

Title:

Towards a framework for enhancing procurement and supply chain management practice in the NHS: lessons for managers and clinicians from a synthesis of the theoretical and empirical literature

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Competing interests: None declared

All authors have completed the unified competing interest form at

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First look draft

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A final version (which has undergone a rigorous copy-edit and proofreading) will publish as part of a fuller account of the research in a forthcoming issue of the *Health Services and Delivery Research* journal.

Any queries about this 'first look' version of the scientific summary should be addressed to the NIHR Journals Library Editorial Office NIHRedit@soton.ac.uk.

The research reported in this 'first look' scientific summary was funded by the HS&DR programme or one of its predecessor programmes (NIHR Service Delivery and Organisation programme, or Health Services Research programme) as project number 12/5004/03. For more information visit <http://www.nets.nihr.ac.uk/projects/hsdr/12500403>

The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HS&DR editors have tried to ensure the accuracy of the authors' work and would like to thank the reviewers for their constructive comments however; they do not accept liability for damages or losses arising from material published in this scientific summary.

This 'first look' scientific summary presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health.

Scientific summary

Background

This literature synthesis draws lessons from procurement and supply chain management (P&SCM) theories and from empirical evidence from a range of sectors and countries, to assist NHS managers and clinicians in developing more effective approaches to commissioning and procurement. We assume that there is a more significant overlap between commissioning and procurement than is typically understood in the NHS, which allows us to draw lessons for the commissioning cycle from the P&SCM literature. The NHS commonly understands procurement to be the ‘acquisition’ of goods or services, both as part of the healthcare commissioning cycle and in support of healthcare service delivery. We suggest that this definition is perhaps too narrow, and that some aspects of ‘planning’ in the commissioning cycle (needs assessment and specification of priorities and requirements) should be seen as procurement activities, because effective procurement practice should begin with a clear statement of what an organisation needs or wants to buy.

The research meets a need in the NHS management community flowing from two sources. Firstly, in the context of the Coalition Government’s deficit reduction plan, the NHS is expected to save £20 billion by 2015 through a combination of cost cutting, productivity improvements and innovation in service delivery. More efficient and effective procurement will play a key role in delivering these savings. Secondly, the new commissioning structures and policies introduced by the 2012 Health and Social Care Act have thrown up a number of management challenges. GPs, other clinicians and managers in clinical commissioning groups are now required to exercise commercial skills and make contract award decisions in the context of wider healthcare markets of which many have very limited knowledge and experience. This research provides a source of guidance to NHS decision-makers to assist them in meeting these challenges.

Objectives

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Objective 1: To explore the literature about P&SCM and to identify the main theoretical and conceptual frameworks which relate to decisions about, and the effective management of, providers or suppliers of goods and services.

Objective 2: To understand to what extent existing evidence on the experiences of NHS managers and clinicians involved in commissioning and procurement matches these theories and to provide an explanatory framework for understanding the characteristics of effective policy and practice in the NHS.

Objective 3: To assess the empirical evidence about how different P&SCM practices and techniques can contribute to better procurement processes and outcomes.

Objective 4: To map and evaluate different approaches to improving P&SCM practice and identify how these approaches relate to theories about effective P&SCM.

Methods

The research terrain is characterised by complexity in terms of multiple sources of evidence across different disciplinary traditions, by weakness and ambiguity in terms of association and causation, and by the influence of contextual factors on the appropriateness, effectiveness and outcomes of different P&SCM practices and techniques. Consequently, a conventional systematic review would not be appropriate. By contrast, a realist review approach emphasises the contingent nature of evidence and addresses questions about what works in which settings, for whom, in what circumstances and why.

In line with realist review principles, the research questions and emerging findings were sense-checked and refined with an expert advisory and stakeholder group. A key term search was conducted in October 2013 across relevant electronic bibliographic databases. This identified 3562 results. After a number of stages of sifting, refinement and updating in October and November 2013, 879 texts were selected for review.

Results

1. Theories about procurement and supply chain management

We identified four broad literatures, each associated with particular P&SCM theories and each focused on a particular phase in the P&SCM process. These are:

- The organisational buying behaviour literature grounded in various theories of organisational decision-making, focusing on the demand management phase (the pre-contractual steps of the P&SCM process)
- The economics of contracting literature grounded in agency theory and transaction cost economics, focusing on the selection and contracting phase
- The networks and inter-organisational relationships literature grounded in social exchange, resource dependency, relational contract and dynamic capabilities theories, focusing on the relationship management phase
- The integrated supply chain management literature grounded in systems theory and behavioural economics, focusing on the operational delivery phase

To address this theoretical diversity we developed a realist interpretation framework identifying the contextual assumptions, key explanatory mechanisms and intended outcomes of these various P&SCM theories. This suggests that practitioners engaged in P&SCM activities face choices about which theory might be best for interpreting their situation and for guiding their actions. It may be more appropriate to focus on some mechanisms than on others depending on what an organisation's interest is in terms of intended outcome.

2. Relevance and utility of P&SCM theories for NHS policy and practice

On NHS commissioning and procurement policy we found that:

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- The economics of contracting literature provides a relevant lens for understanding policies to align the interests of patients and GPs and to drive the coordination or consolidation of NHS spending; agency theory and transaction cost economics are also relevant to the various market-based reforms introduced into the NHS since the purchaser-provider split in 1991.
- The networks and inter-organisational relationships literature, particularly that addressing power, is relevant to joint commissioning or collaborative procurement initiatives, and for understanding why inter-organisational cooperation has persisted alongside competition and market-based reforms in the NHS.
- Aspects of the integrated supply chain management literature are relevant to understanding collaborative procurement initiatives.

On NHS commissioning and procurement practice we found that:

- evidence on demand management (decisions about what needs to be commissioned or procured, who might be potential providers or suppliers, what criteria should be used to select the provider or supplier) is discussed in terms of arguments and concepts associated with the organisational buying behaviour literature, although there are few direct and explicit references to that literature
- evidence on selection and contracting explicitly acknowledges the relevance of the economics of contracting literature
- evidence on relationship management is typically discussed in terms of concepts drawn from the networks and inter-organisational relationships literature
- evidence on operational delivery is often discussed in terms of concepts drawn from the integrated supply chain management literature

We also found several knowledge gaps in the NHS research literature, in particular about:

- The decision-making roles, processes and criteria at work in clinical commissioning groups and commissioning support units, and how these organisations should operate to be effective.

- The development of inter-organisational buyer–supplier relationships over time in the context of a wider network of organisational interactions, and how collaborative efforts can be engendered to deliver improvement and innovation in the NHS.
- The scope to apply different integrated supply chain management ideas and techniques to supply chains delivering physical goods to the NHS.

3. Evidence on the impact of P&SCM practices and techniques

Exploring P&SCM practices and techniques beyond the NHS, in different countries and sectors, demonstrated that:

- Evidence on the P&SCM process is in disparate literatures. Certain elements have been systematically studied, but there is very little research that has examined all phases of the process and made the connections between them.
- Evidence on practices and techniques associated with demand management is weaker, e-procurement apart, than it is for the other P&SCM process phases. Evidence on competitive tendering in the public sector, contracting, buyer-supplier relationship management and lean supply management practices is particularly strong.
- There is significant evidence that organisations adopting a contingent approach to P&SCM practice achieve superior value for money outcomes.
- The most important consideration for selecting appropriate management practices is the nature of a purchase in terms of financial value, complexity, asset specificity, uncertainty and demand characteristics. Other influential contextual factors are buyer-supplier power relations and supplier managerial behaviour (trustworthiness or opportunism).
- Parts of the evidence base, particularly some studies examining collaborative buyer-supplier relationships and integrated supply chain management practices, do not acknowledge the importance of contextual factors like power and managerial behaviour. They are not, therefore, a fair test of the impact of these practices.

4. Portfolio approaches to improving P&SCM practice in the NHS

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We found that various portfolio approaches to management might be a useful means of improving commissioning and procurement in the NHS given the complex interplay of contexts and practices in the various phases the P&SCM process. A portfolio approach has two key elements. First, management decision-makers will typically face a range of different contexts each requiring particular management practices to deliver intended outcomes. Second, the decisions made and the practices consequently deployed in these different contexts should be seen as interdependent, because organisations are resource constrained. A portfolio approach emphasises the need for managers to make trade-offs in their decision-making to achieve an appropriate balance of outcomes across the different contexts which they face.

We identified three types of portfolio analysis categorised on the basis of their main focus or unit of analysis:

- Purchase category portfolio models
- Relationship portfolio models
- Supply chain portfolio models

These models identify key contextual factors in the demand management, relationship management and operational delivery phases of the P&SCM process respectively, and suggest appropriate forms of management intervention to deliver intended outcomes in particular contexts. For example, applying the logic of a purchase category portfolio model to the NHS shows why the various types of goods or services procured by a clinical commissioning group or a hospital trust should be managed differently. Non-critical categories like office stationery (low purchase importance and low supply market complexity) should be procured in a way that minimises transaction costs, such as through the NHS Supply Chain online catalogue. By contrast, strategic categories like accident and emergency services or advanced medical equipment (high purchase importance and high supply market complexity) should be given much more detailed attention by those

commissioners or procurement managers with the most experience and expertise. Similarly,

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relationship portfolio thinking suggests that relationships with providers or suppliers in non-critical categories should be relatively short-term and arm's length, while relationships in strategic categories should ideally be longer-term and more collaborative.

Conclusions

1. Theories about procurement and supply chain management

The P&SCM research domain draws on a very diverse range of disciplinary bases and theories. It is not possible to identify a single, coherent and dominant body of thought. The realist framework developed through our analysis suggests that practitioners engaged in P&SCM activities face choices about which theory might be best for interpreting their situation and guiding their actions. It may be more appropriate to focus on some mechanisms than on others depending on what an organisation's interest is in terms of intended outcome.

We found that the precise characteristics of the mechanism-outcome configurations are likely to vary depending on the context. This draws our attention to portfolio models of P&SCM practices. These suggest that the general mechanisms in each P&SCM theory used to explain different outcomes should be understood as an expression of specific practices or management interventions used in particular contexts.

2. Relevance and utility of P&SCM theories for NHS policy and practice

We found that all four of the P&SCM literatures identified by our review are of some relevance and use in making sense of policy and practice in NHS commissioning and procurement. We found that some of these P&SCM theories have been used much more heavily and explicitly than others as frames of reference in the particular contextual circumstances of the NHS. Transaction cost economics, agency theory and aspects of the

networks and inter-organisational relationships literature dealing with trust and collaboration, in particular relational contract theory, are the most frequently used. Some aspects of the integrated supply chain management literature, in particular concepts like lean, also feature heavily, but typically in an intra-organisational context focused on improving patient care pathways. By contrast, our review found that the organisational buying behaviour literature, the resource dependency models of power relationships in supply chains, and the inter-organisational supply chain management literature have been applied less explicitly or in a heavily circumscribed way in the NHS context.

3. Evidence on the impact of P&SCM practices and techniques

We found that empirical evidence on the efficacy of different P&SCM practices and techniques, informed by different theories, is highly fragmented and at times contradictory. Research to test the efficacy of practices and techniques in one phase of the P&SCM process, while in many cases systematic and co-ordinated, has largely been undertaken in isolation from testing in the other phases. There is very little empirical research that has considered all of the phases in the process and examined the connections between them. The evidence does suggest though that matching management practice appropriately with context is crucial in all phases. Key contextual variables identified by the literature are the characteristics of a purchase, the behavioural orientation of suppliers, national culture and buyer-supplier power.

4. Portfolio approaches to improving P&SCM practice in the NHS

The P&SCM process is complex and involves multiple contexts, phases and actors. There are also a very wide variety of practices or management interventions that can be used in each phase of the P&SCM process. In order to think about how we might improve P&SCM practice in the NHS, we need an approach that enables us to simplify the complex interplay of contexts, phases, actors and practices in the P&SCM process. We need to be able to categorise different P&SCM contexts and relate them to particular types of management practices aimed at achieving particular intended outcomes. Our review of the literature suggested that a portfolio approach would be the most effective way of achieving such a

categorisation. Our review has also shown that these models can and often should be used in a customised way to take account of the particularities of specific organisational contexts.

5. Areas for further research

We suggest three main areas for further research:

- Issues arising out of conflicting preferences and the role of power and politics in resolving such conflicts are not well understood, particularly in the context of NHS commissioning organisations. We recommend empirical research to examine the processes through which those working in clinical commissioning groups and commissioning support units are making different kinds of commissioning decisions and to see if the various factors proposed by the organisational buying behaviour literature can help us to make sense of these processes. This would provide an evidence base on which to consider how these commissioning organisations might improve their decision-making.
- We identified only a limited number of studies that use resource dependency theory to think about the impact of power on the scope for and the nature of collaboration between organisations in the NHS context. Moreover, those studies tend in most cases to look at dyadic relationships and to ignore the wider network in which those relationships are embedded. We recommend a study to examine the role of power in NHS healthcare networks, looking in particular at the resources that clinical commissioning groups might have at their disposal to encourage collaborative relationships with potentially powerful providers to bring about desired innovations and improvements.
- We recommend empirical research to explore how much understanding of integrated supply chain management thinking and techniques exists in NHS procurement organisations, to see which, if any, practices are currently being used and what scope there might be to implement such practices in a more comprehensive way.

Word count: 2,508

Plain English summary

New structures and policies are being introduced in the NHS as a result of recent legislation – the Health and Social Care Act 2012. Family doctors alongside other clinicians and managers are now organised as clinical commissioning groups, which are in charge of procuring healthcare services from providers for patients. Procurement of healthcare related goods and services also takes place in NHS hospitals. Those doing procurement in clinical commissioning groups and NHS hospitals need to gain a greater understanding of how this activity is done in commercial settings to improve their skills in the NHS. This study reviews research that has been done in this area already, presents an overview of it and uses it to suggest ways that clinicians and managers in the NHS can carry out their procurement role better. It first looks at studies that explain how procurement should be done in theory and then looks at how this compares to what has been done in the NHS over its recent history. It then looks at how procurement is carried out in other places and other types of industry, and from this review suggests improvements. By looking at this previous research, the study concludes that NHS staff involved in procurement need to address different procurement situations in different ways using a portfolio approach. This means that there are choices about how healthcare goods and services might be procured and that these should be made appropriately in line with the nature of what is being procured and with circumstances.

Word count: 250