of interdependency related to the commissioning tasks themselves; i.e. the kinds of solution being pursued. Most managers were conscious of the need to ensure that their project's objectives were aligned with their PCT's strategic goals. A 'good' commissioning solution, then, was viewed as one that addressed the strategic objectives of the PCT. For

example, the CHII project was framed as a 'tackling inequalities' project, reflecting its contribution to these broader organisational objectives. Similarly, the diabetes project was explicitly aligned with an organisational and national priority 'to move services out of the hospital'. Securing this link between commissioning solutions and overarching policy goals was a central concern of commissioning groups; an observation which is underlined by our survey findings that identify 'compliance with national guidelines' and 'fit with PCT strategic target' as important drivers of commissioning decisions.

Another important aspect of task interdependence evident in most projects related to the *specification of workforce development requirements*. For instance, the Diabetes team acknowledged that their goal of an improved diabetes service was highly dependent on the skill levels amongst healthcare professionals. They were fully aware that, in their words, 'delivering clinically effective services is fundamentally based on the competences applied to the service'. As a result, the diabetes group focussed their activities on meeting that need, and sought relevant evidence accordingly, including national guidance on required care planning competences and examples of implementing a care planning approach. Other important task interdependencies, which required managing, were the following:

- Clinical effectiveness interdependence; this meant taking account of the likelihood of any commissioned intervention producing measurable clinical outcomes.

- Temporal interdependence of the intervention, i.e. the time it takes for a health intervention to produce an improved health outcome.

- Temporal interdependence across commissioning stages – service design has major implications for procurement, contracting, financing activities.

- The interface between individual (IFR) and population decisions where commissioning policies is key.

- Resource dependencies and constraints that arise in changing the scope of services and other interventions. These dependencies are reflected in the need to demonstrate measurable Returns on Investment (ROI).

- Contracting dependencies that are reflected in the need to evaluate, design and monitor contracting options diligently.

The above list is by no means exhaustive. It should also be noted that only rarely were all the above interdependencies managed effectively. In fact, our study suggests that **organisational actors frequently neglected or ignored these important interdependencies in their co-production of evidence**. For example, in some cases the redesign of services was wrongly

seen as somehow independent of the contracting of services, with the result that critical interdependencies between commissioning stages were ignored.

The way task interdependencies were managed also had a profound influence on the use of, and need for, evidence. The wide range of interdependencies encountered led commissioners to pursue many different sources of information to address the complexity of their problem-solving efforts. Furthermore, there were also important variations in the ways similar task interdependences were managed, and hence the sources of information utilized. An example here is variation in the way *temporal interdependencies* were managed. In the TIA project, national policy highlighted the long-term nature of interventions in this area. In consequence, PCT W commissioners were able to draw on this 'evidence' in developing and maintaining a longer-term time frame for the delivery of health outcomes. In contrast, in the CHII case study, PCT W commissioners expected ResearchCo's proposal to demonstrate significant 'quick' returns on investment. ResearchCo thus failed to convince PCT Z commissioners of the need to allow for a time lag between investment in CHII and health outcomes, such as a reduction in obesity levels or changes in drinking habits. In this case, the temporal interdependencies between health improvement interventions and outcomes were poorly managed.

In conclusion, the above analysis of interdependencies and their management has enabled us to create a richer picture of the co-production of evidence in commissioning decisions and in healthcare management more broadly. Co-production is not just about getting diverse professionals to work together (as stressed in previous work) – it is also about sustaining that endeavour under the pressure of the much wider range of interdependencies that operate on the scope and delivery of projects. We have shown that in commissioning management practice, decisions are made by mobilizing various forms of evidence, and not just a hierarchy of (clinically-based) evidence. We have also shown that the way evidence is co-produced and knowledge utilized depends on the recognition and proactive management of *process and task interdependencies.* Evidence-based commissioning would be improved if such factors are taken into consideration, by, for example, putting as much effort into developing the skills needed to recognise and manage interdependencies, as into the production of information sources/knowledge products .

6.5 *Commissioning decision making as co-production*

Previous work has emphasised that co-production entails a process of involving multiple parties/experts, who jointly arrive at solutions, drawing from various sources of information. Assembling this dispersed kind of

expertise is seen as critical for developing, not only a technically sound solution, but also one that is seen as legitimate by stakeholders. The importance of co-production of evidence for the decisions taken was confirmed in the case studies. The survey findings also indicated that co-production was a significant predictor of satisfaction with decisions made.

The survey results also identified some factors that might affect co-production, such as the availability of resource information. Our qualitative observations suggest further, however, that in the commissioning context there are significant challenges in bringing experts together. First, experts often had important personal or organizational interests at stake in the commissioning outcome, making co-production of evidence an inherently political process. For instance, a service redesign manager at PCT Z explained to us why co-producing service specifications with GPs was politically fraught:

"The specifications are never finalised because you, as commissioner, are in a position of commercial sensitivity... potential providers of that service may be around the table... they could bid for that themselves." (Service Redesign manager)

Appreciating and managing potential conflicts of interest was thus a key ingredient for co-production of evidence.

Second, the **scope** of co-production, i.e. the extent and objective of co-production, also made a difference to the way distributed sources of expertise could be brought together. Thus, some of our cases focussed on getting *existing providers* to shape and take ownership of important service changes, as, for example, in the Long-term conditions, Healthy Child programme, TIA pathways. In such contexts, the scope of co-production centred on commissioners working jointly with existing providers to initiate change in existing pathways and established contractual arrangements. In such cases, the major challenges for the co-production of evidence came from the need for multiple parties to agree that a particular service change should be made.

In contrast, there were other projects - the Diabetes project and the CHII - where the initial scope of co-production was quite different. Here, in co-producing evidence, commissioners sought to leverage the expertise held by other parties in order to develop an improved and intelligent service model. In this context of co-production, commissioners depended on other parties only for their design expertise. This included deploying ResearchCo's expertise to design sophisticated health improvement intervention, or, in

the case of the Diabetes project, getting PBC, GPs and hospital consultants to develop a clinically effective and locally tailored community-based diabetes service. As we demonstrated in the previous chapter, PCT Y commissioners failed to recognise that commissioning their community-based service specification actually meant extricating themselves from dependence on various external actors for expertise. It thus seems that in settings where the scope of co-production is limited to designing a model of care, a key factor influencing co-production is that the *provider of the services* is not identified or agreed a priori.

In conclusion, our research findings suggest that commissioning decision making entails the intensive co-production of evidence among various parties. Furthermore, the scope of such co-production defines the realm of the possible for explicit strategies for leveraging different sources of expertise. If co-production aims at designing a novel service model, which could be delivered by any willing provider, then the extent of involvement by various experts with potential vested interests may need to be taken into consideration. Conversely, if the main objective of co-production is to develop a mutually agreed solution with *existing* providers, then co-production strategies may need to account for e.g. financial disincentives for providers or relationship maturity.

7 CONCLUSIONS

7.1 Implications for Policy and Practice

As we described earlier, one of the surprising features of the debate on evidence in management decision-making is how little empirical work there is on decision making as it actually happens in practice. In this study, we have sought to address that deficiency by focussing on the ways in which evidence is co-produced and used within the commissioning process. This has led us to be wary of the limitations of existing perspectives on the role of evidence. At the same time, we have become much more aware of the practical ways in which evidence is co-produced and applied within a commissioning context.

Drawing out the implications of this work for policy-makers and practitioners is no easy task, since, as our research shows, research findings need careful translation to be useful in a non-research setting. Accepting this caveat, however, we set out below some of the most important implications as they apply to the different groups involved:

Implications for Designers of Information and Evidence Services/Sources

For those designing information services/sources - such as decision tools and databases - our research points to a need to be attentive, not only to the logic of science (i.e. the primacy of the 'best' research), but also to the *logic of practice*. In short, **information does not speak for itself**. It becomes developed as evidence only when practitioners apply it, instrumentally and purposefully, to solving their own problems. This means that understanding the varied contexts in which problems are encountered, and resolved, is fundamental to the design of knowledge products. Greater awareness of the multiple contexts for evidence use, and what gives certain kinds of information more credence, instrumentality and traction in particular settings, would be a useful starting-point for designing information services in the future.

This could mean constructing information, not only in the form of 'best practice' guidelines or 'how to' prescriptions and guidelines, but also in the form of narratives, such as case histories. There are, of course, many stories of healthcare improvements in the NHS. However, most are also anecdotal and/or focussed on success - they rarely describe in detail how

decisions were taken, what issues were encountered and why and how particular sources of information were used.

By 'case histories' we mean something more akin to the kinds of narrative used in law. These case histories could show, in a systematic way, how decisions were arrived at, in a specific context, and using specific sources of information (scientific, financial, policy, Public Health, local), to produce particular outcomes. Such case histories could then serve as past precedents to be interrogated, and learnt from, in other contexts. Of importance here would be to create accounts of poor decisions as well as successful ones. This might be challenging in the NHS context but offers significant opportunities for learning.

Implications for commissioning managers

The practice of commissioning in the NHS in England is undergoing major change as part of fundamental reforms to the health service structure. This presents an opportunity to reorganise and improve the commissioning process as this function moves from PCTs to consortia of general practitioners. We recommend that commissioners and their advisors need to radically re-think the way in which evidence is viewed and used. Key features of that re-thinking are the need to:

• See evidence as something, which is ***co-produced*** within the commissioning process and not simply accessed externally, existing independently of its use. As our different strands of research demonstrated, co-production of evidence was associated with positive outcomes, including greater ownership of the commissioning decision, solutions that were more carefully worked through, and also higher levels of satisfaction with decisions.

• Recognise that the information, which is co-produced as evidence, does not fall into a hierarchy. Rather, there is a ***heterarchy of evidence*** – both clinical and non-clinical – which needs to be brought to bear in decision-making. Systematically derived knowledge of the local context may be just as important as accessing the latest research-based findings or policy guidance. This is because local knowledge enables more generic forms of guidance and scientific results to be applied in context.

• Recognise ***the limits of medical/scientific models for making management decisions***. A risk with GP-based commissioning is that EBM thinking – because it has its roots in medicine, as do GPs - becomes yet more of a template for thinking about commissioning *management* than before. Yet our research has clearly shown the limits of this as a model for management. In commissioning management scientific research is, of course crucial, but (co)producing evidence entails

practical, moral, and political judgements, not just scientific ones – i.e. judgements of value, not just judgments of fact.

- Recognise and **_proactively manage interdependencies_** in commissioning. If we accept that evidence is co-produced then we need to be serious, also, about the fact that it is a collaborative effort. In any collaborative effort there are interdependencies between people, processes and purposes (tasks). These need to be recognised and managed. This means paying attention to the relationships between: the groups involved and their political interests; the decision-making process deployed, and the specific goals of the task at hand. Interdependencies also need to be managed over time – in particular, those linking the initial design of a new service and the final implementation/contracting.

- Most commissioning tasks are complex – they entail multiple goals/purposes (scientific, moral, political, practical). This means that commissioners need to be sensitive to the primary purpose and to **_source information creatively that is fit for purpose_**. Scientific research may not help much, for example, in making a decision about whether patients in a local population are being treated fairly.

In Appendix 7 we present a practical 'toolkit' that is designed to help practitioners rethink their utilization of evidence in commissioning management decision making, using the results from our research. It is important to note that this toolkit is not intended to be a step-by step 'how to' guide to commissioning. This would be antithetical to our overall argument about evidence co-production. Instead, then, the toolkit offers managers analytical concepts that may be helpful to them in rethinking, and hopefully improving, their approach to evidence utilization in commissioning.

Implications for Information Departments

The assumption that the quality of information alone can determine the quality of commissioning decisions has been found by our study to be somewhat heroic. This has implications for the role played by the expert groups in specialist information departments. It most certainly does not imply that their role is unimportant or that it is pointless trying to produce high quality information. The quality of information remains a necessary, if not sufficient, component of effective decision-making. Rather, the implications are that such experts should play a key part in the collaborative process of making decisions and in co-producing evidence. Our study suggests that such groups need to:

- Become more heavily involved in re-design processes, and at an earlier stage, if they are to provide effective support. Greater involvement of information experts with commissioning teams – e.g. by becoming attached as *key consultants* or *advocates* to projects - would enable high quality sources of information to become utilized as evidence in solving a commissioning problem. This would, of course, need to be balanced against the demands of the centralized management of information support expertise.

- Ensure that *information s*upport is viewed broadly and not narrowly. In our study, some information departments saw themselves as a vehicle for 'pulling data' from systems, rather than collating a broad portfolio of appropriate intelligence. A broader view of information support would thus entail recasting their role identity towards being more wide-ranging *intelligence gatherers* and not simply 'data analysts' working with established data-sets.

Implications for Policy Makers

In connection to new plans for developing the NHS Commissioning Board, a number of key highlights from our findings appear to us to be of great relevance to policy makers:

- Our findings invite policy makers to rethink their model of evidence utilization – seeing evidence as co-produced means focusing on demand for (not just supply of) 'evidence'.

- The need for the right local mix of skills and information. Our findings suggest that this has implications for the make up of commissioning organisations now in England and internationally, and in the future.

- Our new understanding of the technical complexity, and interdependencies, inherent in evidence use. A restricted understanding of these factors is likely to limit the ability of organisations at the policy level to offer advice to new clinical commissioning groups.

- Recognition of sophisticated models of *how* people use information and evidence locally to make commissioning decisions. Central recommendations on service change may need to accommodate awareness of the *logic of practice,* the importance of co-producing evidence and of the (highly appropriate) need to mediate universal information with knowledge of local circumstances. Research funders, NICE and the NHS Commissioning Board may all benefit from understanding how evidence is co-produced and used. Research outputs may need to be better tailored to these processes and understandings.

- Educational needs of commissioners and commissioning GPs - how to take forward, design, and publicise *case histories* at national level which can provide precedents for how to make decisions with evidence.

7.2   Implications for Future Research

While our study has attempted to address a major gap in our current understanding of evidence utilization in healthcare management decision-making, even within the arena of NHS commissioning, which has been our primary focus, much more work needs to be done to develop comprehensive theories and models. Our qualitative study, for example, is clearly based on observations of a limited number of healthcare organizations and decision arenas. Whilst this provided rich accounts of practice, any generalizations from these data must be treated with the upmost caution and further, more expansive, work is required in order to further theorise these observations. The quantitative study is also sample rather than population based. There have also been significant changes in the commissioning landscape that need to be taken into account when drawing conclusions beyond this report.

However, our study does provide valuable signposts that can guide future research priorities. In particular, our findings on the co-production of evidence suggest a number of important directions for future research. First, our study has highlighted the way in which commissioning groups mobilize information from multiple sources in making their decisions. In the process, we have shown how 'universal' forms of information and guidance are selectively applied to address commissioning problems within a local context. More work needs to be done, however, to develop sophisticated models of decision-making that address this tension between universal and local forms of knowledge and information without resorting to outmoded notions of bounded rationality (126). From a practical point of view, this suggests the need to address a possible role for intermediation in supply which might allow research and NICE outputs to be more effectively tailored to meet local needs and understandings.

Second, one of the implications of our co-production focus is greater awareness of practitioners' *demand* for information within a particular context, as opposed to the emphasis on *supply*, which is found in previous work. However, the way in which the demand for information is constituted by co-production also has implications for the channels (information systems, management forums, social networks etc.) through which information travels, both within and across contexts. These channels were not a central focus of the present study, but they clearly represent an

important arena for further research if we are to connect a co-production model of evidence production with the way information and knowledge products are supplied into the NHS.

A third area for further research arises from our findings on the distinctive challenges faced by the groups who are co-producing evidence. From the vantage point of these groups, we highlighted the need to manage multiple interdependencies in decision-making, and the consequential difficulties that arise when interdependencies are not recognised, or are poorly managed. These findings really underscore a need to better understand the nested nature of decision-making. This is a distinctive feature of the NHS as a multi-layered entity. In this respect, project-level decision-making cannot be viewed in isolation, but is embedded within organizational and policy-level decision-making, with important implications for the ability of groups to both co-produce evidence and make effective decisions in commissioning.

In addition to questions of theory, the importance attached to co-production in both our qualitative and quantitative research suggests some methodological developments that would allow this phenomenon to be better addressed in future studies. Currently, for example, the scales and measures available to address satisfaction with decision-making in health settings are somewhat limited. Further large-scale research on the co-production scale developed in this study could therefore seek to confirm or disconfirm possible relationships between co-production, decision quality, and ultimately health outcomes.

Finally, we need to recognize that the changing context for commissioning in the NHS will also drive demand for research in this area. Our study sheds valuable light on some of the challenges which face any groups seeking to use evidence to make more effective commissioning decisions. These insights will continue to be relevant even in a changed context because the challenges highlighted here – the importance of co-producing evidence, the need to mediate universal information with knowledge of local circumstances – are fundamental to decision-making in a health setting. However, there will undoubtedly be a need for future research to analyse the distinctive approaches which the new clinical commissioning consortia take to mobilizing information and co-producing evidence. Such research will be vital to the ongoing endeavour to improve the quality of decision-making in a re-organized NHS.

Appendix 1 Final Copy of Questionnaire

Healthcare Decision Making Survey

1. Introduction and Consent Form

This survey investigates commissioning decision-making processes, and the information that feeds into them.

After taking part you will receive feedback summarising the anonymised findings for your organisation. We will also be publishing results and disseminating them to researchers, knowledge brokers, and the Department of Health to help them understand how to better provide support for commissioning decisions.

Your results are completely confidential; no personally identifiable data will be shared under any circumstances. When you answer the questions please be as accurate as you can about what actually happened, we are not interested in what 'should' have happened.

This research is being funded by the NHS National Institute for Health Research, and designed and conducted by the University of Warwick.

We really appreciate you taking the time to complete the survey; it should take 15-20 minutes.

If you have any questions or concerns about any aspect of the survey please contact either Dr Sian Taylor-Phillips (s.taylor-phillips@warwick.ac.uk) or Dr Aileen Clarke (aileen.clarke@warwick.ac.uk).

Once again thank you very much for your time.

1. **Please confirm the following:**

	Yes	No
I have received and understood the participant information sheet	☐	☐
I consent to take part in this survey	☐	☐
I understand I am free to withdraw from the study	☐	☐
I understand that if I don't know the answer to a question or don't think it applicable I can leave it blank	☐	☐
I understand that the researchers are interested in an accurate report of events and there are no 'right' or 'wrong' answers	☐	☐
I understand that the answers I give will be completely confidential, the answers will not be linked with any individual or any individual organisation under any circumstances	☐	☐

2. What is your age?

- ☐ Under 25
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or over

3. What is your gender?

- ☐ Male
- ☐ Female

4. Which of these qualifications do you have? (mark all of the qualifications that apply or, if not specified, the nearest equivalent)

- ☐ None
- ☐ GCSE's or equivalent
- ☐ A levels or equivalent
- ☐ First Degree (e.g. BA, BSc) or equivalent
- ☐ Masters degree(e.g. MA, MSc, MBA) or postgraduate diploma
- ☐ PhD or MD
- ☐ NHS management qualification
- ☐ Medical Doctor(e.g. MB ChB)
- ☐ Dentist
- ☐ Nurse, Midwife, Health Visitor, or other professions allied to medicine
- ☐ Other (please specify)

....

5. Are you mainly employed in?

- ☐ An NHS PCT
- ☐ An NHS/ Foundation Trust
- ☐ A commissioning consortium
- ☐ A GP practice
- ☐ A local authority
- ☐ Other (please specify)

....

6. Which best describes your role?

- ☐ Public Health
- ☐ Commissioning and Contracts
- ☐ Finance
- ☐ Clinical care
- ☐ Other (please specify)

....

7. How long have you been involved in:

NHS Commissioning	...........years
Other commissioning (outside the NHS)	...........years
Other health related work	...........years

8. Have you ever worked for any of the following organisations?

	Yes	No
Private sector healthcare organisation e.g. BUPA	☐	☐
Research organisation e.g. university	☐	☐
Clinical provider organisation e.g. NHS trust	☐	☐
Department of Health	☐	☐
Charitable/third sector organisation	☐	☐
Local authority	☐	☐
Health consultancy	☐	☐

9. What is your pay band?

- ☐ I don't know
- ☐ 1-6
- ☐ 7
- ☐ 8a
- ☐ 8b
- ☐ 8c
- ☐ 8d
- ☐ 9
- ☐ Clinical medical pay scale
- ☐ Other (please specify)

....

10. What is the biggest barrier you encounter to using information in commissioning decisions? Please mark one answer only

- ☐ Insufficient/inaccessible information
- ☐ Too much information resulting in difficulty finding and identifying what is important
- ☐ Not enough time
- ☐ Difficulty understanding information or applying it to the local context
- ☐ Internal capacity and resources
- ☐ Not applicable - I don't need any more information
- ☐ Other (please specify)

11. The rest of this questionnaire is focused on decision making processes. Please identify a decision making process:
- **which has recently been completed (but doesn't yet have to be implemented) and**
- **which you were involved in and know quite well (as we will be asking about the people involved, the sources of information used, outcomes and your opinions about it)**

It is important to choose a decision that has already been made as we will be asking about the decision outcome.

Was this decision: (please choose one answer only)

☐ A major decision on strategic direction **affecting more than one service** (e.g. increasing proportion of spend on prevention)

☐ A decision about **changing the organisation or design of a particular service** or care pathway (e.g. improving scan availability for stroke and TIA)

☐ An Individual Funding Request (about a service/treatment/technology decision **for an individual patient (**which may have implications for a larger group)

Please answer the rest of this section with reference to the decision making process you have just identified

12. Which category of healthcare was this decision making process about?

☐ Cancer	☐ Eye	☐ Oral & Gastrointestinal
☐ Cardiovascular	☐ Infection	☐ Renal & Urogenital
☐ Congenital Disorders	☐ Inflammatory & Immune System	☐ Reproductive Health & Childbirth
☐ Children and young peoples services	☐ Injuries and Accidents	☐ Respiratory
☐ Ear	☐ Mental Health	☐ Skin
☐ Elderly peoples services	☐ Metabolic & Endocrine	☐ Stroke
☐ End of life services	☐ Musculoskeletal	☐ Other (please specify)
☐ Ethnic minority services	☐ Neurological	…………………………………

For questions 13 and 14 if you do not know the exact answer then please give an approximate answer or 'I don't know'. Please **don't** spend your valuable time looking it up.

13. What is the approximate cost of the service(s) involved per year to your organisation? For example if the decision was about the diabetes care pathway then put the total estimated expenditure on diabetes per year.

☐ I don't remember
☐ Less than £100,000
☐ £100,000 to 1 million
☐ 1million to 10million
☐ More than 10 million

14. Approximately how many members of the population do the service(s) involved cover? For example if the decision making process was about the diabetes care pathway then put an approximate number of people with diabetes within the area.

☐ I don't remember
☐ Less than 1000
☐ 1000 to 100,000
☐ More than 100,000

15. Please briefly describe the nature of the decision in one sentence, for example "redesigning diabetes care for elderly people"

………

4. The Decision Making Process

Please continue to think about the same decision making process as you answer the questions on this page

16. To what extent do you agree with the following statements about the decision making process?

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
There was a variety of knowledge and experience	☐	☐	☐	☐	☐
The right people were involved	☐	☐	☐	☐	☐
We had sufficient information available	☐	☐	☐	☐	☐
We were able to share knowledge and information effectively	☐	☐	☐	☐	☐
We were able to use the information effectively	☐	☐	☐	☐	☐
I had a sense of being involved	☐	☐	☐	☐	☐
There was extensive discussion	☐	☐	☐	☐	☐
The discussion helped us to make progress	☐	☐	☐	☐	☐
Many different viewpoints were explored	☐	☐	☐	☐	☐
People used terminology that I was not familiar with	☐	☐	☐	☐	☐
We paused discussions to clarify the meaning behind certain terms	☐	☐	☐	☐	☐
Individuals explained unfamiliar concepts and terms where necessary	☐	☐	☐	☐	☐
External information had to be significantly adapted to fit the problem and local context	☐	☐	☐	☐	☐
We were able to reach agreement	☐	☐	☐	☐	☐
The decision outcome was not what I expected at the outset	☐	☐	☐	☐	☐
The decision outcome was dominated by one group/faction/individual	☐	☐	☐	☐	☐
The decision outcome was significantly different to any pre-existing model	☐	☐	☐	☐	☐

17. Approximately how long (in months) did the decision making process take?

☐ 1 to 3 months
☐ 4 to 6 months
☐ More than 6 months

18. At approximately how many dedicated meetings was the decision discussed?

☐ 1 to 5
☐ 6 to 10
☐ 11 or more

19. On average, approximately how long was spent discussing the decision at each meeting?

☐ 0.5 hours or less
☐ 1 hour
☐ 1.5 hours
☐ 2 hours
☐ 2.5 hours
☐ 3 hours or longer

20. Which of the following people were involved in the decision making process, and to what extent?

	I don't know	Not consulted	Involved in the decision making process and influenced the decision		
			less than most	about the same as most	more than most
Patient/public representative(s) /organisation(s)	☐	☐	☐	☐	☐
General Practitioners (GPs) / other clinicians	☐	☐	☐	☐	☐
Local authority representative(s)	☐	☐	☐	☐	☐
Service provider representative(s)	☐	☐	☐	☐	☐
Voluntary sector (third sector) representative (s)	☐	☐	☐	☐	☐
Commissioning staff	☐	☐	☐	☐	☐
Public health staff	☐	☐	☐	☐	☐
Finance staff	☐	☐	☐	☐	☐
Contracts staff	☐	☐	☐	☐	☐
Medicines management staff	☐	☐	☐	☐	☐
Other (please specify) ....….....	☐	☐	☐	☐	☐

21. To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
There was a lot of time pressure	☐	☐	☐	☐	☐
The people and materials we needed for the decision making process were available to us	☐	☐	☐	☐	☐
The work was interrupted by cancelled or poorly attended meetings	☐	☐	☐	☐	☐
The work was interrupted by reorganization/restructuring/ change of personnel	☐	☐	☐	☐	☐
The problem was novel and difficult to frame	☐	☐	☐	☐	☐
The formal process for arriving at a decision was generally understood	☐	☐	☐	☐	☐

5. Factors in the Decision

Please continue to think about the same decision making process as you answer the questions on this page

22. Please describe the influence of the main factors on the decision outcome

	None	Weak	Moderate	Strong	Very Strong
Evidence on safety/quality	☐	☐	☐	☐	☐
Evidence on effectiveness	☐	☐	☐	☐	☐
Evidence on cost-effectiveness (i.e., the cost per quality life-year gained)	☐	☐	☐	☐	☐
Total cost impact	☐	☐	☐	☐	☐
Burden of disease (i.e., the number of people affected)	☐	☐	☐	☐	☐
Disease severity	☐	☐	☐	☐	☐
Lack of alternative	☐	☐	☐	☐	☐
Equity	☐	☐	☐	☐	☐
Patient preferences	☐	☐	☐	☐	☐
Level of influence of those proposing it	☐	☐	☐	☐	☐

23. Similarly, please describe the influence of these main factors on the decision outcome

	None	Weak	Moderate	Strong	Very Strong
Available budget / cost savings	☐	☐	☐	☐	☐
Fit with strategic plan	☐	☐	☐	☐	☐
Complying with national guidelines / frameworks	☐	☐	☐	☐	☐
Meeting national targets	☐	☐	☐	☐	☐
Meeting local targets	☐	☐	☐	☐	☐
Practically implementable	☐	☐	☐	☐	☐
Contracting practicalities	☐	☐	☐	☐	☐
Best practice elsewhere	☐	☐	☐	☐	☐
Clinician opinion	☐	☐	☐	☐	☐
National, regional or local political influences	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐

24. Of all of the above factors from both question 22 and 23, which <u>one</u> do you think was the most influential?

....

6. Information Used in the Decision

Please continue to think about the same decision making process as you answer the questions on this page

25. How important were the following sources of external / empirical evidence in the decision? (Please tick one box in each row)

	Very Important	Quite Important	Limited Importance	Not Important	Did not use
National Service Framework Guidelines	☐	☐	☐	☐	☐
NICE guidance	☐	☐	☐	☐	☐
Government publications e.g. guidance on the commissioning of cancer services for improving colorectal cancer	☐	☐	☐	☐	☐
Clinical guidelines e.g. choice of ACE-inhibitors in the primary care management of adults with symptomatic heart failure	☐	☐	☐	☐	☐
Guidance from professional associations e.g. the Royal College of Surgeons	☐	☐	☐	☐	☐
Secondary sources (e.g. NHS evidence)	☐	☐	☐	☐	☐
Published cost-effectiveness analyses	☐	☐	☐	☐	☐
Work commissioned to academic researchers	☐	☐	☐	☐	☐
Work commissioned to management consultants	☐	☐	☐	☐	☐
General published literature (e.g. journal articles)	☐	☐	☐	☐	☐

26. How important were the following other sources of evidence in the decision? (Please tick one box in each row)

	Very Important	Quite Important	Limited Importance	Not Important	Did not use
Local public health intelligence (e.g. population data, needs analysis, health outcomes, activity and capacity modelling etc.)	☐	☐	☐	☐	☐
Expert advice either from colleagues or external experts e.g. from the local authority, department of health etc...	☐	☐	☐	☐	☐
Examples of best practice from other organisations	☐	☐	☐	☐	☐
Your own personal experience	☐	☐	☐	☐	☐
Published management and organisational studies	☐	☐	☐	☐	☐
Local policies and plans e.g. the strategic plan, the operating plan, clinical policies, risk registers.	☐	☐	☐	☐	☐
Benchmarking data with other organisations e.g. investment levels, outcomes, NCHOD data	☐	☐	☐	☐	☐
Other (please specify) …………………………………………………………	☐	☐	☐	☐	☐

27. Of the above sources of evidence from both question 25 and 26, which <u>one</u> (if any) would you like to have more of?

----

28. How often was the required information/ evidence available at the meetings?

- [ ] At none of the meetings
- [ ] At some meetings
- [ ] At most meetings
- [ ] At every meeting

29. How frequently did the discussion identify areas where more information/ evidence was needed?

- [ ] At none of the meetings
- [ ] At some meetings
- [ ] At most meetings
- [ ] At every meeting

30. If the group identified that more information/evidence was required, approximately how often was that information/evidence sourced in time for the next meeting?

- [ ] Almost never
- [ ] Around a quarter of the time
- [ ] Around half of the time
- [ ] Around three quarters of the time
- [ ] Almost always
- [ ] Not applicable

7. Outcome of the decision

Please continue to think about the same decision making process as you answer the questions on this page

31. How do you feel about the outcome of the decision making process?

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	I Don't know
I feel we have made an informed choice	☐	☐	☐	☐	☐	☐
The decision reflects what is most important for the organisation	☐	☐	☐	☐	☐	☐
I expect the decision to be implemented	☐	☐	☐	☐	☐	☐
I am satisfied with the decision	☐	☐	☐	☐	☐	☐

32. Similarly, how do you feel about these additional outcomes of the decision making process?

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	I Don't know
I think the outcome was the optimal solution	☐	☐	☐	☐	☐	☐
I am satisfied with the decision making process	☐	☐	☐	☐	☐	☐
I feel we should have made better use of information in the decision making process	☐	☐	☐	☐	☐	☐
The decision reflects what is most important for the local population	☐	☐	☐	☐	☐	☐
There was a lot of agreement about the decision that was made	☐	☐	☐	☐	☐	☐
It was purely a financial process	☐	☐	☐	☐	☐	☐
I expect that we will assess the effectiveness of the decision after implementation	☐	☐	☐	☐	☐	☐

8. Decision Making Tools Used

33. Which of the following formal decision making tools were used as part of the decision making process?

	Yes	No	Not possible as data not available	Not applicable	I don't know
Cost per Quality Adjusted Life Year (QALY) or equivalent	☐	☐	☐	☐	☐
Cost per Quality Adjusted Life Year (QALY) or equivalent in comparison to other services offered by your organisation	☐	☐	☐	☐	☐
Hierarchy of evidence (i.e. a formal system for grading evidence)	☐	☐	☐	☐	☐
Ethical framework or commissioning principles or equivalent	☐	☐	☐	☐	☐
Balanced scorecard or equivalent	☐	☐	☐	☐	☐
NCHOD data for benchmarking (comparison of expenditure and/or outcomes with other organisations/areas)	☐	☐	☐	☐	☐
Marginal analysis or calculation of opportunity costs (cost and benefit of any investment/ disinvestment/ redesign compared to the cost and benefit of investment/ disinvestment/ redesign in another service area)	☐	☐	☐	☐	☐

9. About Your Organisation

Please answer these questions about your organisation in general, rather than about a specific decision

34. Is there a cost/QALY limit or guide in use in your organisation?

☐ Yes
☐ No
☐ I don't know

35. If yes, what is it?

☐ I don't know
☐ Less than £5,000 per QALY
☐ £5,001 to £15,000 per QALY
☐ £15,001 to £25,000 per QALY
☐ £25,001 to £35,000 per QALY
☐ £35,001 to £45,000 per QALY
☐ More than £45,000 per QALY

10. Thank You

You have now completed the survey. Thank you very much for your time. Your input is greatly appreciated. We will provide you with anonymised feedback as soon as we can.

36. If there is anything else you wish to add or comment on, about our survey, information, evidence, decisions, and commissioning, please do so here

....
....
....

Appendix 2 Administration of the Questionnaire

- Research staff contacted the Director of Public Health at each PCT by email in order to gain permission to conduct the research. Emails included information on the purpose and funding of the project, details of the already conducted qualitative phase of the research and the commitment required by participating PCTs. Non responses and negative responses were followed up by one or more telephone calls from the research team to the Director of Public Health and or Commissioning, to further explain the research and to encourage participation.

- PCTs which agreed to participate were asked to provide the research team with the following;

- A suitable meeting room for the researchers to use on a fixed date in order to visit the PCT and administer the study.

- Access to In-house or local caterers for the provision of refreshments.

- A list of names and email addresses of all staff employed at grade 7 or above who were involved in the commissioning decision making process. This could include staff from departments of Public Health, Finance, Purchasing, Commissioning, Contract Monitoring and Information Services as well as the Executive Team.

- Potential participants were then emailed by either the research team or the PCT to invite them to the meeting in order to complete the survey, have lunch/refreshments and listen to a brief presentation about the research so far and the current challenges involved in the commissioning process. Participant information sheets were attached to the emails and details of how to contact the research team included, to ensure any queries could be answered quickly.

- Meetings at the PCTs were attended by one or two members of the research team who explained the research and administered the questionnaire to those present, followed by a short presentation and discussion of issues faced locally relating to commissioning decisions. The names of those who attended the meetings were recorded so that they were not also sent email invitations to participate.

- Following the visits, research staff sent electronic invitations via an online hosting site to all those on the list provided by each PCT who did not attend the meeting. Four further reminders were sent to potential participants at two week intervals until a total of five emails had been sent.

Appendix 3 Characteristics of PCTs which accepted and which declined

	PCTs that participated	PCTs that declined
Population served	203503 – 1100635	157247 - 683791
IMD	8.08 – 44.91	1.30 – 48.26
% of population under age 15 (national average= 17.51)	15.64 – 21.56	17.48 – 23.14
% of population over the age of 85 (national average= 2.24)	1.20 – 3.11	1.01 – 2.29
Average GP list size (National average= 4111)	1934 – 6019	2078 - 6512
CQC Quality of Services score		
Good	36%(n=4)	44%(n=4)
Fair	64%(n=7)	34%(n=3)
Weak	-	11%(n=1)
No Data Available	-	11%(n=1)
CQC Use of Resources score		
Good	27%(n=3)	44%(n=4)
Fair	73%(n=8)	44%(n=4)
No Data available	-	12%(n=1)
CQC Core Standards		
Fully Met	55%(n=6)	55%(n=5)
Almost Met	36%(n=4)	23%(n=2)
Partially Met	9% (n=1)	-
Not Met	-	11%(n=1)
No Data Available	-	11%(n=1)
CQC National Targets (Existing)		
Fully Met	36%(n=4)	44%(n=4)
Almost Met	36%(n=4)	34%(n=3)
Partially Met	18%(n=2)	10%(n=1)
No Data Available	10%(n=1)	10%(n=1)
CQC New National Targets		
Excellent	9% (n=1)	44%(n=4)
Good	36%(n=4)	22%(n=2)
Fair	9% (n=1)	22%(n=2)
Weak	46%(n=5)	12%(n=1)
WCC Score 2010 (Nat	70 - 158	114 - 154

Appendix 4 Excerpts from PCT IFR policies

"The IFR Panel considers requests for [individual] funding in light of local policy, national guidance (where available) and all the information that has been submitted to support the request. If the Panel decides that the clinical circumstances of your case are not exceptional, funding will not be approved…. We operate in the context of an Ethical Framework, which stresses the need for decisions to be fair, consistent and equitable… The purpose of the ethical framework is to: provide a coherent structure for discussion, ensuring all important aspects of each issue are considered; promote fairness and consistency in decision; provide a means of expressing the reasons behind the decisions made…. The Ethical Framework is especially concerned with 1) Evidence of Clinical and Cost Effectiveness, 2) Cost of Treatment, 3) Individual Need for healthcare, 4) needs of the community, and 5) national standards." (PCT X IFR policy)

"The IFR process will ensure that each request for individual funding is considered in a fair and transparent way, with decisions based on the best available evidence and in accordance with the PCT commissioning principles… A principle based decision making process supports the strategic planning and the effective use of resources within the PCT. The Principles that the PCT seeks to support are:

- clear evidence of clinical effectiveness

- clear evidence of cost effectiveness

- the cost of the treatment for this patient and others within any anticipated cohort is a relevant factor.

- the extent to which the individual or patient group will gain a benefit from the treatment

- balance the needs of each individual against the benefit which could be gained by alternative investment possibilities to meet the needs of the community.

… This policy requires requests to be considered against the tests of clinical effectiveness, cost effectiveness and affordability provided the patient is able to demonstrate that they represent an Individual Patient (or)…. that they have exceptional clinical circumstances. If the patient is able to demonstrate exceptional clinical circumstances (as defined in this policy) the request will be considered against the tests of clinical effectiveness, cost effectiveness and affordability." (PCT Y IFR policy)

"The following [commissioning] principles underpin how financial resources will be deployed to support improvement in the health of the PCT's area:

• Be clinically effective

• Be Cost effective

• Promote equitable access for all populations

• Be responsive to individual and population needs

• Be affordable within a finite budget.

… In line with the Commissioning Principles, the Individual Case process cannot make a decision to fund a patient where by so doing a precedent would be set that establishes new policy (because the patient is not, in fact, exceptional but representative of a definable group of patients)…. In order for funding to be agreed there must be some unusual or unique clinical factor about the patient that suggests that they are:

- Significantly different to the general population of patients with the condition in question

- Likely to gain significantly more benefit from the intervention than might be expected from the average patient with the condition." (PCT Z IFR policy)

Appendix 5 Research Outputs (as on 21/03/2012)

Project output type	Publication Location	Title	Author list
Newsletter	Health Warwick Update Newsletter, issue 14 2009	Understanding Commissioning	Harry Scarbrough
Conference paper Presentation	7th Biennial International conference in organisational behaviour in health care, 12th April 2010, University of Birmingham, 2010	Understanding knowledge utilization in healthcare management practice	Gkeredakis, E; Swan, J; Clarke, A; Powell, J et al.
Poster	Evidence 2010 conference BMA House, 1-2 November 2010, London, 2010	Evidence in management Decisions	Gkeredakis, E
Presentation	Organisational Learning Knowledge and Capabilities (OLKC) conference 2011, Hull University Business School, 13th April 2011	Rational judgement revisited: practices of deliberation in healthcare funding decisions	Gkeredakis, E; Swan, J; Nicolini, D; Scarbrough,H
Press article	Pulse Today	Making the best use of 'best practice' examples for Commissioning	Roginski, C, Gkeredakis, E
Presentation	Knowledge Exchange in Public Health Conference, 11-12 April 2011	Using evidence in commissioning decisions	Gkeredakis, E
Press article	Health Service Journal	The Need for Clarity in Evidence-based Commissioning	Gkeredakis E. & Roginski C
Conference paper Presentation	Third International Symposium on Process Organisation Studies, 16-18 June 2011, Corfu, Greece	Objects of evidence in organisations: insights from studying healthcare funding decision making	Gkeredakis, E; Nicolini, D; Swan, J
Journal article	Journal of Health Organisation and Management, June 2011	Mind the Gap: Understanding Utilization of Evidence and Policy in Healthcare Management Practice	Gkeredakis, E; Swan, J; Powell, J et al.
Presentation	Delivering better health services, HSRN/SDO Network annual conference, 7-8 June 2011, ACC Liverpool, 2011	Evidence in management decisions	Swan J & Gkeredakis E

Conference paper Presentation	27th European Group of Organization Studies (EGOS) Colloquium, 7-9 July 2011, Gothenburg, Sweden	Rational decision making revisited: practices of deliberation in healthcare funding decisions	Gkeredakis, E; Swan, J; Nicolini, D; Scarbrough, H; Roginski, C
Poster	Society for Medical Decision Making, 33rd Annual Meeting, Chicago IL	Health Care Commissioning In The English NHS: Evidence, Co-Production And Quality Of Decisions	Clarke et al
Poster	Society for Medical Decision Making, 33rd Annual Meeting, Chicago IL	Studying Rational Decision Making for Exceptional Funding in England	Gkeredakis et al
Presentation	Warwick University, Institute of Health, 7th December 2011	Using 'Evidence' in Commissioning Decisions: Insights from a large qualitative study in the English NHS	Gkeredakis Emmanouil
Presentation	Queen Mary University of London, Social Science Forum, 28th February 2012	Individual Healthcare Rationing: Insights from an ethnographic study in the English NHS	Gkeredakis Emmanouil
Conference paper Presentation	8th Biennial International conference in organisational behaviour in health care, 15 – 17 April 2012 Trinity College Dublin, Ireland	Evidence Utilization in Practice: Insights from Studying Exceptional Funding Decisions in the English NHS	Gkeredakis, E; Nicolini, D; Swan, J

Appendix 6 Management Fellow Final Report

This appendix provides a report on the Management Fellowship that was attached to our project. We begin with some background to the fellowship and then report against the original objectives and key questions asked of us by SDO (as per letter of 15 April 2011).

Background

Claudia Roginski has extensive experience within the NHS in the fields of information, commissioning and knowledge management, both through her most recent role as Head of Information for Coventry PCT and through her earlier involvement with the NHS Modernisation Agency Improvement Team as Information and Knowledge Manager. She has particular interests in commissioning (the focus of our empirical study) and service redesign. Her employers, Coventry PCT, had also identified commissioning as one of their key priorities, and it was/is part of Claudia's role to deliver "informed commissioning" for Coventry PCT. Claudia had trained as an information analyst and information manager and had over 15 years of experience working commissioning roles. She also had an MBA from Aston. This combination of interests, practical and research skills made her the idea candidate for this Fellowship.

Claudia joined the project at the very start and worked part-time (2 days per week) for the total duration. NB when the project had a no-cost 6 month extension we adjusted hours so that Claudia could remain in the project to its end by working one-day for a more extended period, rather than 2 days. This also better accommodated her work at this point. Claudia assisted the team in developing the sampling methods, negotiating access, qualitative fieldwork (except at her own site), analysis (esp. qualitative), report writing, workshops and publications. She also acted as a key advisor, against which the team could check the face validity of ideas as they were developed.

Claudia's role in the project was, specifically, to assist the research team with delivering Objectives 2, and 5 as specified in the original proposal (repeated below). As a result of introduction of the Fellowship scheme after the research project was announced, another objective – Objective 6 – was added. These objectives were a good basis from which to propose the Fellowship. That said, we also adopted a flexible approach in order to make the most of Claudia's complimentary skills.

The aim of the Fellowship Scheme was to enhance the project and develop the person who took the role. The report below, then, was initially drafted by Claudia herself and then discussed with the team as we wanted to be

sure that it represented fairly the view of the Management Fellow and not just the Co-Investigators.

Activities under Original Objectives:

Objective 2: *To explain how and why the available knowledge products aimed at managers are synthesised and applied (or not) within the commissioning process, in order to identify how such products might be more effectively configured for demand and use.*

It was often helpful, especially at the start of the fieldwork phase, for the Management Fellow to provide some background and context to the development of some the knowledge products that were actually available in the commissioning area. She was able to provide a practitioner's view of the relative priority that the products might be allocated by PCTs and was also able to advise as to which knowledge products should be included as the primary focus in the empirical study (e.g. the list included in the survey was produced in close consultation with the Fellow). Where she had the experience, the Fellow was able to describe how she had actually been involved in their use. Equally, she could reflect on the varying use of such tools in the participating organisations and help to understand contrasting views.

Objective 5: *To develop practical guidance for policy makers and managers on knowledge utilization in commissioning by engaging stakeholder groups in all stages of the research (PCT Managers, NHS Evidence – National Knowledge service (NKS), the National Library for Health (NLH) – NHS Institute, King's Fund, DH and academics)*

The Management Fellow was actively involved in collecting data to inform this objective and in drawing out the themes from the observations. She also played a central role on explaining the research to, and engaging, PCT managers at collaborating sites. Her views as a practitioner were often sought. The Fellow was actively involved in the development of feedback papers to practitioners and practitioner publications. Her perspective was particularly enlightening when the research team had to incorporate and reflect, in their findings, important and on-going changes in the NHS commissioning structure. She also contributed to the final report especially with regards practical implications. It is worth noting that the Fellow's role, however, was not just to generate practical guidance following the, but also to feed practical insights into the design and analysis of the research itself. The Fellow also played a full part as a member of the team in the Scientific Stakeholder Advisory Panels, the national workshop and, where work commitments allowed, in the feedback workshops to participating sites.

Objective 6: *To identify the competencies required for informed commissioning and to design and develop professional training and skills*

assessment methods aimed at improving the competence of PCTs in deploying a knowledge-based approach to commissioning decisions.

The Management Fellow was actively involved in collecting data to inform this objective and in drawing out the themes from extensive field observations. She was able to reflect upon her own practice and write papers and on how the working practices of information departments could be improved. It is worth highlighting that she led the authoring of two practitioner/news journal publications (*HSJ* and *PULSE* – see list of outputs) in which she teased out key competencies required for making evidence-based commissioning practically feasible in the NHS.

Questions asked of us by SDO for Reporting

1. What work has the Management Fellow undertaken and what was achieved?

The Management Fellow has been involved in all project meetings. She has also always been included in any 'ad hoc' discussions when on site and copied into e-mail circulars and document drafts and/or sharing of ideas. She has felt included as part of the team, and has been given the confidence to comment and ask questions. Her involvement in the project was enhanced significantly due to her having been co-located with the lead researcher on the project Emmanouil Gkeredakis for two days per week. Office sharing has had untold benefits for the project due to the numerous informal opportunities both fellows had to exchange and develop ideas relevant to both research and practice on a frequent and on-going basis.

The Fellow has been coached in the methodology of the qualitative study and also provided with guided reading and many opportunities to learn from everyone in the team. She was given the opportunity to read appropriate selections of the literature on decision making, evidence utilization in healthcare management and knowledge management. Most particularly, the Lead Research Fellow has taken time to support her learning and to guide and comment on her work.

During the course of the qualitative fieldwork, the Fellow showed great enthusiasm for learning about, and doing, research and was involved in actually conducting observations and interviews. This is very demanding in terms of time and effort. Initially this was done in the company of one or more of the research team, but subsequently, and following mentorship and guidance, she participated in the extensive fieldwork by making some visits alone. In the qualitative fieldwork, she also assisted the team by collating information about PCTs available in the public domain to facilitate their stratification into a representative sample. She also participated in the initial visits and group survey completion.

The by-product of this active engagement of the Management Fellow in the qualitative part of the project was the opportunity to observe how other organisations carry out their day-to-day functions and, in so doing, to compare commissioning practices across the NHS and identify areas where further improvement was possible both in her own, and other, PCTs. The Management Fellow developed a valuable and broader insight into NHS commissioning and its supporting functions and was thus able to reflect judiciously upon 'what might work' better in her organisation in particular and in the NHS more generally.

The Management Fellow was able to help recruit some 'pre-pilot' survey candidates from amongst her colleagues. She also shared, first hand, some of the activities carried out in her own department (Information Department) with the Research Fellow. This proved helpful in shedding light on some of the analyses and on information preparation, which is carried out on the ground in PCTs for commissioning decisions. Most particularly, this provided an insight into how PCTs analyse Health Related Groups (HRGs) and Payment by Results (PbR), how they prepare and use national performance indicators (such as the NHS Vital Signs), and other national and local analyses. Equally, it was often useful that the Fellow was able to offer translations of the many acronyms used in the NHS, together with some of the context and background to NHS processes. At the beginning of the study she provided a systematic overview of the reforms in the NHS since 1990 and how commissioning and clinical involvement had evolved since the original 'purchaser/provider split' for the research team. As the government's plans for reforms in the NHS commissioning structure were announced, she was also able to place these changes in context for the research team.

It became apparent in the course of the fieldwork, that health service managers almost all read health management and GP weekly journals, most particularly the 'Health Service Journal' and 'Pulse'. The Management Fellow was able to work closely with the Research Fellow to produce topical articles for this audience.

2. What has the Management Fellow learnt from this experience?

The Management Fellow describes her learning as manifold and entailing:

➢ Theoretical knowledge – theory underpinning the subject matter (especially knowledge management) and qualitative and quantitative methodologies used in the study.
➢ Practical skills – such as carrying out field studies for qualitative research, literature searches, use of NVivo software, survey techniques.
➢ Working styles – an appreciation of the benefits of discussion with colleagues, reading more widely and critically, sharing knowledge and opinion, and making time for reflection

- ➢ Learning from other commissioning organisations – many of the processes and interactions observed in the participating PCTs resonated closely with the Management Fellow's personal experience. However, in many cases, she experienced different approaches and world views which she was able to learn from. Most particularly, by studying commissioning activities, she was able to expand her understanding of the breadth of information and knowledge that commissioners' need and which information departments could provide and/or communicate more widely.

3. What knowledge mobilisation activities has the Management Fellow participated in during their time with the project team?

The Management Fellow has contributed substantially to, and at other times commented on, papers/posters presented at conferences and submitted for publication. She has presented to the SDO Conference and at the Dissemination Seminar. She has also led on key practitioner publications highlighting implications for competency development (*HSJ* and *PULSE)*.

In her place of work, she has shared her general observations and her specific learning with colleagues in her department at team meetings. Her experience and learning has had a strong influence in her involvement in planning the structure and future responsibilities of her department. Most particularly, the study has influenced her contribution to discussions about the design of the Commissioning Support Service now being developed by PCTs. Specifically, her observations of commissioning in practice in a variety of PCTs has given her a wider perspective on the function.

Importantly, through the activities highlighted above, the Fellow has also played a key role in mobilising the flow of knowledge from practice (i.e. from practical settings and experience) into the research itself.

4. What plans does the Management Fellow have in terms of how the newly acquired skills will be used going forward?

The Management Fellow has identified the technical skills and experience she has gained in interviewing, observations and identifying themes which she has developed and added them to her 'skills and experience profile' in her organisation.

The outcomes of the study in which she has participated provide clear messages for the area in which she is involved – namely in information management. In the PCT (in combination with its neighbour with which it is clustered), she is likely to find herself in the information department of a Commissioning Support Unit. Her commitment to developing the role of information analyst into one of information, knowledge and intelligence provider to support commissioning in a more continuous, flexible and amenable way, has grown out of the study itself. She will also be mindful of

ensuring she adds local data and knowledge to any case studies (demonstrated to be one of the major sources of evidence) to which commissioners look to in assimilating evidence. Her own practice is highly likely to change through her participation on the study. As a lead in her department, she will share her ambition for enhancing and improving the information manager role with her staff. Equally she will take her learning and experience to networks and professional groups in which she participates.

Her personal approach to her work will benefit from her improved skills in research and analysis. In taking this forward she will seek out experts and approach them for guidance. The Management Fellow has also been given status as Associate Fellow to the IKON Research Centre at Warwick, to which the project is attached for the next 2 years. This will help her to remain in close contact with the research team and with the Centre activities/information resources.

Additional feedback from the Management Fellow and her organisation (Director)

The Fellow has had detailed discussion with her Director at Coventry PCT and has also participated in the SDO's evaluation of the Management Fellowship Scheme (including presenting, with her Director, at the SDO Conference on the experience of the Scheme and suggested improvements). From this she would like to make the following observations regarding the Fellowship, in addition to those areas flagged by SDO.

There were advantages, both for the organisation and the Management Fellow to the secondment being *part-time* (2 days per week) – with the proviso that the organisation was able to back fill the secondee. The Management Fellow felt that, with this arrangement, she was able to 'keep her feet on the ground', keep up to date with the pace of change in the NHS and bring first hand, current experience to the study. Equally, she was able to share and/or 'test out' new ideas and implement good ideas quickly in her own organisation. The organisation also felt that backfilling the secondee offered a useful development opportunity to another member of staff.

The Management Fellow was fortunate in being well supported by her organisation - this despite a re-organisation which meant that she became managed by a second Director. The CEO of her organisation continued to be committed to the study, and we believe that the original ambitions for the secondment are likely to be realised, namely:

'…..(that the) information department's role should be expanded to become more 'outward looking' and serve to facilitate 'informed decision making'. Where the department is currently seen as a source of technical support at

discrete points in the commissioning cycle, it will be expanded to one of direct involvement in the commissioning process.' - Statement of support from NHS Coventry (Coventry Teaching PCT) for secondment of Claudia Roginski to the research team

Her Director has offered the following summary observations:

➢ Secondments offer benefits to the secondee. These include:
  o Exposure to research / academic disciplines
  o Chance to see and compare several NHS environments rapidly
  o Thinking space

➢ ….and it offers an opportunity to those who 'act up' (i.e. who take the role of backfilling for the secondee).

➢ But, part-time secondments raise challenges when
  o Line management changes
  o Wider organisational change occurs

➢ Opportunities and challenges in applying learning to own organisation
  o Early, informal vs. final, structured knowledge/information.
  o Easier to apply learning to own team than more widely in the organization
  o Can see locally improved approaches

➢ Would do it again

➢ Can SDO (and/or partners) help with
  o Managing part-time secondments through organisational change
  o Maximising early impact of learning in own organisation – and perhaps using us as a possible test-bed for improved approaches

So, to conclude - is there value added for the Fellow and the NHS organization? Perhaps the best way to answer this is to say that, despite initial reservations of not having a member of his staff for two days a week when he first took over, the Fellow's new Director was quick to state that he would be happy to repeat the exercise and to offer the opportunity to other members of the organisation.

Appendix 7 Analytical Toolkit for Evidence Utilization

In our full report, we argued that practitioners and policy groups need to significantly rethink evidence utilization in commissioning. In this section we provide analytical tools that may be helpful in allowing those involved in commissioning to rethink how they can better use evidence.

Mobilising a plurality of evidence: Key Considerations

Our results indicate that practising evidence-based commissioning most likely involves drawing upon a plurality of 'evidence'. Although one may not be able to pre-determine exactly how an object will become evidence in decision making, our research sheds light on promising ways to use different forms of evidence.

In thinking about using evidence, practitioners may benefit from considering different modes of utilization, as illustrated in the following figure.

Forms of 'Evidence'	'Uses' we observed
Public Health Intelligence	• Modelling service change impact and understanding commissioning need (including cost implications) • Inadequate without business plans
Examples of best practice	• Used as narratives to understand deliverability issues • Enabled commissioners to adapt national guidelines more effectively
Expert Feedback	• Proved very useful when designing a novel service • Mobilised through networks
Strategic Plan/National Framework	• Used for justifying investment in a new service • When taken at face value often caused important commissioning problems
Contracting models	• Used more effectively prior to the finalisation of services specifications
Activity and finance intelligence	• Used for understanding performance/design contract • Project failed due to inattention to this forms of evidence • Required relevant high-skilled experts
Clinical evidence and guidelines	• Essential for defining clinical care standards • Required relevant expertise • Needed to be combined with other information
Benchmarking data	• Used for identifying opportunities for improvements • Required local knowledge and analytical expertise in order to unpack 'high level' data for local implementability
Models of of care	• Used for conceptualising large-scale systemic redesign • Inadequate without combining other forms of evidence (e.g. local competences)
Local knowledge and competences	• Always deemed essential in order to create a locally feasible new service
User needs	• Enabled understanding of deliverability issues (e.g. access, communication to patients, etc.) • Often proved difficult to mobilise

In order to leverage any important source of information, however, future commissioners may need to exercise judgement and scrutinise this before deciding whether it is indeed 'evidence' that is fit for their purpose. For example, using examples of best practice may need to be done with care if these do not reflect local population needs. Below we offer our thoughts on how to make use of 'best practice' more fruitful.

Currently, 'best practice' is disseminated in a variety of ways, some of these are embedded in:

• NSFs, departmental policy and target setting

• Journals

• Conferences

• Reports from 'pathfinder' and 'pilot sites'

• Through regional meetings and networks

• Organisations such as the NHS Institute of Innovation and Improvement through their literature, conferences and websites

As we showed, examples of best practices are used extensively in commissioning. Commissioners need to be aware of possible challenges that may arise from relying on and trying to mimic 'best practice'. In our case studies some of these challenges were rooted in the following:

→ Differences between the environmental context of the site(s) of the case study and the commissioning organisation using it. The differences can be in the characteristics of the population served; the structure of local healthcare or social care organisations; the preparedness of the organisation or individuals for change; the presence or absence of influential local champions; and in the cultures of the organisations involved.

→ The amount of information available from 'best practice' cases varies: some do not include much financial or activity data, some include examples of contracts, job descriptions, project plans and other documentation which have been used.

→ Where best practice case studies result from national 'pathfinder' sites, they have sometimes benefited from additional funding and/or resources (e.g. expert advice from national leaders in the field, preferential rates from IT companies in a 'quid pro quo' for development of software and/or the availability of business analysts).

→ It is not clear whether best practice case study sites are re-visited to see whether new pathways have become embedded and continue to live up to early expectations.

Co-producing Commissioning Solutions: Key Considerations

In addition to a plurality of evidence, commissioners may need to consider planning processes of co-production more systematically. When thinking explicitly about co-production strategies, practitioners may benefit from addressing some of the questions proposed below:

> ➢ What is the purpose of co-production?
> ➢ What are the stakes of the people involved in a redesign project? Are there vested interests e.g. could a party shape service design in illegitimate ways? How important it is for us to leverage the expertise of other parties?
> ➢ How are we going to pro-actively manage conflicts of interest or divergent objectives of multiple parties?
> ➢ Are there disincentives for existing providers to change the service?
> ➢ What incentives can we create to strengthen our negotiating position? Do we need to build strong relationship with existing providers?
> ➢ Do we want to agree with existing providers on a set of nationally defined service specification? Or do we depend on other parties for their expertise in the context of designing a good service?
> ➢ Are we intending to go down the route of full procurement? If so, at which stage should parties be excluded from discussions about a service?

The following decision tree may also aid practitioners in their efforts to design co-production strategies.
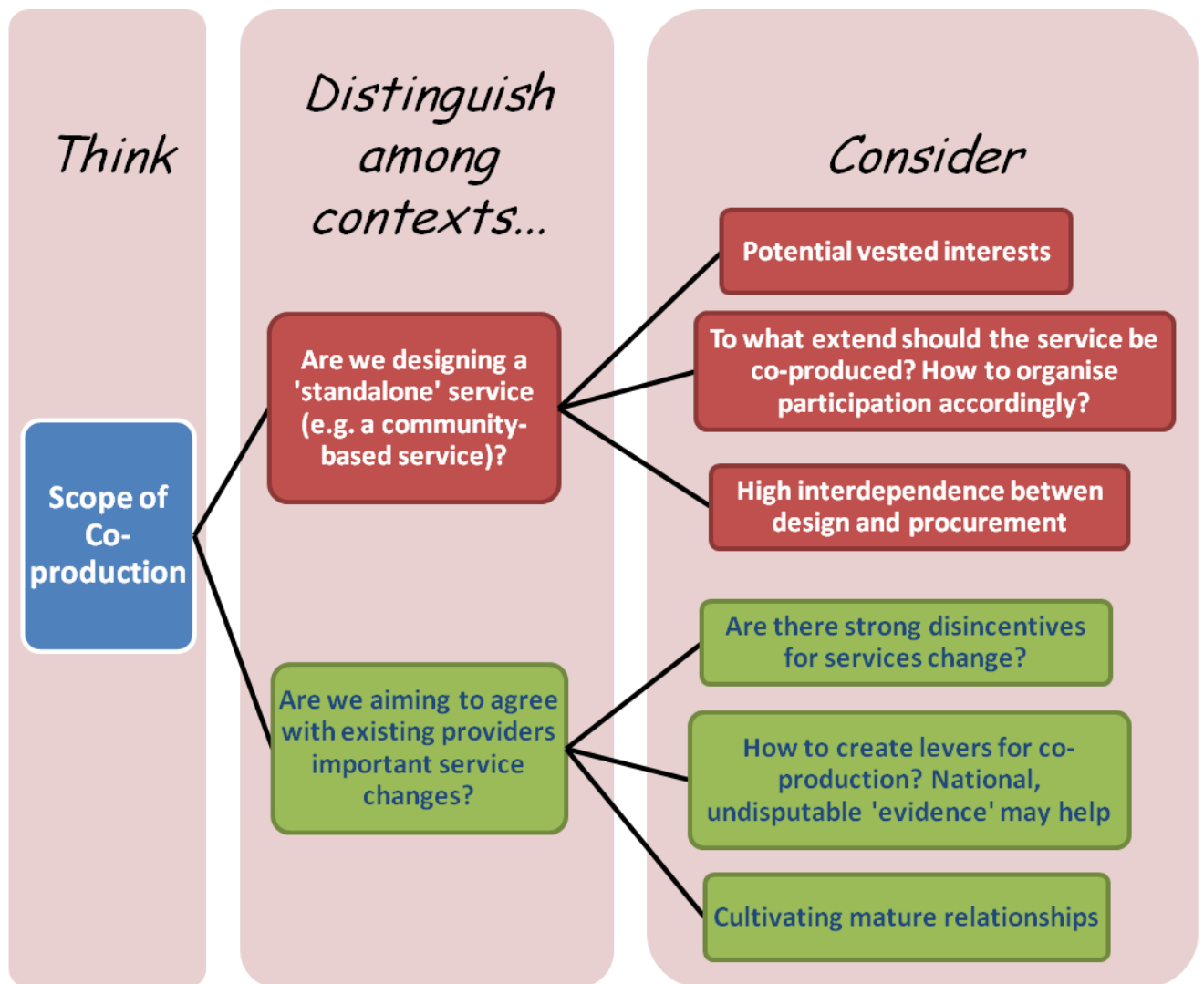
Figure. Managing Co-production depending on the context

Managing Interdependencies in Co-Production

Co-production of evidence inevitably entails collaboration. This means managing interdependencies between people and processes, tasks and purposes, and sources of information.

- ***Process Interdependence Management***

Furthermore, we suggest that designing evidence utilization interventions may need to account for key dimensions of interdependence management. Questions, such as the following, may help practitioners find a way to address important interdependencies:

- Do the people, involved in a redesign project, understand their roles and responsibilities? Is there shared understanding of who is doing what, when and why? Have roles and responsibilities been openly discussed and agreed? Who is in charge?
- Are there project management arrangements in place, e.g. project plan, timescales, resources, deliverables, outcomes? Are these suited to the project's scope and aims? Do we need to enforce strict project management in light of our objectives or not?
- Is there a well-understood formal decision making process in the organisations? Who should endorse decisions? On what issue?
- What kind of expertise/knowledge will be needed for the success of the project? Do we need information analysts, who can interpret complex activity intelligence? Do we need contracts managers? Have we consulted different experts about when we may need their input?
- Have we thought about how we can strengthen relationships within a project group? Have we put effort into building trust with each other?

- ***Task Interdependence Management***

- What are the key dimensions that would make a commissioning solution organisationally and more broadly acceptable? Can we prove that our day-to-day activities align with our objectives?
- Have we thought about how the different stages of commissioning interact, e.g. service redesign, procurement and contracting? Should we involve information, finance, and contracts experts from the start of service redesign? Do we need to make them core members of our project group?
- Have we collected *and* understood evidence of cost and clinical effectiveness of an intervention? What is a reasonable estimated time period for an intervention to produce certain measureable outcomes? Is it easy to evaluate?

Individual Funding Requests: Key Considerations

Finally, our research has important practical implications for designing individual decision making processes.

As we highlighted in our empirical findings chapter, the interface between IFR decision making and commissioning policies needs to be explicitly taken into consideration. Commissioners need to consider very carefully how commissioning policies will be developed and renewed in an ongoing fashion. As our practitioners highlighted, unless due consideration is given

to organisational and governance arrangements, IFR decisions can become very problematic and threaten organisational reputation.

In addition to considering the formal characteristics of IFR decision making, practitioners may benefit from reflecting systematically on the informal, yet consequential, processes of making sense of, and deliberating on, the funding merits of IFRs. The following table may help practitioners in this regard.

	Ideas – questions for improving the process
Categorising	*(Competencies)* Do we pay sufficient attention to the ways we categorise requests? Is there the right expertise to do so? Is there a mechanism to question the categorising of cases? Are we getting 'comfortable' with the ways we categorise IFR requests? *(Information and evidence)* Do we have sufficient information to define a case? Are the IFR forms adequate? Is further interaction with the requestor needed?
Establishing genuineness of request	*(Competencies)* Is there the right expertise for this aspect? Do we have the right local knowledge? Is there a mechanism to question the authenticity of a case? How much do we rely on previous experience to determine genuineness? *(Information and evidence)* Do we have sufficient information to define a case? Can we refine the IFR forms? Is further interaction with the requestor needed to e.g. provide opportunities for clarifications?
Assembling a narrative	*(Competencies)* Do we have enough knowledge to assemble a compelling narrative? Is the right expertise available to explore alternative interpretations? Do we fill a lot of the gaps of the stories unconsciously? Do we have a mechanism to question a case story? *(Information and evidence)* Do we have sufficient information to define a case? Would we like requestors to provide clarifications? How do we support requestors to make their submissions 'easier to follow'?
Constructing a public Justification of decision	*(Competencies)* Does our panel have the diverse expertise to review the merits of a case? Have we distinguished among multiple criteria for justifying our decisions? Is there a rigorous mechanism to scrutinise evidence for each criterion? Do we pay attention to the (lack of) requestor's skills to assemble and interpret evidence for their cases? Do we provide opportunities for requestors to understand the grounds of our decision? Do we allow 'external others' (non-panel members) to question the fairness of our decisions? Have we looked at national guidance methodically? *(Information and evidence)* Are our IFR rules robust enough? Have we involved all stakeholders in developing our IFR policy? Do have a formal mechanism to assemble **and** interpret evidence of clinical **and** cost effectiveness? Do we have a solid decision making framework that helps us generate a thoughtful and legitimate response to a request?

Appendix 8 Additional Case Studies

CASE STUDY 5: IMPROVING MANAGEMENT OF LONG-TERM CONDITIONS (LTC) THROUGH WHOLE SYSTEM REDESIGN

This case study is about how a commissioning organisation – a PCT – attempted to review, redesign and re-commission healthcare services in order to improve the management of long-term conditions in a particular geographical area and achieve substantial financial savings.

Table. Sources of Data

Interviews	8 interviews
Project participants/involved throughout the project	PCT: 4 service redesign managers, Director of Commissioning, Ass. Director of Commissioning, 2 Finance senior managers, 3 Senior Information Analysts, Public involvement
	External: 2 GPs, healthcare providers (hospital, community services provider, clinical networks, SHA, Commissioning Intelligence Service)
Meetings observed	10 project group meetings & minutes
Public documents	DH policies (numerous), Service specifications from other PCTs, press releases, and articles, NHS benchmarking, the Information Centre, DH PbR guides
Confidential documents	LTC strategy (4 different versions), business case for different components of the project, progress reports, plans, intelligence reports, spreadsheets, emails, minutes etc.

Background

When we negotiated access at PCT W, it was recommended to us by one of the associate directors that we observe an important 'strategic programme', the so-called 'Improving Long-term Conditions programme' (LTC programme). More specifically, the origins of the project can be traced back in January 2009. The 5-year strategic plan of the PCT in 2008 included 4 strategic goals, two of which were about 'more integrated care closer to home' and 'faster and more responsive services'. As the Programme Lead, Nick, explained to us, in spring 2009 "a case was built to redesign the programme... to (make it) more focused" (Nick). At around that period, and during the summer of 2009, the PCT was asked by the SHA to refresh its strategic plan (SP). All PCTs had to refresh their Strategic Plans in light of the new financial climate (there were speculations that the NHS would receive very limited increase in funding).

With the support of a private company (which most PCTs procured), the PCT had its SP refreshed by using a "better evidence base", a lot of data (some of which was out of date, according to Nick), needs assessment, World Class Commissioning (WCC) data pack, performance against targets, McKinsey Health Index, etc. The director of commissioning, Wendy (a pseudonym), also explained to us (while the SP refresh was being finalised in autumn 2009), that the PCT had 3 strategic issues, one of which was long-term conditions. She said:

"We need to translate those (strategic issues) for service redesign purposes; and translate the funding implications. We will formulate project teams who get input from a variety of groups and look for best practices and (examine) 'what would work in our area'. It is essentially new investment, which will eventually lead to a change in contract either with the acute providers or other providers."

Kathryn – assistant director in community services commissioning – added (a few months later):

"… there wasn't a long-term conditions strategy, let alone a pathway or a service specification… which was quite worrying considering (that) most other organizations did it (created an LTC strategy) five years ago. That was quite a concern. What traditionally happened in the past was they (PCT managers) looked at disease areas and hadn't thought if someone's got a long-term condition. (Yet, there are) elements that are kind of generic to everybody (referring to patients), no matter what their disease-specific condition is."

Furthermore, in a presentation prepared for the SHA, which would evaluate the quality of the SP, the PCT demonstrated confidence in that:

"We are taking a data driven approach in the strategy refresh. In the first stage we took an objective look at the data. Based upon the data we then did further analysis on the big issues that emerged, to determine a prioritised issue short list. The prioritisation tool identified a number of potential strategic issues... we then prioritised initiatives and selected a limited number of initiatives for further development... The Strategic Issues group into three Themes.... (The third issue is to) 'Improve long term condition management', (with priority strategic issues: respiratory disease, CHD, Stroke, Heart Failure, Diabetes, CVD)."

The following figure was extracted from the annex of the refreshed SP for the period 2010 – 2014 (!), which included information for all health improvement initiative plans:

Title: Long Term Conditions

Initiative summary – A balanced package of initiatives which seek to reduce the cost of Long Term Condition Management Services (Respiratory (COPD & Asthma), Diabetes and Cardio-Vascular Disease - CVD (Congestive Heart Failure (CHF), Coronary Heart Disease (CHD), Stroke), while maintaining or improving clinical quality, by reducing the number of unnecessary A&E visits, inpatient admissions and hospital based outpatient appointments

Rationale for inclusion	High-level cost planning assumptions	Potential cost saving as a result of success	Net 5 year position to
•Major cost and activity point within health economy •Benchmarked as relatively high local A&E, admission and OP activity levels for various conditions according to NHS comparators and QIPP •Opportunity to engender significant, systemic efficiency-based improvements as a result of design and delivery of a local LTC Strategy via the Improving Long Term Conditions Programme • Better compliance with National LTC framework, with an increased focus on supported self-management and innovative/effective approaches to care and case management • Deliver care closer to home	In-scope conditions – Respiratory (COPD & Asthma), Diabetes and Cardio-Vascular Disease - CVD (Congestive Heart Failure (CHF), Coronary Heart Disease (CHD), Stroke), Approach to rollout – many initiatives will be piloted in year 1 with full rollout in years 2+. The benefits realization profile will be lengthened accordingly but risk will be better managed The overall cost associated with procurement and delivery of in-scope initiatives is: **FY09/10**: 77k **FY10/11**: 625k **FY11/12**: 712k **FY12/13**: 828k **FY13/14**: 1,069k	Savings will be engendered chiefly as a result of: • 30% reduction in emergency admissions for LTC primary diagnosis; 25% reduction for secondary diagnosis • 40% reduction in hospital-based outpatient appointments – both 1st and follow-ups; reprovision of 20% outpatient appointments in the community • Increased efficiencies delivered via variations to our current core provider contracts The overall cost associated with procurement and delivery of in-scope initiatives is: **FY11/12**: 840k **FY12/13**: 1,966k **FY13/14**: 3,929k	Net savings from **April 2010** to **March 2014** **FY10/11**: -77k **FY10/11**: -625k **FY11/12**: 128k **FY12/13**: 1138 **FY13/14**: 2.860m **Overall cumulative net reduction is spend of £3.4m over 5 years**

Figure. The Strategic Plan Justification of the LTC Programme

The LTC programme was thus legitimated within the organisation and in the eyes of the PCT board as well as of the SHA, which had to approve of the SP. Most crucially, the programme had significant 'savings' provisions, which would be made possible due to investment in redesigning existing services related to the management of the long-term conditions in the area.

The rationale for the programme was 'black-boxed' for most organisational actors and its objectives didn't change substantially over time. Nick, the LTC programme lead, seemed to have a clear vision of how things would move on (in spring 2010):

"We drafted the LTC strategy, which included 10 things... we got a lot of feedback from the PPI (patient and public involvement) event... The high level model (extracted from the DH strategy[19])... we need to apply the circles. (We will) develop a generic LTC pathway specification, and then conditions specific (e.g. COPD) specifications... (that is, specifying) what the minimum to expect from the service is.... at the next phase, we will take the chart and the model and test it with our stakeholders at workshops... so that we get 'buy-in' from the community services provider, acute services provider, the third sector... we need their commitment and sign-off.... (So) you need the strategy first..."

---

[19] Department of Health (2010) *Improving the health and well-being of people with long term conditions: World class services for people with long term conditions – information tool for commissioners*, London: DH

In terms of the LTC programme plan, Kathryn (AD in community services commissioning) also explained in spring 2010 that:

"The strategy and the service specification and pathway is to be finished by the end of June for them to be commissioned and contracted. In terms of implementation, it's being implemented within this contract year. In terms of the different elements of it, they're built up over time. It's quite detailed to go through it all now, but we expect that it will take a number of years for people to be case managed before you actually have the impact of reduced emergency admissions or a reduced number of outpatient appointments".

In addition to drafting the LTC strategy, a lot of effort was put to improve and clarify the structure and organisation of the LTC programme, which evolved over a number of months. A complex structure evolved since the first LTC Programme Board meeting (in February 2010). The following figure is adapted from the final version of the structure. Such was the preoccupation to create robust project governance that programme members expressed at times frustration that "we've talked about it (project governance) to death!" (the terms of reference for the programme group were still being discussed 6 months after the group had been working). Interestingly, some groups were only formulated a few months after the programme kicked off (e.g. the Clinical group).
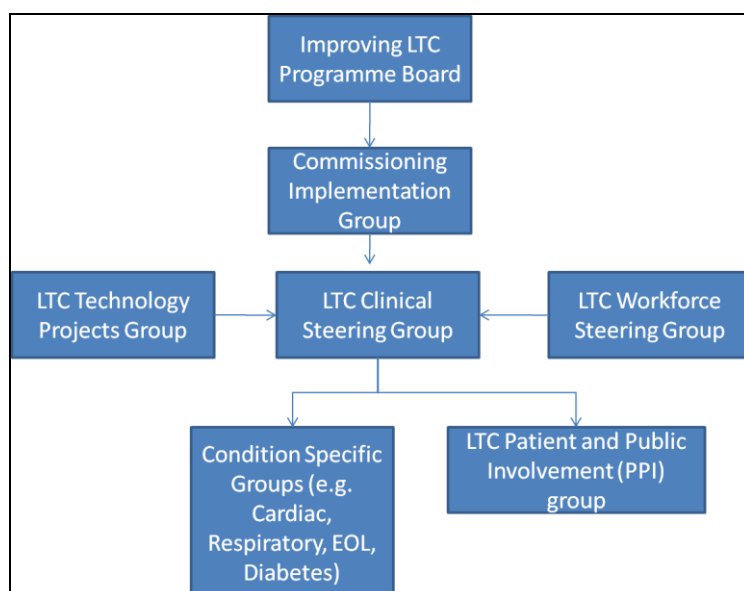
Figure. The LTC programme structure

Furthermore, as part of the strict programme management regime, a lot of project management objects were produced systematically at almost every meeting: timetables, strategies, plans, terms of reference, progress

reports, papers, risk registers, etc. The chair of the programme board (commissioning director) repeatedly requested that monitoring of project tasks be seen as a top priority. Newly developed project management software was put in place for everyone to use from the beginning of the programme. Throughout our observation period, programme members, and especially the programme manager, highlighted deviations from the original programme plan and targets at every meeting.

In addition to monitoring project progress quite vigilantly, the LTC programme members engaged in on-going communicative practices. With nominated members (director or associate director level) from all directorates in the PCT - Nursing and Quality, Primary Care, PH, Intelligence, Commissioning (Community and acute services), Service Improvement, Finance, 2 GPs, Patient and Public Involvement (PPI) – the LTC programme delivery elements were being discussed extensively at meetings. Meetings were the main medium through which nominated members and others pursued and oversaw the accomplishment of the programme. Programme board and commissioning group meetings tended to be short in duration (1-2 hours max) and agendas were long (usually at least 10 items). As an example, at one meeting the following items were discussed:

1. *Minutes of the last meeting*
2. *Matters arising*
3. *LTC Progress Report*
4. *LTC Strategy & Generic Pathway*
5. *COPD Pathways*
6. *COPD Business Case Update*
7. *Outline Investment Plan (attachment)*
8. *LTC Programme Action Plan (attachment)*
9. *High level CHD Pathway (attachment)*
10. *CQC Stroke Review Action Plan*
11. *LTC QIPP (for information only)*

An important object, which was used at every meeting to coordinate project actions, was the 'minutes'. Minutes represented *evidence*: of issues raised; of how work progressed; that agreement had been reached over solutions to problems and actions to be taken; for monitoring progress. At every meeting project members tested the accuracy of minutes and then dealt with matters arising from minutes. Communication at programme meetings was thus anchored to minutes as well as various other papers, spread sheets, reports, and risk registers that were circulated prior to meetings. During discussions at every meeting, different kinds of actions were announced and recorded in minutes:

1) *Actions that relate to fact finding*; e.g. "Kathryn to check that the community services provider's contract has been agreed", "Kathryn to

check whether the provider contract includes monitoring of patients on their caseload who have been admitted more than twice…"

2) *Actions that refer to informing others*; e.g. "Caroline to write to GPs and PBC consortia that a revised diabetes triage process is in place…"

3) *Actions that have to do with (changing) project roles*; e.g. "Caroline was now the programme manager, after the departure of Nick", "Wendy had no longer the capacity to be owner of risks…Caroline to amend…"

4) *Actions that relate to a new problem solving area* of project work that is now recognised as important for the overall programme; e.g. "other LTCs could be incorporated into the savings plan…", "Wendy asked the LTC working group to review further LTCs with a potential to generate savings…", "Three work streams have been agreed to ensure quality & cost effective practice/eliminate waste and deliver service improvements. These are: Activity analysis, Effective medicines management & Process Improvement" *(progress report)*. Sometimes, 'interim solutions' were proposed to move the project forward. For example, in a recent paper it was proposed to a change in COPD referrals "as an interim measure" so that COPD Specialist nurses can refer directly to Consultants.

5) *Actions* that emerge as important *due to limited understanding*; "Nandia (finance) highlighted the need to understand the source of referral for diabetes and respiratory… Emily to action…", "the ass. Director of acute commissioning to investigate with the hospital the reason for increased diabetes follow-up ratio".

6) *Actions* that relate to the *organisation of another meeting or task*: e.g. "It was agreed that a one-off meeting would be arranged between GPs, the director of Nursing… to analyse the data and decide how to move this dialogue forward".

7) *Actions that enhance the accomplishment of a task*; e.g. "The GP suggested that the LTC generic pathway needs some performance metrics… He agreed to provide some draft metrics…", "Wendy suggested that formal reports be produced on Pulmonary Rehab and Diabetes…"

8) *Actions to be taken by all project members*; e.g. "giving feedback to a draft strategy". Quite frequently, the programme manager mentioned that she had received no feedback...

At subsequent meetings, and on the basis of meeting minutes and progress reports, a lot of the time was spent to inform everyone about how items had been actioned and what had been achieved. E.g. the programme

manager informed that, "the provider organisation has confirmed that community matrons now receive risk stratification data on a monthly basis….", "the risk stratification tool has now been used at one GP practice...", "we held two workshops with providers and received very positive feedback", etc.

The communicative practices of identifying 'new actions', discussing progress against previous actions, authoring and recording actions and discussions in minutes were crucial for getting the programme work done. These findings highlight some distinctive discursive and practical aspects of commissioning: e.g. the significance of minutes as 'evidence' and as an object through which accountability is dispersed among actors; the experienced demand to assemble information at face to face meetings from various actors, who become involved in a network of programme implementation; the ways different forms of evidence became involved and aided decision making in this commissioning context. Below we focus more on, and explore further, the ways evidence was mobilised throughout this project.

EMERGING THEMES

Evidence in use

In the context of the LTC programme, different forms of evidence emerged as prosthetic devices, which served various socially recognisable purposes. Such purposes involved: *legitimating* the creation of the LTC programme; *testing* the deliverability of the high-level objectives of the programme; *designing* targets, which would enable the production of new evidence in implementation stages; *conceptualising* the LTC delivery programme in a strategy document, which was co-produced through the assembling of different forms of evidence and information. Below we present our analysis of the socially meaningful processes by which evidence became enmeshed in commissioning decisions.

Legitimating the Creation of the LTC programme

As it was explained earlier, the PCT attempted to perform 'data-driven' prioritisation for its strategic plan. A study from the regional Commissioning Intelligence Service (CIS, a pseudonym) was particularly influential, as Emily (senior information manager) explained to me. Wendy (director of commissioning) and Celia (director of finance) also repeatedly talked about the rationale behind the LTC programme targets by making references to the CIS study. The CIS had essentially showed that significant savings could

be made in relation to care provided for Ambulatory Care Sensitive Conditions (ACSC). ACSC are,

"... those conditions for which hospitalisation is thought to be avoidable if preventive care and early disease management are applied, usually in the community setting[1]. ACSC include Chronic Obstructive Pulmonary Disease (COPD), diabetes with complications, congestive heart failure, influenza and pneumonia, and asthma. It is argued that timely and effective care within the community can reduce the risks of hospitalisation.... Many of the patients who are admitted to hospital for ACSC are elderly. The National Service Framework for Older People (2001) highlighted the importance of 'fitting the services around people's needs' and promoting intermediary care services to avoid hospital admissions where appropriate. The government wants to encourage the development of primary care services to enable some of the patients being admitted to hospital to be treated locally.... Ambulatory Care Sensitive conditions cost the NHS £1.3bn in 2004/05. A 30% reduction in admissions could save the NHS over £400m[2]. For many of the ACSC, patients will have to be admitted to hospital on more than three occasions (known as High Impact Users) in a year. The NHS Institute for Innovation and Improvement publish quarterly indicators that show the ratio of actual emergency admissions to the expected level, given the age, sex and need of the population for all ACSC[3]." (CIS, ACSC Analysis Briefing for the PCTW Region)

(Footnotes included in the report)
1. *Billings J, Zeitel L, Lukomnik J, Carey T, Blank A, Newman L. Impact of socioeconomic status on hospital use in New York City. Health Affairs 1993;12:162–73.*

2. *http://www.dh.gov.uk/en/Publicationsandstatistics/Pressreleases/DH_4131823*

3. *The NHS Institute indicators can be found at: http://www.productivity.nhs.uk/default.aspx*

The CIS study was based on Secondary Uses Services (SUS) data and the Payment by Results (PbR) tariffs to value data. Effectively, in order for the CIS to be able to undertake the kind of analysis and to produce the kind of evidence used to justify the LTC programme, an enormous NHS data warehouse on healthcare activity, statistics and finance was needed. The study was heavily reliant on evidence produced through the Payment by Result (PbR) system[20].

On the basis of that infrastructure, the CIS produced evidence of 'efficiency opportunity' for the PCT. This was then translated into an opportunity to improve the management of LTC in the PCT's geographical area. The study was also reliant on the methodology and indicators developed by the NHS

---

[20] PbR is one of the largest infrastructures that underpin commissioning in the English NHS. It constitutes an incredibly complex and evolving system of codifying (for diverse purposes) and costing activities of provision of acute (and gradually community and mental health) care.

Institute for Innovation – the so-called 'Better care better value' (BCBV) indicators. The BCBV indicators showed that the PCT was not very high in the national PCT rank and that both 'volume opportunity' and 'financial opportunity' existed. Hence, it was primarily **benchmarking evidence** that afforded the PCT to develop a rationale for setting up a LTC programme, which promised the realisation of substantial financial savings over a period of three years, as Kathryn explained to me at the beginning of the programme:

"(We were also) looking at population figures and looking at the disease prevalence, the undiagnosed disease prevalence and all those other elements of it. In terms of the strategy it doesn't go into details in terms of the numbers, but it was important to look at those as well... Emily has a lot of figures around long-term conditions. We've had to develop quite a comprehensive sustainability program around long-term conditions, so we've had to look up a lot of detailed information about admissions into the acute setting, primary diagnosis of long-term conditions, and secondary diagnosis of long-term conditions to work out if people were better prevented in the community (and in order to ask): 'what percentage could we reduce those numbers by?' Looking at the national QIPP data, the quality improvement stuff, and other national guidance, really, so that we can have a plan in the next four years, in terms of how that should reduce the numbers of outpatient appointments, the numbers of A&Es attendances, that sort of stuff..."

The PCT strategic plan, which legitimated the creation of the LTC programme, embedded arguments based on objective benchmarking evidence. The reported arguments were skilfully made coherent through arraying information in a particular way and harmoniously articulating reasons with material evidence: the evidence-based observation of "benchmarked as relatively high" supported the argument that there was "opportunity to engender significant, systemic efficiency based savings… " In the 'rationale for inclusion' (see figure), we thus witness the transformation of benchmarking data into an object of evidence that grants the investment decision 'objectivity' and transparency, justifiability and legitimacy in the eyes of multiple audiences.

Effectively, the PCT sought to demonstrably adhere to the principle of efficient purchasing. The materiality of benchmarking information, i.e. the treatment of different PCTs (against which PCT W was compared) as equivalent units, guaranteed a specific set of affordances: to calculate and measure relative efficiency and comparative performance. Through the intermediary of benchmarking evidence, a generally valid and intelligent judgement about efficiency became possible (e.g. investing in an LTC programme).

Testing the deliverability of high-level objectives: scrutinizing benchmarking evidence and working out practicalities

Interestingly, whilst benchmarking evidence was 'good enough' to enable the prioritisation process for strategy making purposes, LTC programme members encountered roadblocks when they attempted to interpret it further. This further interpretation was needed in order to concretise the so-called 'strategic opportunities' and transform those into specific service redesign implications. Emily (senior information manager) explained to me some of the challenges she faced when she attempted to understand better the (benchmarking) evidence base behind the LTC programme.

"The main challenge is counting things vs. (finding out) what we want to know. The issue is with unavoidable admissions. The study from the CIS, based on Better Care Better Value (BCBV) indicators, showed that we could achieve savings of up to 30%... We have been bombarded by the SHA to make these savings… the whole point is to pick up cases that community matrons can manage in the community. We got to understand how the CIS got these figures. We will do the monitoring! The PbR is very complex. We are not sure whether the dominant episode is the first episode of care. Do we look at admissions or the dominant episode of care[21]?"

It appears that the PCT was under pressure to convert efficiency opportunities into absolute plans that promised savings at the expense of investing time and effort to determine the practical relevance and realism of such opportunities. Interestingly, this approach contrasts with the guidance provided by the NHS Institute regarding the use of BCBV indicators:

"Better Care Better Value indicators identify potential areas for improvement in efficiency, which may include commissioners re-designing, and shifting services away from the traditional setting of the hospital and out towards community based care.

*The tool should prompt you to start thinking of "how" and "why" your organisation might differ from others and to support commissioning priorities for health communities. The opportunity is indicative only and local health communities should **interpret** it taking into account local knowledge." (NHS Institute, www.productivity.nhs.uk, emphasis original)*

---

[21] For example, we have a spell of 2 weeks. We have procedures for each 'Finished Consultant Episode' (FCE), primary diagnosis. The HRG grouper will pick up the 'most dominant' FCE to give the two-week spell a price. Normally, the most expensive. The cost of the non-dominant is zero. Also, the PCT gets data only when an episode finishes. So when people say 'admission', it is not really admissions, it is the principal diagnosis only of the most dominant episode of a spell. The issue is that people in hospital, with many episodes, might not have been diagnosed with LTC when they were actually admitted. Another aspect of the problem is that the hospital system is not clinical system. Emily explained that proper analysis takes time, yet it is crucial in order to understand what they can realistically achieve (in terms of savings).

In contrast to national guidance, the PCT information experts became involved at later stages, i.e. after the LTC programme had been approved. They gradually untangled the components of high level benchmarking evidence and showed that the LTC programme targets were not as feasible as originally thought. This prompted the programme chair, Wendy, to request further research ('action') in order to identify further efficiency opportunities.

"I think it is unrealistic to achieve these savings… achieving 58% reduction in admissions (Nandia, the finance lead had adjusted upwards the amount of financial savings needed). One of the discussions that needs to be had is… obviously a lot of the work has been 'generic'… what other LTCs haven't we picked up?

(Kathryn replies) we have been given a saving target for LTCs…

(Wendy adds): We need to understand whether the target was for specific conditions… which other clinical conditions (could be viewed as LTCs)? There is a piece of analytical work (to be done) to identify other LTCs…

(Bob, the GP, reminds everyone again): Somebody has to do something differently (implying clinicians). Are you looking at a change of care or number?"

Effectively, the originally regarded robust benchmarking evidence was re-appraised and this process often created tensions. Wendy was very concerned (as the main programme sponsor), since the LTC programme could produce disappointing results. A lot of attention thus shifted towards searching and scrutinizing further activity and finance evidence and 'unpacking the code' in order to determine how realistic a target was. Numerous times at project meetings, coding challenges emerged and heated discussions took place regarding the codified information about LTC-related healthcare; and other data, for example, from the Quality and Outcomes Framework (QOF), which provided more detailed information about e.g. the prevalence of COPD at GP practice level and the number of COPD patients registered with a particular practice.

What we witnessed then was an on-going concern to turn high-level objectives ('achieve efficiency-based savings'), into practical realistic expectations ('realising the savings'). It appears that, as PCT members focused on implementing the programme, some of the initial evidence became obsolete by virtue of new more reliable local evidence being presented at the various meetings. In essence, this insight suggests that high-level information or 'universalistic' evidence had to be re-examined and localised in light of specific circumstances and commissioning settings.

Designing targets for future evidence production and collection

Furthermore, information and intelligence on hospital activity (and, at times, finance) was sought in order to define the core 'LTC metrics' that would enable the LTC programme board to monitor progress against target levels; e.g. emergency admissions, outpatient attendances, COPD, Diabetes, Angina primary diagnosis etc. The following table is an excerpt from the draft generic LTC metrics.

Defined Metric		Activity								Finance		
		Baseline 2009/2010	Target 2010/11	Target to Date	Actual to Date	% Variance	RAG	Frequency of Reporting	Timing of Report	Baseline 2009/2010	Target 2010/11	Target to Date
Emergency Admissions	Due to a Long Term Condition - Primary Diagnosis	1,809	1,809	451	410	-9	GREEN	Monthly	1 month arrears			
First Outpatient Attendances	Diabetes and Respiratory - Referred by a GP	362	362	87	95	9	RED	Monthly	1 month arrears			
	Diabetes and Respiratory - Other than GP or Consultant to consultant	474	474	114	147	29	RED	Monthly	1 month arrears			
Follow Up Outpatient Attendances	Diabetes and Respiratory - Referred by a GP	452	452	109	126	16	RED	Monthly	1 month arrears			
	Diabetes and Respiratory - Other than GP or Consultant to consultant	832	832	201	268	34	RED	Monthly	1 month arrears			

As illustrated in the above table, metrics afforded commissioners to monitor progress against baseline targets. The establishment of such LTC metrics also provided opportunities for debates. An interesting debate between Tom (finance manager) and Bob (GP) at a meeting last July provides a glimpse into some of the challenges encountered:

(Tom) "there have been problems with some indicators… for example, the 're-admissions 3 times every three months' was considered clinically inappropriate…"

(Bob) … Data (sometimes) provide a 'spurious reality'.

(Tom) But we need to be clear what we are measuring… we need to be able to check whether activity in the community has increased. Has it (new service) been successful? We need to try and measure success… It is difficult to identify a target, but when we invest we need to see outcomes… we may not be able to say what caused a reduction in emergency admissions, but…

(Bob) That's a research trial… but will it reflect life?… I know we are in the business of spending money… but the PCT has consistently invested in things (and developed) unrealistic targets… are targets better than chaos?

(Karen, service improvement manager)… the new GP triage service should in theory reduce the number of referrals...

The programme members were concerned to design a 'measure of success', which would essentially produce a new kind of evidence of more or less successful investment in new or redesigned services. Bob, more concerned with the way care is actually delivered on the ground, expressed disbelief that evidence alone could drive and deliver change.

In conclusion, the LTC programme was founded on high level benchmarking evidence. Yet, it was deemed essential by programme members that they scrutinise that evidence, understand it, and synthesise it with other kinds of evidence (e.g. QOF outcomes). As mentioned earlier, that kind of highly skill analytical work was made possible due to the existence of the incredibly complex and large infrastructure – mainly (but not limited to it) the Payment by Results system – which LTC programme members continuously attempted to take advantage of for their objectives, i.e. to redesign services that would yield substantial financial savings. Quite frequently though, the codified activity and finance information was questioned in terms of its merits to represent 'reality' and to support programme members in their pursuit of effective and practicable commissioning solutions.

Developing the LTC strategy and pathway

In addition to working out the practicalities of the programme and designing metrics, the LTC programme members used evidence to develop their generic strategy. Kathryn explained that for the development of strategy they utilised a number of other sources:

"There are national service frameworks around long-term conditions. There's also out there loads of other people's strategies from other PCTs. I don't believe in reinventing the wheel if you don't need to, so there is obviously data collection around all of the other elements that are out there and then developed some specifically for our area…"

For the development of the strategy, Nick (when he was still in post) also recollected how he went about writing up the strategy:

"We looked at other PCT... Had they authored a LTC strategy? We also used Google and also looked at other LTC models, for example, the Kaiser Permanente model, [and models from] Australia.... The NHS LTC, the DH website..."

The strategy included a lot of high level information about LTC and drew upon DH models as well as international perspectives on the management of LTCs. The strategy evolved gradually as a lot of feedback was sought by a number of stakeholders, mainly the healthcare providers and a relevant patient group. In terms of the feedback from users of the service, a 'PPI (Patient and Public Involvement) event' (held in March 2010) elicited the views of some 100 people (mostly elderly). The event organisers attempted to gather feedback under the 10 themes of the strategy:

1. *Innovative Health Promotion*
2. *Proactive Identification*
3. *Prompt & Accurate Diagnosis*
4. *Holistic Assessment*
5. *Personalised Care Planning*
6. *Importance of Self Care*
7. *Focus on Community Care*
8. *A support System which is easy to understand and navigate*
9. *Support for Family and Carers*
10. *Positive and appropriate usage of information*

The feedback, which was developed through discussions among 10 groups, took a particular form. For example, for 'importance of self-care', Caroline summarised the views of the people:

"*[There is] limited condition-specific information, the information from GPs is patchy, lack of understanding [of self-care] and training by health professional… What could make a difference? Joined-up services, more information after diagnosis and better access to public transport… disease start-up packs… central one-stop shop information about self-care… volunteers…. Raising awareness of expert-patient programme, etc.*"

Caroline embedded the feedback in the strategy document, under a separate column with the heading: 'what people would like to see' and 'current patient experience'. It was notable that the feedback from the patients was never discussed at meetings. A similar kind of approach was adopted to elicit feedback from various providers (the acute hospital trust, the community services provider, etc.)[22].

---

[22] Feedback was also provided by the PEC. The PEC chair was concerned that the strategy: "… is horribly aspirational!... the strategy is sensible, but too broad…" The CEO replied that they were in a state of flux after the White paper and that they should focus on the 'what' of the strategy, rather than the 'how', which was going to change dramatically over the forthcoming months and years…

On the whole, the strategy document was deemed important because it described the overarching *model of care.* Like in the diabetes project, the LTC model of care provided an abstract representation of how services are and should be delivered and at different levels or, to use participants' language, across a "whole system". For unclear reasons, this exercise consumed a lot of effort – despite the fact that no-one referred to the strategy while talking about specific mini-projects (often mini LTC-related projects had already been defined and were being implemented prior to the development of the overarching strategy).

Below we provide a summary of our findings regarding evidence use in this project.

What evidence was used?	*How was evidence engaged?*	*How was evidence mobilised? When?*
Benchmarking Data	In order to identify efficiency opportunities and justify investment in the LCT programme	Through Commissioning intelligence reports, BCBV indicator reports; deputy directors assembled main suggestions from various reports
Benchmarking Data (2)	Scrutinized further in order to determine feasibility of savings targets and in light of commissioning arrangements	Information analysts scrutinised high level targets by 'digging deeper' and synthesising different types of more fine-grained data
Metrics	Commissioners attempted to establish how new services could be monitored in the future and, more generally, how new evidence could be created in such way so as to measure the success of the investment in the programme	Discussions at meetings about creating 'sensible' targets, analysing data and contractual specifications
High-level strategies and national documents	Using and modifying 'wording', for 'conceptualisation purposes'	Searching on the web, the DH website, etc.
Structured Feedback from patients and providers	Feedback was codified and embedded in the final strategy document.	Through PPI workshop

Interdependencies and emerging boundaries

Whilst bringing relevant evidence to the table was undoubtedly an integral part of project work, programme members also recognised some important interdependencies with other *streams of work* within and beyond their organisation; for example, across the PCT strategy board, the contract monitoring work, the clinical quality monitoring work, prescribing, etc. Sometimes, the *timescales* of one project were interdependent with that of another (e.g. the Health strategy board deadlines created a deadline for the LTC programme). In a recent progress report it was mentioned that:

"LTC Service Specifications to enable zero based costing to support Transforming Community Services (another programme) are in development and a timeline for completion has been suggested to the community services provider."

As another example, Wendy (commissioning director) argued at a programme board meeting (referring to changes that need to happen):

"There is a need to embed (changes) in the contract. That is critical. They (acute care hospital) say at senior level: 'Unless we are contractually obliged, we cannot change clinical practice'. Only with (contractual) levers (can we change clinical practice)."

Furthermore, progress in other work streams created constraints with regard to progress in the LTC programme. For example, the Business-Case panel had to approve the business cases that were submitted by the LTC programme; this constraint delayed the accomplishment of LTC programme tasks and created tensions occasionally. At one meeting, for instance, Hanna (service improvement manager) complained that the panel was unnecessarily asking for more business case related information.

There were also time pressures, which emerged as a consequence of the interface with other commissioning routines. For example, when considering the new COPD pathway and the provision for procuring a new community team, Tom (finance) reminded Wendy (director of commissioning), that "it has to be included in our 'commissioning intentions'..." *[Note: Commissioning intentions need to be shared with providers at least 6 months before contracts for the following year are signed; providers need to be notified in September for any changes the commissioners need to make in contractual arrangements in April].* Wendy, in her reply to Tom, suggested that they didn't need to include changes in commissioning intentions: "Commissioning intentions are primarily about major service changes..." (implying that the changes intended for the COPD service are not major changes).

Another important on-going concern expressed by programme members related to the place and time of ratification/approval of decisions. There were governance interdependencies, which had to be addressed. Some decisions couldn't just be made at LTC programme level, since they affected the entire organisation. For example, the PCT Health Strategy Board (responsible for all strategic programmes) had to approve of the performance metrics for the LTC programme, while the Professional Executive Committee (PEC) needed to 'sign off' the model of care and the LTC strategy; it was also repeatedly reminded by Wendy and Nandia (finance lead) that the Business-case committee had to sign-off all business cases, which should include enough data re: activity and finance. The concern for establishing which group had the authority to approve and ratify decisions appeared to be one of the main reasons for repeatedly modifying the programme governance.

Linkages with inter-organisational work streams

Furthermore, linkages were often made with work streams that transcended the organisation; e.g. the PCT had to engage with the CQC audit on stroke, the DH work stream on LTC, the work of clinical networks. For instance, at one meeting the director of the cardiovascular network of the region was invited to make a presentation on 'how the Cardiac network can support the LTC programme'. Updates on e.g. the Network's work was useful for commissioners because they could explore implications of changes to the services for LTC e.g. how to get better value for money for cardiac rehabilitation services. For Wendy, feedback from the network helped her "understand where we are (with cardiac rehabilitation services) is appropriate... the issue for us is putting beds into a system unnecessarily". Also the PCT had to work with the Strategic Health Authority (SHA) on some areas, e.g. with the SHA 'tele-healthcare project manager' in order to identify options for developing tele-healthcare in the area.

Finally, and as implicitly suggested by our previous analysis, attending to certain kinds of interdependencies often involved undermining other important interdependencies. For example, while the director of commissioning, who chaired the LTC programme, was very focused on establishing a clear programme structure, recruitment and staff retention received less attention. Hence, significant staff changes took place. The programme lead left unexpectedly in late spring 2010, the contract of another service redesign manager was coming to an end and no timely replacement had been found. Another service redesign manager was on 'term-only' contract and wasn't working during the summer. Even the subsequent replacement of the project lead resigned three months later. Another aspect of problematic interdependence management (presented in the previous section), pertained to the almost exclusive attention to

legitimating the LTC project at the very beginning with high-level benchmarking evidence; at the expense of scrutinizing the evidence adequately and early enough so as to develop more realistic savings targets. Although the PCT executive team were not solely responsible for the creation of less realistic targets (after all they were under pressure by the SHA to find savings), higher awareness of the tensions between different kinds of interdependence (focus on legitimating vs. focus on being 'realistic') might have made their work easier.

	Source of Interdependence	Response to interdependence	Consequences
Acknowledged interdependencies	_Project work related_: **Project Governance** (reporting arrangements); **Organisational governance** (reporting and ratification arrangements); _expertise_ (assembling and integrating dispersed expertise from both within the PCT)	Strict project management, clarity of roles and responsibilities	Project progress (deliverables, achieving milestones etc.)
	Commissioning related: effective commissioning should address key **strategic priorities** (achieve efficiency savings); _interdependencies across services_ (e.g. cardiovascular)	Proactive management: embedding evidence, taking	Involving stakeholders
Unacknow- ledged interdependencies (boundaries)	_Project work related_: **relational** (good relationships among staff)	Reactive managements: overemphasis on strict project management was not accompanied by attention to human resource needs	Delays due to vacancies
	Commissioning related: **Inattention to** local deliverability (understanding financial impacts of new service)	Reactive management: trying to find more LTC conditions to achieve unrealistic saving, scrutinizing benchmarking evidence and working out practicalities	Delays, diverted attention

Co-production of Commissioning Solutions

To a great extent, the LTC project benefited from the engagement and involvement of a large number of stakeholders and actors of the healthcare system. Programme members considered that the success of the LTC programme would depend upon the cultivation of relationships and earning the cooperation of primary care clinicians (GPs). The group felt that GPs needed to buy into the redesign decisions regarding, for example, the new diabetes pathway. Harry (Deputy Director) presented a paper at the board meeting and argued:

"We can't achieve financial savings without engagement with primary care. There has been a discussion with other boards... there has been a proposal for the development and implementation of clinical guidelines for the management of LTC within primary care... with the support of the new Associate Medical Director, Simon (a GP)... Basically it is a different approach with the support of Simon."

His paper, which was presented 6 months after the LTC programme kicked off, also stated:

*"The first stage in developing clinical guidelines for improved management of LTCs within primary care is to establish best practice guidelines. It is likely that a number of "off the shelf" best practice clinical guidelines for primary care management of LTCs either already exist (e.g. NICE guidelines), or may be rapidly developed. Nonetheless, the creation of an "owned" clinical guideline within primary care (including referral criteria onwards from primary care) will be dependent on **local input** and **agreement**." (emphasis original)*

More and more frequently and during their meeting discussion, programme members recognised and acted upon the need to engage with GPs. After all, the redesign decisions they were taking would ultimately have an impact on clinical practice. For example, in two areas – COPD and Diabetes management – the programme group had recommended important changes in the way GPs refer patients to consultants; for diabetes, the GPs would, according to the proposals, have to refer to the regional GP with special interest in diabetes, rather than to consultant Diabetologists directly at the hospital. In addition, Bob, GP member of the group, repeatedly reminded the LTC programme members of the important dimension of informing GPs about imminent changes in patient pathways. For example, at a meeting, Bob referred to the strategy and wondered:

"You need to put milestones in your strategy. (One of the milestones should be about) when Bob and Simon (GPs) will start behaving differently as a result of the strategy. We need to drive clinical change....

(The PCT CEO agrees and adds) *It is important to figure out how to change practice in GPs. What do we do with Practice –Based Commissioners? Do we empower them in a standard way?... Who owns the (LTC) pathway? The driver for changes is GPs... there has to be clear ownership of the pathway (by them).*

(Bob continues raising his concerns) Let's take specialist nurses.... I (as a GP) don't know my rights of access to nurses... that's the disconnect (I am talking about)"

In addition to repeated reminders by Bob that solutions needed to be co-produced, project members also felt that the strategy had to be agreed with all relevant stakeholders, and, most importantly, with healthcare providers. Two workshops were held to "consult with partner organisations on the context of the (LTC) strategy, the generic pathway and service delivery model", according to Caroline, who updated the group at a meeting. Feedback was sought in relation to (a) different phases of care (prevention, identification, diagnosis, etc.), (b) the provision of current services (e.g. at identification stages, representatives from providers suggested the existence of: Voluntary Sector Organisations (e.g. Stroke Association), Access to condition specific information via Specialist Nurses, Information Hub at the major acute hospital, Patient Choices Website, NHS Direct, etc.), and (c) recommendations (e.g. Establish a range of structured education, information and support, Expert Patient's Programme, DAPHNE, DESMOND, etc.). The feedback was captured and incorporated in the strategy. A similar 'engagement process' was followed in order to elicit feedback from patients and the public at a full-day workshop (see earlier).

In conclusion, delivering the LTC programme involved collaborations among a large number of stakeholders. Commissioners showed through their actions and performances awareness of the need to work with and take seriously into account the views and insights of multiple parties and develop a mature relationship with all providers in order to realise its challenging project objectives.

CASE STUDY 6: ATTEMPTING TO COMMISSION THE NATIONALLY SPECIFIED HEALTHY CHILD PROGRAMME (HCP)

The Healthy Child Programme (HCP) as a national policy has existed for a few years. It has been part of the National Service Framework (NSF) for Children and Young People. In October 2009, an update of the policy was published. According to DH, the HCP "consists of a schedule of reviews, immunisations, health promotion, parenting support and screening tests that promote and protect the health and wellbeing of children from pregnancy through to adulthood" (DH, HCP publication, 2009, p.7). The DH publication provides detailed information about "the core universal programme to be commissioned and provided for all families, and additional preventive elements that the evidence suggests may improve outcomes for children with medium- and high-risk factors" (p. 31). This case study highlights that when evidence-based recommendations of e.g. a DH policy encounter the realm of commissioning practice, much more unacknowledged work needs to be carried out on the ground.

Table 41. Sources of Data

Interviews	6 with all PCT staff responsible for the project
Project participants/involved throughout the project	PCT: PH Consultant, Joint commissioner, service redesign manager, Ass. Director of Commissioning LA rep, Maternity services rep, Community services manager
Meetings observed	project group meetings
Email communications	*43 email exchanges* among people involved directly/indirectly in the HCP project
Public documents	DH policies, Service specifications from other PCTs, press releases, and articles.
Confidential documents	Service specifications (3 different versions), business case from a provider organisation, guidance, spreadsheets including data about smoking in pregnancy, etc.

Background

The case study focuses on PCTZ's efforts to commission the HCP. It does not examine provider organisations' perspectives/views, although it does explore some interactions of providers with the PCT, throughout the endeavours of the latter to put evidence into commissioning practice. When we started our observation, we initially sought to elicit how the PCT members involved in the project understood the objectives of the national HCP policy, which the project was based upon. We found it striking that, significantly divergent understandings over what the HCP was all about existed. According to the PCT Assistant Director (AD) in commissioning for community services, Kathryn (a pseudonym), with an NHS management trainee background:

"The healthy child programme is out there, so we need to adapt that and work out how that's going to work for our geographical area. That (programme) is one that's relatively easy to define, but maybe not so much to implement.... Probably about two years ago, nationally, a document came out around the new healthy child program for antenatal to five years. That was on the back of a number of issues, I think, with health visiting. I don't need to go into detail, but there's been a lack of recruitment, resistance to change, and a skill mix, all those sort of things, and, also a number of safeguarding issues that have been raised nationally, like Baby P. It (the document) provided a framework for the services to be commissioned from a universal perspective and targeting perspective and it stated what every child should receive as part of that."

In the eyes of the PH consultant, Jeff (a pseudonym) – public health lead for the programme – the HCP was part of a larger set of initiatives.

"So the overarching structure for commissioning children's services in (our area) is that we have a joint commissioning board, children's joint strategic board. So I sit on that group as the representative of the Director of Public Health. But also because I chair one of the sub-groups of the committee which is a focus on 'Be Healthy'… So it's through that work that I came into contact with the, what was called formerly the Child Health Promotion programme and is now, the Healthy Child programme… I think, I think in its [HCP's] history, you know, it's underpinned by sort of expert knowledge theory. It's underpinned by a document called the Health, I think it's called 'Health for All Children'. It was put together by two eminent paediatricians, David Hall and David Ellerman, who said: "look, if we're going to promote health and well-being in children these are the things we need, these are the component elements of such a programme…"

The joint (LA and PCT) commissioner, Sarah (with a clinical background), was more attuned to the PH consultant's view of the HCP (than to the AD's perspective):

"[The HCP is] a progression of tailoring our local responses to regional if appropriate, but in this case national policy drivers... in the HCP 0-5 there is much more emphasis than there has been in historical documents of a similar type to the emerging evidence. And so the evidence for the impact of early years, early intervention and prevention work, being even more significant than we heretofore realised in the pre-school years… it (the HCP) is building layer on layer, appreciating that since the publication of the NSF (national service framework) in 2004, you know, we've since had 'Every Child Matters', we've since had the 'National Child Health Strategy'... And there is coherence now I feel from the centre that hasn't always been there."

For Kathryn, AD in commissioning, the HCP refers to the health visiting services, while Jeff, and joint commissioner, Sarah (a pseudonym), embraced a broader (public health centred) understanding of the programme. Amidst these apparent divergent perspectives, we also observed that Kathryn's definition dominated at an organisational level. Sponsoring the HCP (after the 2009 DH update on the HCP) was legitimated formally on the grounds that the HCP fell into the 'transforming community services' (TCS) strategic programme of the PCT. That programme:

"… from a commissioning perspective has revealed concerns in relation to the robustness of some key services in primary care, such as district nursing and health visiting. Rather than taking an immediate decision to tender some core services, our first action will be in respect of ensuring clear specifications for services are embedded within our [community provider] contract. We will then systematically monitor and performance-manage as necessary, prior to any future decision about using the market to address areas of shortfall." (PCT Strategic Plan, 2010)

Notably, the HCP, nationally defined as a public health programme, was considered at an organisational level a 'community services' project, for which Kathryn, as the Assistant Director in community services commissioning, was the programme lead; and the success of which would be determined on the basis of primarily financial savings, rather than substantial public health improvements (although such improvements were also envisioned). The 'official priority', i.e. the driver of the project as objectified in formal strategic documents, was thus to deliver the HCP with economic objectives in mind.

The HCP commissioning delivery kicked off with a workshop, which apparently focused on bringing together a number of stakeholders from community midwifery, children's centre and health visiting services as well as LA and PCT. After the workshop, a number of people also used to meet frequently at project meetings. We attended 3 of these monthly meetings (two other meetings we were hoping to attend were cancelled because they were scheduled for Mondays and clashed with bank holidays in April - Easter Monday - and May...). Also, while the nominated 'HCP group' was populated by approximately 10 people (according to the email list), attendance at the meetings was poor (usually 4-5 people). Importantly, the 'HCP group' involved no finance or information analyst staff from the PCT.

Initial discussions at these project meetings entailed more contemplating about what needs to be done to deliver the HCP 'on the ground' – for example, thinking what needs to change at the community provider organisation (re: health visiting service) in terms of work practices or what KPIs need to be included in the service specification; than considering the financial implications of the specification. This last document – the service specification – became the cornerstone of the discussions. The members of the HCP group repeatedly argued at meetings and emails that the specifications are really important.

"Anna (LA rep) makes the point that people (from the joint commissioning board) are impatient about the specs. Jeff says that we are nearly there… (in terms of circulating the specs)… Jeff adds "Kathryn's view is to move this (HCP) through specs"…. Anna agrees: "the service specs are the key…"

The concern to 'get the specs done' reflects the worry of the HCP group to conceptualise the delivery of the HCP delivery, i.e. model and describe in abstract terms types of services and intervention levels. This finding – a preeminent emphasis on conceptualisation and 'intellectualisation' of commissioning – is consistent with what our analysis of other service redesign projects revealed, e.g. the Diabetes redesign project, the LTC programme. In the context of the HCP, specifying the new service appeared somewhat more ambiguous and novel. This was due to a perceived imperative to create a specification that referred to a *pathway*, rather than a *service*:

"This [focus on the pathway] is something that is a new approach for us. So I can give you my current understanding [laughs] and I say it like that because it's actually a live conversation that we're having within the PCT and beyond… Because this is the first time we have drawn up 'pathway specifications' in this way as opposed to service specifications. So if I think about the (HCP) 0-5 and specifically a health visiting service specification, which is what we have historically used as a

schedule within the contract (with the community services provider)… So this is the draft pathway specification and you'll know that within that we have tried to be explicit about expectations of the health visiting service in contributing to the delivery of that pathway… in terms of these (pathway specification) documents… they will supersede, if that's the right word, the historic service specific specifications that we've always used in the paste. We've tried to reflect in these pathway specifications our contribution to a whole system approach and so we need to be thinking both about the commissioning and the perhaps newly configured ways of working… it (the specification) is to give us the framework for commissioning, increased clarity about commissioning intentions, and an attempt to describe services in the context of a pathway that is travelled by the child and family… and (to describe) the services (that) make a contribution to that pathway, so that our thinking, as commissioners, is increasingly child and family centred. Which I know is rhetoric… But what is different if you're thinking about children and family at the centre... well, one of the things that's different is that you don't start with the service and write a specification about the service because that's about the professionals, it's not about the family…" (Sarah)

Kathryn, the AD in community services commissioning provided further insights into the sources of an imperative to create a pathway specification:

Interviewer: "How did this idea of looking at the whole pathway come about? Was it from your previous experience?"

Kathryn: "Previous experience of seeing it happen… reviewing services across the whole pathway… holistically and throughout that patient pathway, not just the community setting. But, also, there is a kind of direction of travel nationally to develop it along those lines. (Yet)There aren't national profiles for it…"

At the heart of this novel pathway approach was to integrate services provided by a number of different organisations; the community services provider (health visiting, therapy services, and other nursing services), the mental health trust, the acute trust as well as children's centres and GPs. This approach was indeed in line with the national policy document (2009) that stated:

*"The HCP begins in early pregnancy and ends at adulthood, and will be **commissioned as one programme** covering all stages of childhood… The HCP, led by health visitors, is increasingly being **delivered through integrated services** that bring together Sure Start children's centre staff, GPs, midwives, community nurses and others… The team delivering the HCP will include a range of health professionals and children's practitioners within Sure Start children's centres, general practice and the wider children's workforce." (emphasis added)*

It appears that HCP members' understanding of the ingredients and value of the 'pathway approach' was in line with the national policy discourse. HCP members were discursively aware of the benefits that could be yielded from adopting a pathway approach, i.e. they were able to articulate and make sense of the advantages of this approach by referring to and incorporating in their accounts elements (categories, arguments, and distinctions) found in the national strategies. This is manifested in Sarah's views above as well as Jeff's account of the key differences with current practice:

"Rather than saying here's a health visitor specification or here's a school nurses specification, I think, what we wanted to do is promote and make it quite clear and specific that there is a leadership element of this (HCP) and there's an integrated way of delivering this programme… Whereas before, contracts, I would say... this is my observation, were transactional. We were [focused on] activity, and driven by an agreement that: 'you [provider] get this amount of money, that is your activity'."

In spite of the fact that HCP members were theoretically convinced about its benefits, adopting the pathway approach was not yet practicable. The transformation of the sensible national rhetoric into a practical commissioning solution was pending. Christine shed more light on the initial tensions that emerged in the group as they tried to make sense of the HCP implementation:

"We… (were) trying to define, actually: 'are we rewriting a health visiting specification here or are we writing a Healthy Child pathway?'... It got into quite a lot of debate if you like in terms of: '[what] we [the PCT] are actually in control of is the health visiting element in terms of what we fund and what we deliver... why do we not just write this as a health visitor specification?'… But it was felt that for the processes of, or the purpose of integrating all of those (HCP) services appropriately we wanted a pathway model for the Healthy Child pathway specification so that it drew in children's centres, it drew in community midwives, it drew in health visitors…"

Specifying what was to be commissioned in relation to the whole pathway of 'childhood' was eventually adopted as the right way to deliver integrated HCP services across different providers. Despite the initial irritating feeling that some potential implementation glitches might emerge, the group channelled their attention towards creating a pathway specification document. Accordingly, throughout the development of that document, Christine sought information from various people, and primarily from the provider organisations, whose services were needed at different stages of the pathway. Her inquiries related, for example, to how current (relevant to the HCP) services are delivered; e.g. asking acute hospital staff what

happens with neonatal hearing tests and screening and what the established process is at the hospital and what GPs do, etc. Christine thus coordinated with various stakeholders (from PCT colleagues to provider organisations and LA managers) in order to get their input/response to the specs. The specification document was voluminous and included comprehensive information about the following: *the service description, its expected outcomes, its interrelations with other policies, interdependencies with other areas of care (maternity and mental health), the roles and responsibilities of the multiple parties (health visitors, community midwives, children's centres and GPs) that will be involved and at certain stages of the model; patient and public involvement provisions, quality and performance standards and key performance indicators (KPIs), etc.*

As a result of virtual and face-to-face consultations, the document was modified iteratively since its first draft version (at least 4 versions were produced). Beyond demonstrating their adherence to the principles outlined in the national document, the HCP members gradually 'tweaked' (in their terms) the nationally defined solution. For example, some of the documented changes pertained to the making of a new distinction between low, medium, and high level support for families. This change was important because:

"A number of the organisations that we are working with came back and said: "you know, it still didn't fully define for us what would be, low level kind of universal input and what would be more targeted". So the (feedback came from) children's centres and the actual health visitors themselves…. it (the table) helped to make it really quite clear for them… I think in fairness, I think the actual document (national policy) itself leaves it quite open to interpretation and we felt as a PCT we wanted to try and pin it down as much as we could to, you know, what would be your kind of average low level. You obviously can't make it, you can't identify it completely because you don't know what you're going to be dealing with when you go into, you know, to meet with a family. And you may feel 'yes, they've got a higher level of need. But is that actually just progressive [HCP] elements?'..." (Christine)

The gradual opening of the 'black-box' of HCP implementation, which was made possible through on-going communicative practices with various actors, transformed the way the grandiose national discourse was made intelligible in the realm of commissioning. Soon, this sensemaking process revealed that important commissioning practicalities had not been given sufficient consideration. In particular, major roadblocks emerged when a number of – essential for contract monitoring – indicators in relation to productivity improvement as well as health outcomes (e.g. infant mortality) were discussed. Initially, provisions were made for the collection of baseline data, i.e. minimum contacts with children as well as activity expectations,

as well as 'consequences' were outlined for breaching contract provisions, and costing. Surprisingly, later versions had removed productivity indicators as well as 'baseline' expectations (the costing section was completely removed):

"Some of that (referring to productivity indicators, etc. of earlier versions) is probably my naivety in terms of, you know, commissioning… because I don't come from a contracting, commissioning background. So… we had a further meeting [with all PCT HCP group members only] and… the general feeling was that for the quality key performance indicators we had to really scale that down to … We know that if we give too many indicators to a provider they're not possibly going to measure all of them. And it's actually [about specifying] 'what are the really crucial key things that you would want to know that help you define the service'. So I think a lot of the key indicators that were in there were felt to be, almost too 'aspirational' from the beginning… We did have a lot of discussion and maybe a little bit of rowing about some of the things that needed to be left in…. I felt very strongly I wanted the reduction in hospital admissions left in there because it's actually stated within the Department of Health guidance that it should be in. However, Kathryn wanted that removed because she was worried about how we were going to measure it..." (Christine)

Commissioning practicalities, unacknowledged in national overarching policies, could not be ignored at the so-called 'implementation stage'. A meaningful and practicable specification, which could be imagined and conceived as such only after having engaged competently in commissioning practices in the past, 'forbade' the excessive use of indicators. Similarly, understanding of existing contracting practices and intricacies, i.e. of the feasible and plausible in the realm of contracting, made a 'pathway approach' more and more unintelligible as Kathryn explained:

"The 'consequence of breach' was removed (from the latest version of the specs) because it's, it's a block contract (with the community services provider)… So it's really hard actually to put some kind of consequence of breach into a block contract… Because essentially you just hand over a pot of money and for that pot of money you might say [to the provider] 'you're going to have so many thousand contacts with new families in terms of maternal or new birth'. But [in this way] you don't really define what those contacts are going to be or what happens. So it's really difficult to put a consequence… and [in terms of costing] it was deemed that actually what would be more helpful is to price just the health visitor element and that would go almost as an appendix to the document. So that's the bit that I'm doing at the moment with (finance colleague) to cost out what's the health visitor element, how much time, what is the clinical time, what's the supportive, administrative time. And that will then go as an appendix so that the provider can see very clearly within this document: 'these are the elements that you have to

provide within whatever funding we give to you because those are the elements that are purely health visitors delivered'...."

At another meeting, Christine also mentioned that one of the directors pointed out the risk of increased cost, if block contracts were to be abolished and if service specifications with detailed activity schedules were to be drawn. That would be very problematic because the HCP was planned to release some savings (recall the PCT strategic plan).

In essence, the journey of HCP implementation, that is, the transformation of an abstract conceptualisation of HCP services into a concrete commissioning solution, encountered a number of so-called 'glitches'. Refining the commissioning dimensions of a new *pathway approach* created a lot of confusion. Although at first the nationally defined approach appeared sensible and 'righteous' (e.g. putting children and families at the heart of the service), the HCP group members not only tweaked its general premises, but also distorted some of its fundamental elements, i.e. the idea of commissioning a *whole* pathway. The practically intelligible solution that was eventually talked through undermined the theoretically insightful suggestion that services should 'follow the child'. Also, the HCP implementation highlights the significance of on-going communicative practices, as well as the timely *involvement* of finance managers and information managers, who could have provided a lot of useful input in terms of what KPIs are meaningful or not. At this point, we should also point out that the *inexperience (in commissioning)* of most PCT staff, who were at the same time preoccupied with many other things, was probably consequential. Having had limited experiential exposure to the ways commissioning solutions become intelligible in practice, key HCP group members, such as Christine and Sarah, could not appreciate important commissioning practicalities proactively. While their discursive awareness of the national policy drivers was beneficial for placing their efforts within a larger narrative and set of initiatives, their inattention and lack of 'commissioning mastery' contributed to significant delays in commissioning the HCP (more than 6 months). As Jeff confessed at the latest stages of the project, the joint working progress with the provider was very slim, since contracting issues remained unresolved:

"At the moment we're bogged down in this contracting negotiation on the specification... And we need to unblock that, we do need to unblock that… it's not just this one they're disagreeing with, there are a number of other specs and contracts that they're disagreeing with at the moment. So we seem to be regrettably kind of moving into a kind of adversarial (relationship)… Which isn't, it's not where we want to be. We need a mature conversation, mature relationships about what we're trying to achieve... Because otherwise it (the specification) is not worth the paper it's written on. We need to get through this bit and get an

agreement on the Healthy Child programme!... [but] While the system is in this state of flux and other perceived priorities take over, there's a real risk of this just getting parked. It will just get parked. It's too difficult. (People will be tempted to say:) 'Let's just leave it there. We can't agree, let's leave it there'. I hope that won't happen…"

In comparison with, for example, the LTC or the TIA programme, the HCP implementation thus suffered from lack of contracting expertise, which would have knocked out some of the obvious obstacles to adopting a pathway approach through using existing contracting levers (e.g. block contract). In conclusion, an original emphasis on creating a specification, which would demonstrate its compatibility with the national discourse on 'integrated' services and on a pathway approach, was followed by a gradual and increased attention to developing a commissioning solution that could work in light of existing and already available instruments and resources (e.g. contracts, information infrastructures). This emergent and uncertain communicative process resulted in undermining the spirit of the policy insofar as the PCT focused on the health visiting service, rather than the pathway taken by children of the age of 0 and 5.

EMERGING THEMES

Evidence in use

In the context of the HCP programme, different forms of evidence emerged as prosthetic devices, which served various socially recognisable purposes. Such purposes involved: *conceptualising* the HCP delivery in accordance with evidence-based policy; *enhancing the deliverability* of the high-level objectives of the programme; *designing* a commissioning solution, which would enable meaningful implementation of the HCP. Below we provide further data and our analysis of the socially meaningful processes by which evidence became enmeshed in commissioning decisions.

- The evidence-based policy on HCP

The PCT HCP group recognised that the HCP national policy was very comprehensive and that the services specified in the policy were the right ones, since the evidence base was sound.

"The (national) documents have been very helpful. It (the HCP document, 2009) is very concise. It's very clear about what outcomes … And actually from a local commissioning point of view what the 0-5 programme does is [to] give very clear guidance to commissioners about what type of services we should be

commissioning, the type of desired outcomes that we would get. So if we're commissioning effectively what we should see is an improvement in healthy child, in children's health... the national document is a really clear, really very clear framework that says if we do this, this, and this, we'll see healthier children… The overall document that underpins the Healthy Child programme is the 'Health for All' document which assesses (1), the strength of the evidence, but then moves along a gradient to say (2) this is best practice, this is what we perceive as best practice... So where the evidence is robust we feel fairly confident about that. There, there are the other bits that are probably more difficult to measure around community cohesion..." (Jeff, PH Consultant)

Such was his confidence in the policy document that Jeff firmly argued that evidence should be followed 'without any dilution' in practice:

"I'm very keen to make sure that if we are going to do something around parenting that we understand the evidence base and that we replicate it without any dilution or well, we won't do that bit or this bit. Fidelity on any of these programmes is the key... You have to have practitioners who are going to deliver it in the way that it needs to be delivered and no variation. That's what the evidence suggests, to get the right outcomes... you have to have fidelity to the programme, you can't chop and change the bits that you don't want to do or you know… So fidelity in delivering parenting programmes is the key to their success."

The dogmatic stance adopted by Jeff as well as other HCP members indicates their strongly held belief that the conceptual framework underpinning the HCP was robust and the 'right one' in terms of what it aimed to achieve (better health outcomes for children). The policy document supplied those discursive resources that enabled the HCP group to create a coherent representation of a causal relationship between abstract services and general outcomes. Notably, the policy document was deemed so comprehensive and 'true' that any modification of its premises and proposition was perceived as unwanted. However, the document provided limited information about the local deliverability of the programme. The lack of 'deliverability awareness', our findings suggest, proved quite problematic.

- Successful examples of local delivery

The HCP group, being highly motivated to improve services for children, searched and found practical examples of how health professionals have delivered the HCP successfully. The most favourite example was the 'Leeds model' described in a document entitled *'The Leeds Health Visiting Service: A Handbook to Support Improving Practice'*. Apparently, the 'Leeds model' was regarded as 'best practice' because:

"It sets out what we're trying to achieve…it got down into individual programmes it was very, very clear whose role it was [to do what]. So for some things.. it didn't always have to be the qualified health visitor who did it all, [it suggested] that there were other people within the [healthy child] team who have got skills, who could deliver elements of this programme… The Leeds pathway model is so defined really in terms of the level of support, the level of grade that we'd be going in, and what would be the absolute specifics that they [health visitors] would need to deliver.... The Leeds model really just helped us… in terms of what is the reality of how this would be delivered and what would be the input that would be needed at that time. So I guess the Leeds model we used for, you know, really for helping us to really home in and define what's the absolute that health visitors would be developing. Because the results from the Leeds programme have shown that they have significantly reduced some of their infant mortality gaps and they're reaching much more of their deprived areas, their 'imms and vaccs' have gone up in relation to the work they've been doing..." (Christine)

Christine and Jeff appeared to be strong proponents of the 'Leeds model' – handbook of HCP implementation – because it was developed by health visiting practitioners themselves, and provided numerous practical examples about the intricacies of delivering the service, such as responsibility sharing, recording keeping, specific actions to be taken at various stages and so on. It is a notable fact that, while promising health visiting practice grabbed most of the attention of the HCP group, examples of promising commissioning practice did not. As described earlier, it was only until later stages that commissioning resources, such as contracts, and KPI instruments were used.

- Commissioning Resources

In the previous section, we showed that for the HCP to be considered practically intelligible in the realm of commissioning, important modifications were made to the specification, after reactively attending to commissioning intricacies, e.g. contracts, KPIs, etc. In addition to these tools, a business case document, which Kathryn had written in the past for commissioners, was brought to the table of discussions. Kathryn was working for a community services provider organisation (in a different area) prior to joining PCTZ and had submitted a document, which outlined the business case and financial implications for a robust HCP delivery. The document was useful, according to Christine, for the breakdown of costs and because it provided a formula for calculating the time dimensions of HCP interventions and the skill mix that's required. Kathryn also claimed that: *"You can work out from that what it will cost for every child to go through that [HCP] program".* In short, commissioning resources were mobilised at later stages of the HCP implementation, when important roadblock emerged.

Below we provide a summary of our findings regarding evidence use in this project.

What evidence was used?	How was evidence engaged?	How was evidence mobilised? When?
National evidence-based policy	As a robust conceptual framework	The HCP group used wording from the national document in order to develop the specs; and communicate the 'what' and 'why' of service changes
The Leeds model – handbook	As practical example of successful delivery (without considering contracting delivery)	The PH lead of the project liaised with Leeds PCT and sourced the model
Commissioning resources	As tools to create credible commissioning solutions	Reactively sourced, i.e. after important glitches emerged during HCP implementation, e.g. when designing KPIs, etc.
Local knowledge	Specifying service components	The perspectives of different organisations and health professionals were sought during the development of HCP programme.

Interdependencies and emerging boundaries

Whilst bringing relevant evidence to the table was undoubtedly an integral part of HCP commissioning work, dealing with a web of interdependencies more or less successfully also emerged as a salient aspect of that work. In particular, while the pathway specification was still being developed, Christine received a significant number of emails from people who identified *linkages between the HCP* and other projects. For example, a person responsible for a project about child and maternal health asked Christine for input as well as to consider some of their information needs when writing the specs; e.g. immunisation update information from Children's centres. Another project on infant mortality in the PCT's area also was referred to as linked with the HCP. Other kinds of interdependencies, to which the HCP group members drew their attention, involved interdependencies with national policies, the relationship between workforce development and delivery, co-production and ownership of the services, etc.

Furthermore, the group reactively pursued to resolve a number of issues elaborated previously (e.g. making HCP practicable in commissioning terms,

mobilising commissioning resourced, etc.), and which, we suggest, reflected inattention to interdependencies underpinning commissioning work. We also observed that inadequate management of important role-related, and more generally, project-work-related interdependencies created challenges to commissioning the HCP. In particular, our analysis showed that significant differences existed as regards various role and leadership expectations. Kathryn, for example, openly considered the contributions of other HCP group members to be of limited value:

"In our PCT for the last 18 months a group has been meeting. This group is meeting on a monthly basis. It's had good membership. It's had membership from the acute sector; it's had membership from social care, children's centres, healthy student services, and midwifery. It's had good representation, and they have talked... and talked... and talked... and talked about 'how do you do this', and 'how do we do that', when it's really specified nationally... What I did when I got into post (autumn 2009), I gave the responsibility to one of the service redesign leads (Christine) to take forward the program and asked her to arrange a workshop for all of the individuals over a day. I said: 'by the end of this day I think we need to be looking forward to you being able to write a draft service specification for this service.'"

On the contrary, the PH consultant, Jeff, provided a different explanation about what caused original delays and whose role it was lead the HCP implementation:

"Sarah, who was the, who's the joint lead commissioner, she was off sick. And people like Christine (redesign manager) and myself were picking up pieces of work that Sarah would normally have done. And what's happened is that Sarah has now come back into work, she's healthy and everything, and we've had this sort of transition. So I led initially. Now Christine and Sarah have picked that up. But I still provide some public health input into it."

While in Sarah's view, she was not the nominated leader for the project:

"When the (national) document was produced we had a working party … I was hesitating, you see, whether or not I was taking the lead right from the very beginning because the HCP 0-5 group initially was actually led by Jeff (the PH consultant, pseudonym). And I've been involved from the outset but now as you probably appreciate Christine kind of administers that group with support from Jeff and I."

Finally, when we met Christine prior to the first project meeting we attended, we took the following notes:

"In terms of roles, Sarah and Jeff are leading the project, Christine says. As far as her role is concerned, she says that it is changing. Initially, it was a service

improvement role, i.e. process mapping, gap analysis, and stakeholder engagement. Now, there is a re-organisation within the PCT. Christine says that her role is more of a 'commissioning role'…"

The lack of coherence of responses indicates a lack of clarity of /agreement on the role structure enacted on the project. The different PCT members – involved in commissioning the HCP services – appeared to have divergent perspectives of whose roles and responsibility it had been to get the project off the ground and of why delays might have been caused (the PCT had not yet implemented the policy produced originally in 2008). We suggest this evident lack of role-based coordination undermined project working, insofar as limited shared understanding of 'who is accountable for what' inhibited timely integration of different work components. Below we summarise our findings regarding management of key interdependencies.

	Source of Interdependence	Response to interdependence	Consequences
Acknowledged interdependencies	*Project work related*: **expertise** (assembling and integrating dispersed expertise from health professionals); **inter-project linkages**	Proactive management, e.g. co-production of specs	Successful engagement with some healthcare professionals
	Commissioning related: new service requires skilled workforce; alignment with key **national policy**	Proactive management	Demonstrable compatibility with national priorities
Unacknowledged interdependencies (boundaries)	*Project work related*: **project governance** interdependence (e.g. who reports formally to whom for what, milestones), **contractual** (defining conditions of contract), **role interdependences** (who is doing what, how and when),	Reactive management, e.g. attending to contractual issues only after glitches emerged	Delays, misunderstandings, frustrations throughout the commissioning process
	Commissioning related: conceptualisation of services and commissioning highly intermingled	Reactive management	Delays, disintegrated pathway

Co-production of Commissioning Solutions

Finally, the HCP commissioning implementation entailed intensive co-production with various actors of the local healthcare system. Engagement with, especially, the providers was deemed very crucial, as Sarah explained to me:

"Rather than it [the HCP] being seen [by providers] as top down [as] 'this is just what commissioners say you have to do, here's the document, go and deliver it'… we actually need to take practitioners with us and… there's actually quite a lot of the kind of developmental work for operational managers and clinical leads to take responsibility… [and] we work together with them as commissioners [to] win hearts and minds of practitioners…"

Our observations of the interactions between PCT and provider organisations suggest that emphasis on co-production was indeed practised. For example, whenever Christine received comments from provider organisations, she was always showing appreciation and respect through e.g. acknowledging the PCT's preference for health visitors using tools and methods they are familiar with, and almost always incorporating practitioners' comments on the specification. As a consequence of on-going efforts, the final service specification document constituted an output with a *high degree of co-production.* This can be inferred, not only from the fact that there were many discussions and email exchanges regarding the specification, but also from the observation that specific sections/paragraphs of the document changed significantly as a result of someone's input.

Nevertheless and despite efforts to involve a number of stakeholders in the process, the HCP group also did not interact substantially with other key actors. Whilst co-production with the community services provider and midwives was sought, strikingly, GPs were not invited at HCP meetings. Apparently, there was no intention to include GPs in the HCP group. Sarah, slightly defensively, explained that GP engagement was hurdled by two things:

"The given wisdom is that generally speaking GPs are resistant to the idea of using their dedicated health visitor of the health visiting workforce to work increasingly co-located within children's centres (what the HCP prescribes). Not necessarily based there (at Children's centres) permanently, but you know, perceived as moving out of the GP surgery… there's something about whether or not there is ready and straightforward to whom would you invite. And also I suppose… it can

become quite costly to regularly involve GP colleagues... They would have a rationale that they, you know, they are independent contractors who have surgeries to run, clinics to hold that if they personally are not there, they would need to be employing a locum… [and] ensuring that their practice continues to deliver a service to their population."

With limited involvement from GPs, the pathway HCP specification did not incorporate a 'GP perspective'. The potential consequences of that decision were not investigated, yet our observations suggest that it was perceived as a risk, for example, from the local authority (a rep expressed her astonishment at the fact that GPs were not invited to be part of the HCP group…) and when the actual implementation would kick off. After all, the GPs were responsible for some important elements of the HCP, especially 'immunisations and vaccinations'.

Perhaps more consequential for the HCP implementation was the deterioration of the relationship between the PCT and the community services provider. While at the beginning (April 2010) Kathryn as well as the other PCT staff involved in the HCP project had a very clear vision to design the HCP delivery in conjunction with the community services provider, in the middle of the project important challenges emerged, according to Sarah:

"they (providers) 've also had some more recent staff leaving the health visiting service… the operational challenges, they (provider managers) are necessarily grappling with at the same time as looking forward in terms of transforming for the future… they will want to be sure commissioners are aware of."

Jeff, the lead PH consultant for the HCP, expressed his great disappointment in the joint working progress with the provider at a later stage. In October 2010, he confessed that:

"My criticism is that, you know, because health visitors hide behind their autonomy they fudge that bit about 'leading teams'. I know they can do it because I've seen people do it. I've seen good health visitors do it. But they're in the minority. And somehow we need to develop them as clinical leaders in a local setting to enable them to deliver this programme, to work with the others. That's the challenge for us, I think. Getting a spec right is fine, getting some momentum around implementing the Healthy Child programme, but (also) actually supporting on a locality basis the delivery of it… (but) I don't think the provider is willing to agree (with the PCT on the specs) because they don't think they have the right calibre of health visitors…"

Such was the deterioration of the relationship with the provider that Jeff openly provided pejorative comments on the intentions and maturity of the other party:

"What my expectation was that somebody from our health visiting service would go up to Leeds, have a look at the Leeds programme, be inspired, come back and say, 'actually we could do something fairly similar for our area'. I found no enthusiasm for that. And I've said it to the managers [of the provider], I've said it to the lead clinicians: 'There is good health visiting practice, do you want to do this or not?' I don't know why people are reluctant to do it... it's not for me to judge the quality of clinical leadership in health visiting locally but I don't think there is any. I don't think there is anybody who's standing up and leading the service."

In short, meaningful and fruitful co-production was impeded insofar as commissioners had very few levers to influence health visitors to engage with the good practice and to convince the community provider to embrace the HCP programme. Despite their original commitment to involve numerous actors in commissioning decision making, the HCP group could/did not, for example, 'warn' other parties of potential financial penalties (as in the case of the TIA project, for instance). This case study exemplifies some key lessons about the importance of designing and thinking about co-production proactively.

References

1. Briner RB, Denyer D, Rousseau DM. Evidence-Based Management: Concept Cleanup Time? Academy of Management Perspectives. 2009;23(4):19-32.

2. Shortell SM, Rundall TG, Hsu J. Improving patient care by linking evidence-based medicine and evidence-based management. Jama-Journal of the American Medical Association. 2007 Aug 8;298(6):673-6.

3. Tetroe JM, Graham ID, Foy R, Robinson N, Eccles MP, Wensing M, et al. Health research funding agencies' support and promotion of knowledge translation: An international study. Milbank Quarterly. 2008 Mar;86(1):125-55.

4. Lavis J, Davies H, Oxman A, Denis J-L, Golden-Biddle K, Ferlie E. Towards systematic reviews that inform health care management and policy-making. J Health Serv Res Policy. 2005;10 Suppl 1:35-48.

5. Dopson S, Locock L, Gabbay J, Ferlie E, Fitzgerald L. Evidence-based medicine and the implementation gap. Health. 2003 Jul;7(3):311-30.

6. Nicolini D, Powell J, Conville P, Martinez-Solano L. Managing knowledge in the healthcare sector. A review. International Journal of Management Reviews. 2008;10(3):245-63.

7. Cook SDN, Brown JS. Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing. ORGANIZATION SCIENCE. 1999;10(4):381-400.

8. Orlikowski WJ. Knowing in practice: Enacting a collective capability in distributed organizing. Organization Science. [Article]. 2002 May-Jun;13(3):249-73.

9. Appleby J, Gregory S. NHS Spending. Local Variations in Priorities: An Update: The Kings Fund2008.

10. Appleby J, Harrison T, Foot C, Smith A, Gilmour ST. Explaining Variations in Primary Care Trusts Spending on Cancer Services: The King's Fund2011.

11. Reay T, Berta W, Kohn MK. What's the Evidence on Evidence-Based Management? Academy of Management Perspectives. 2009 Nov;23(4):5-18.

12. Rousseau DM. 2005 presidential address - Is there such a thing as "evidence-based management"? Academy of Management Review. [Article]. 2006 Apr;31(2):256-69.

13. Pfeffer J, Sutton RI. EVIDENCE-BASED MANAGEMENT. Harvard Business Review: Harvard Business School Publication Corp.; 2006. p. 62-74.

14. Walshe K, Rundall TG. Evidence-based Management: From Theory to Practice in Health Care. The Milbank Quarterly. 2001;79(3):429-57.

15.   Starkey K, Madan P. Bridging the relevance gap: Aligning stakeholders in the future of management research. British Journal Of Management. 2001 Dec;12:S3-S26.

16.   Van de Ven AH, Johnson PE. Knowledge for theory and practice. Acad Manage Rev. [Review]. 2006 Oct;31(4):802-21.

17.   Schatzki TR. On organizations as they happen. Organization Studies. 2006;27(12):1863-73.

18.   Gherardi S, Nicolini D, Strati A. The passion for knowing. Organization. 2007;14(3):315-29.

19.   Swan J, Bresnen M, Newell S, Robertson M. The object of knowledge: The role of objects in biomedical innovation. Human Relations. 2007;60(12):1809-37.

20.   Nicolini D. Practice as the Site of Knowing: Insights from the Field of Telemedicine. Organization Science. 2011 May-June 2011;22(3):602 -20.

21.   Carlile PR. A pragmatic view of knowledge and boundaries: Boundary objects in new product development. Organization Science. [Article]. 2002 Jul-Aug;13(4):442-55.

22.   Bechky BA. Sharing meaning across occupational communities: The transformation of understanding on a production floor. Organization Science. [Article]. 2003a May-Jun;14(3):312-30.

23.   Newell S, Edelman L, Scarbrough H, Swan J, Bresnen M. 'Best practice' development and transfer in the NHS: the importance of process as well as product knowledge. Health services management research : an official journal of the Association of University Programs in Health Administration / HSMC, AUPHA. 2003 2003-Feb;16(1):1-12.

24.   Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. BMJ. 1996 January 13, 1996;312(7023):71-2.

25.   Newman I, Benz CR. Qualitative-quantitative research methodology: Exploring the interactive continuum. Carbondale, IL Southern Illinois Press; 1998.

26.   Steckler A, McLeroy KR, Goodman RM, Bird ST, McCormick L. TOWARD INTEGRATING QUALITATIVE AND QUANTITATIVE METHODS - AN INTRODUCTION. Health Education Quarterly. 1992 Spr;19(1):1-8.

27.   Greene JC, Caracelli VJ. Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms. San Francisco: Jossey-Bass; (eds) 1997.

28.   Dopson S, Fitzgerald L. Knowledge to action?: evidence based health care in context: Oxford University Press, USA; 2005.

29.   Crilly T, Jashapara A, Ferlie E. Research utilisation & knowledge mobilisation: A scoping review of the literature. England: National Co-ordinating Centre for NHS Service Delivery and Organisation R&D SDO2010.

30. Smith J, Dixon J, Mays N, McLeod H, Goodwin N, McClelland S, et al. Practice based commissioning: applying the research evidence. BMJ. 2005;331(7529):1397-9.

31. Contandriopoulos D, Lemire M, Denis JL, Tremblay E. Knowledge Exchange Processes in Organizations and Policy Arenas: A Narrative Systematic Review of the Literature. Milbank Quarterly. [Review]. 2010 Dec;88(4):444-83.

32. Weiss CH. MANY MEANINGS OF RESEARCH UTILIZATION. Public Administration Review. [Article]. 1979;39(5):426-31.

33. Kovner AR, Rundall TG. Evidence-based management reconsidered. Front Health Serv Manage. [; Research Support, Non-U.S. Gov't]. 2006 2006;22(3):3-22.

34. G. Rundall T, Peter FM, Laura A, Rodney M, et al. The Informed Decisions Toolbox: Tools for Knowledge Transfer and Performance Improvement/PRACTITIONER APPLICATION. 2007. p. 325.

35. Morrell K. The narrative of 'Evidence based' management: A polemic. Journal of Management Studies. [Review]. 2008 May;45(3):613-35.

36. Rousseau DM, McCarthy S. Educating managers from an evidence-based perspective. Academy of Management Learning & Education. [Article]. 2007 Mar;6(1):84-101.

37. Chalkidou K, Walley T, Culyer A, Littlejohns P, Hoy A. Evidence-informed evidence-making. Journal of Health Services Research & Policy. 2008 Jul;13(3):167-73.

38. Learmonth M. Evidence-based management: A backlash against pluralism in organizational studies? Organization. [Article]. 2008 Mar;15(2):283-91.

39. Learmonth M, Harding N. Evidence-based management: The very idea. Public Administration. 2006;84(2):245-66.

40. Learmonth M. "Is there such a thing as 'evidence-based management'?": A commentary on Rousseau's 2005 presidential address. Academy of Management Review. 2006;31(4):1089-91.

41. Dopson S, FitzGerald L, Ferlie E, Gabbay J, Locock L. No magic targets! Changing clinical practice to become more evidence based. Health Care Management Review. [Article]. 2002 Sum;27(3):35-47.

42. Kovner AR, Fine, David J., D'Aquila, Richard. Evidence-Based Management in Healthcare 2009.

43. Begun JW. Realistic evidence-based management. Health Care Management Review. 2009 Jul-Sep;34(3):214-5.

44. Banaszak-Holl J, Zheng K, Griffith JR. Critical next steps in developing evidence-based management of health care organizations. Health Care Management Review. 2009 Jul-Sep;34(3):219-21.

45. Reay T, Hinings CR. Managing the Rivalry of Competing Institutional Logics. Organization Studies. 2009 June 1, 2009;30(6):629-52.

46.   Arndt M, Bigelow B. Evidence-based management in health care organizations: A cautionary note. Health Care Management Review. [Article]. 2009 Jul-Sep;34(3):206-13.

47.   Pfeffer J, Sutton RI. Suppose we took evidence-based management seriously: Implications for reading and writing management. Academy of Management Learning & Education. 2007;6(1):153-5.

48.   Pfeffer J, Sutton RI. Management, half-truths and nonsense: How to practice evidence-based management. California Management Review. [Article]. 2006 Spr;48(3):77-+.

49.   Chalkidou K, Lord J, Fischer A, Littlejohns P. Evidence-Based Decision Making: When Should We Wait For More Information? Health Affairs. 2008 Nov-Dec;27(6):1642-53.

50.   Knights D. Myopic Rhetorics: Reflecting Epistemologically and Ethically on the Demand for Relevance in Organizational and Management Research. Academy of Management Learning & Education. 2008 Dec;7(4):537-52.

51.   Knights D, Scarbrough H. In Search of Relevance: Perspectives on the Contribution of Academic-Practitioner Networks. Organization Studies. 2010;31(9-10):1287-309.

52.   Gibbons M. Science's new social contract with society. Nature. 1999;402(6761):C81-C4.

53.   Gibbons M, Limoges, C., Nowotny, H., Schwartzman, S., Scott, P. and Trow, M. The New Production

of Knowledge: The Dynamics of Science and Research in Contemporary Societies. London: Sage; 1994.

54.   Nowotny H, Scott P, Gibbons M. 'Mode 2' revisited: The new production of knowledge - Introduction. Minerva. 2003;41(3):179-94.

55.   Mitev N, Venters W. Reflexive Evaluation of an Academic-Industry Research Collaboration: Can Mode 2 Management Research be Achieved? Journal of Management Studies. 2009;46(5):733-54.

56.   Pestre D. Regimes of knowledge production in society: Towards a more political and social reading. Minerva. [Article]. 2003;41(3):245-61.

57.   Pettigrew AM. Management research after modernism. British Journal of Management. [Article]. 2001 Dec;12:S61-S70.

58.   Jelinek M, Romme AGL, Boland RJ. Introduction to the special issue organization studies as a science for design: Creating collaborative artifacts and research. Organization Studies. 2008 Mar;29(3):317-29.

59.   Estabrooks CA, Norton P, Birdsell JM, Newton MS, Adewale AJ, Thornley R. Knowledge translation and research careers: Mode I and Mode II activity among health researchers. Research Policy. 2008;37(6-7):1066-78.

60.   Bartunek JM. Academic-practitioner collaboration need not require joint or relevant research: Toward a relational scholarship of integration. Academy of Management Journal. 2007 Dec;50(6):1323-33.

61.	McKelvey B. VAN DE VEN AND JOHNSON'S "ENGAGED SCHOLARSHIP": NICE TRY, BUT. Academy of Management Review: Academy of Management; 2006. p. 822-9.

62.	Van de Ven AH, Johnson PE. Reply - Nice try, Bill, but... there you go again. Acad Manage Rev. 2006 Oct;31(4):830-2.

63.	Swan J, Bresnen M, Robertson M, Newell S, Dopson S. When Policy meets Practice: Colliding Logics and the Challenges of 'Mode 2' Initiatives in the Translation of Academic Knowledge. Organization Studies. [Article]. 2010 Sep;31(9-10):1311-40.

64.	Jacob M. Utilization of social science knowledge in science policy: Systems of innovation, triple Helix and VINNOVA. Social Science Information. 2006;45(3):431-62.

65.	Nutley SM, Walter I, Davies HTO. Using evidence: How research can inform public services: The Policy Press; 2007.

66.	Landry R, Amara N, Lamari M. Climbing the ladder of research utilization: Evidence from social science research. Science Communication. 2001;22(4):396-422.

67.	Jewell CJ, Bero LA. "Developing good taste in evidence": Facilitators of and hindrances to evidence-informed health policymaking in state government. Milbank Quarterly. [Article]. 2008 Jun;86(2):177-208.

68.	Cummings GG, Estabrooks CA, Midodzi WK, Wallin L, Hayduk L. Influence of organizational characteristics and context on research utilization. Nursing Research. 2007 Jul-Aug;56(4):S24-S39.

69.	Ouimet M, Landry R, Amara N, Belkhodja O. What factors induce health care decision-makers to use clinical guidelines? Evidence from provincial health ministries, regional health authorities and hospitals in Canada. Social Science & Medicine. 2006;62(4):964-76.

70.	Traore N, Rose A. Determinants of biotechnology utilization by the Canadian industry. Research Policy. 2003;32(10):1719-35.

71.	Beyer JM, Trice HM. THE UTILIZATION PROCESS - A CONCEPTUAL-FRAMEWORK AND SYNTHESIS OF EMPIRICAL-FINDINGS. Administrative Science Quarterly. 1982 1982;27(4):591-622.

72.	Ginsburg L, Lewis S, Zackheim L, Casebeer A. Revisiting interaction in knowledge translation. Implementation Science. 2007;2(1):34.

73.	Feldman MS, March JG. INFORMATION IN ORGANIZATIONS AS SIGNAL AND SYMBOL. Administrative Science Quarterly. 1981;26(2):171-86.

74.	Nicolai A, Seidl D. That's Relevant! Different Forms of Practical Relevance in Management Science. Organization Studies. 2010 September 1, 2010;31(9-10):1257-85.

75.	Baumbusch JL, Kirkham SR, Khan KB, McDonald H, Semeniuk P, Tan E, et al. Pursuing common agendas: a collaborative model for knowledge translation between research and practice in clinical settings. Research in nursing & health. 2008;31(2):130-40.

76.   Lomas J. UsingLinkage And Exchange'To Move Research Into Policy At A Canadian Foundation. HEALTH AFFAIRS-MILLWOOD VA THEN BETHESDA MA-. 2000;19(3):236-40.

77.   Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? Journal of Continuing Education in the Health Professions. 2006;26(1):13-24.

78.   Oborn E, Barrett M, Racko G. Knowledge translation in healthcare: A review of the literature. Cambridge, UK. 2010.

79.   Contandriopoulos D, Lemire M, Denis J-L, Tremblay E. Knowledge Exchange Processes in Organizations and Policy Arenas: A Narrative Systematic Review of the Literature. Milbank Quarterly. 2010 Dec;88(4):444-83.

80.   Mitton C, Adair CE, McKenzie E, Patten SB, Perry BW. Knowledge transfer and exchange: review and synthesis of the literature. Milbank Quarterly. 2007;85(4):729-68.

81.   Dobrow MJ, Goel V, Upshur REG. Evidence-based health policy: context and utilisation. Social Science & Medicine. [Article]. 2004 Jan;58(1):207-17.

82.   Williams I, Glasby J. Making [`]what works' work: The use of knowledge in UK health and social care decision-making. Policy and Society. 2010;29(2):95-102.

83.   Parry D, Salsberg J, Macaulay AC, FCPC C. A guide to researcher and knowledge user collaboration in health research. Ottawa: Canadian Institutes of Health Research; 2009.

84.   Davies H, Nutley S, Walter I. Why 'knowledge transfer'is misconceived for applied social research. Journal of Health Services Research & Policy. 2008;13(3):188-90.

85.   Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O, Peacock R. Storylines of research in diffusion of innovation: a meta-narrative approach to systematic review. Social Science & Medicine. 2005;61(2):417-30.

86.   Gabbay J, Le May A. Practice-based Evidence for Healthcare: Clinical Mindlines: Routledge; 2010.

87.   Jacobson N, Butterill D, Goering P. Development of a framework for knowledge translation: understanding user context. Journal of Health Services Research & Policy. 2003;8(2):94-9.

88.   Gabbay J, May A. Evidence based guidelines or collectively constructed "mindlines?" Ethnographic study of knowledge management in primary care. BMJ. 2004;329(7473):1013.

89.   Tsoukas H. The Firm as a Distributed Knowledge System: A constructionist approach. Strategic Management Journal. 1996;17:11-25.

90.   Langley A, Mintzberg H, Pitcher P, Posada E, Saintmacary J. OPENING UP DECISION-MAKING - THE VIEW FROM THE BLACK STOOL. ORGANIZATION SCIENCE. [Review]. 1995 May-Jun;6(3):260-79.

91.   Cabantous L, Gond J-P. Rational Decision Making as Performative Praxis: Explaining Rationality's Eternel Retour. ORGANIZATION SCIENCE. 2010 June 21, 2010:orsc.1100.0534.

92.   Tsoukas H. Strategic Decision Making and Knowledge: A Heideggerian Approach. In: Nutt P, Wilson D, editors. Handbook of Decision Making. Chichester: John Wiley & Sons, Ltd 2010. p. 379-402.

93.   Nutt PC. Investigating the success of decision making processes. J Manage Stud. [Article]. 2008 Mar;45(2):425-55.

94.   Mintzberg H, Westley F. Decision making: It's not what you think. Mit Sloan Management Review. 2001;42(3):89-+.

95.   Brunsson N. DECIDING FOR RESPONSIBILITY AND LEGITIMATION - ALTERNATIVE INTERPRETATIONS OF ORGANIZATIONAL DECISION-MAKING. Accounting Organizations and Society. 1990;15(1-2):47-59.

96.   Brunsson N. THE IRRATIONALITY OF ACTION AND ACTION RATIONALITY - DECISIONS, IDEOLOGIES AND ORGANIZATIONAL ACTIONS. Journal of Management Studies. [Article]. 1982;19(1):29-44.

97.   Sandberg J, Tsoukas H. GRASPING THE LOGIC OF PRACTICE: THEORIZING THROUGH PRACTICAL RATIONALITY. Academy of Management Review. [Article]. 2011;36(2):338-60.

98.   Tsoukas H, Vladimirou E. What is organizational knowledge? Journal of Management Studies. [Proceedings Paper]. 2001 Nov;38(7):973-93.

99.   Barley SR, Kunda G. Bringing work back in. Organization Science. [Review]. 2001 Jan-Feb;12(1):76-95.

100.   Langley A. Strategies for theorizing from process data. Academy of Management Review. 1999 Oct;24(4):691-710.

101.   Ferlie E, Fitzgerald L, Wood M, Hawkins C. The nonspread of innovations: The mediating role of professionals. Academy of Management Journal. 2005 Feb;48(1):117-34.

102.   Miles M, & A., Hubermann. An Expanded Sourcebook; Qualitative Data Analysis. London Sage Publications; 1994

103.   Weatherly H, Drummond M, Smith D. Using Evidence In The Development of Local Health Policies. International Journal of Technology Assessment in Healthcare. 2002;18(4):771-81.

104.   Gallego G, Van Gool K, Kelleher D. Resource allocation and health technology assessment in Australia: Views from the local level. International Journal of Technology Assessment in Healthcare. 2009;25(2):134-40.

105.   O'connor A, M, Rostom a, Fiset V, Tetroe J, Entwistle V, Llewellyn-Thomas h, et al. Decision aids for patients facing health treatment or screening decisions: systematic review. British Medical Journal. 1999;319:731-4.

106.   Edwards A, Elwyn G, Hood K, Robling M, Atwell C, Holmes-Rovner M, et al. The development of COMRADE - a patient-based outcome measure to evaluate the effectiveness of risk communication and treatment decision making in consultations. Patient Education and Counseling. 2003;50(3):311-22.

107.   Noble M, mcLennan D, Wilkinson K, Whitworth A, Barnes H, Dibden C. The English Indicies of Deprivation 2007. In: Government DfC, Local, editors. London: Communities and Local Government Publications; 2008.

108.   NHSconfederation. Primary care trusts:an introduction2010: Available from: http://www.nhsconfed.org/Publications/Factsheets/Pages/Primary-care-trusts-an-introduction.aspx

109.   Thévenot L. Postscript to the Special Issue: Governing Life by Standards. Social Studies of Science. 2009 October 1, 2009;39(5):793-813.

110.   Bailey DE, Leonardi PM, Chong J. Minding the Gaps: Understanding Technology Interdependence and Coordination in Knowledge Work. ORGANIZATION SCIENCE. 2010 May-Jun;21(3):713-30.

111.   Rothwell PM, Giles MF, Chandratheva A, Marquardt L, Geraghty O, Redgrave JNE, et al. Effect of urgent treatment of transient ischaemic attack and minor stroke on early recurrent stroke (EXPRESS study): a prospective population-based sequential comparison. Lancet. 2007;370:1432-42.

112.   Nicholson D. NHS Constitution: local decision-making about funding of medicines and other treatments2009: Available from: http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Dearcolle agueletters/DH_096016

113.   Department, of, Health. The Handbook to the NHS Constitution2010: Available from: http://www.nhs.uk/choiceintheNHS/Rightsandpledges/NHSConstitution/Documen ts/COI_NHSConstitutionWEB2010.pdf

114.   Weick KE, Sutcliffe KM, Obstfeld D. Organizing and the process of sensemaking. Organization Science. [Article]. 2005 Jul-Aug;16(4):409-21.

115.   Halliday TC. KNOWLEDGE MANDATES - COLLECTIVE INFLUENCE BY SCIENTIFIC, NORMATIVE AND SYNCRETIC PROFESSIONS. British Journal of Sociology. 1985 1985;36(3):421-47.

116.   The NHS Information Centre WAT. NHS Hospital and Community Health Services Non Medical Workforce Census. In: Service Gs, editor. London2010.

117.   O'Connor A. Validation of a Decisional Conflict Scale. Medical Decsion Making. 1995;15(25):25-30.

118.   Blundell N, Taylor-Phillips S, Spitzer D, Martin S, Forde I, Clarke A. Elective surgical referral guidelines - background educational material or essential shared decision making tool? A survey of GPs' in England. BMC Family Practice. 2011;12(1):92.

119.   Gkeredakis E, Swan J, Powell J, Nicolini D, Scarbrough H, Roginski C, et al. Mind the gap: Understanding utilisation of evidence and policy in health care management practice. Journal of health organization and management. [; Research Support, Non-U.S. Gov't]. 2011 2011;25(3):298-314.

120.   Orlikowski WJ. Knowing in Practice: Enacting a Collective Capability in Distributed Organizing. Organization Science. 2002;13(3).

121.   Feldman M, & W. Orlikowski. Practicing Theory and Theorizing Practice. Organization Science. Forthcoming (Special Issue Perspectives on Organization Science: The First 20 Years).

122.   Ruef M, Scott WR. A multidimensional model of organizational legitimacy: Hospital survival in changing institutional environments. Administrative Science Quarterly. [Article]. 1998 Dec;43(4):877-904.

123.   Thornton PH. The rise of the corporation in a craft industry: Conflict and conformity in institutional logics. Academy of Management Journal. 2002;45(1):81-101.

124.   Purdy JM, Gray B. CONFLICTING LOGICS, MECHANISMS OF DIFFUSION, AND MULTILEVEL DYNAMICS IN EMERGING INSTITUTIONAL FIELDS. Academy of Management Journal. [Review]. 2009 Apr;52(2):355-80.

125.   Bechky BA. Gaffers, gofers, and grips: Role-based coordination in temporary organizations. Organization Science. 2006;17(1):3-21.

126.   Simon HA. RATIONALITY AS PROCESS AND AS PRODUCT OF THOUGHT. American Economic Review. [Article]. 1978;68(2):1-16.