

# **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**

Joe Sanderson,<sup>1\*</sup> Chris Lonsdale,<sup>1</sup> Russell Mannion<sup>2</sup> and Tatum Matharu<sup>1</sup>

<sup>1</sup>Birmingham Business School, University of Birmingham, Birmingham, UK

<sup>2</sup>Health Services Management Centre, University of Birmingham, Birmingham, UK

\*Corresponding author

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## **Scientific summary**

### **Enhancing NHS procurement and supply chain management practice**

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# 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 health-care commissioning cycle and in support of health-care 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. First, in the context of the coalition government's deficit reduction plan, the NHS was expected to save £20B 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. Second, the new commissioning structures and policies introduced by the 2012 Health and Social Care Act (Great Britain. *Health and Social Care Act 2012*. Chapter 7. London: The Stationery Office; 2012) have thrown up a number of management challenges. General practitioners (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 health-care 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

**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

### *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 precontractual steps of the P&SCM process)
- the economics of contracting literature grounded in agency theory and transaction cost economics (TCE), focusing on the selection and contracting phase
- the networks and interorganisational 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 (SCM) 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.

### *Relevance and utility of procurement and supply chain management theories for NHS policy and practice*

On NHS commissioning and procurement policy we found that:

- The economics of contracting literature provides a relevant lens for understanding policies to align the interests of patients and GPs and to drive the co-ordination or consolidation of NHS spending; agency theory and TCE are also relevant to the various market-based reforms introduced into the NHS since the purchaser–provider split in 1991.
- The networks and interorganisational relationships literature, particularly that addressing power, is relevant to joint commissioning or collaborative procurement initiatives, and for understanding why interorganisational co-operation has persisted alongside competition and market-based reforms in the NHS.
- Aspects of the integrated SCM 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 interorganisational relationships literature.
- Evidence on operational delivery is often discussed in terms of concepts drawn from the integrated SCM 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 interorganisational 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 SCM ideas and techniques to supply chains delivering physical goods to the NHS.

### ***Evidence on the impact of procurement and supply chain management 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 SCM practices, do not acknowledge the importance of contextual factors such as power and managerial behaviour. They are not, therefore, a fair test of the impact of these practices.

### ***Portfolio approaches to improving procurement and supply chain management practice in the NHS***

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 of 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 such as 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 such as 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, 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

### *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.

### *Relevance and utility of procurement and supply chain management 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. TCE, agency theory and aspects of the networks and interorganisational relationships literature dealing with trust and collaboration, in particular relational contract theory, are the most frequently used. Some aspects of the integrated SCM literature, in particular concepts such as lean, also feature heavily, but typically in an intraorganisational 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 interorganisational SCM literature have been applied less explicitly or in a heavily circumscribed way in the NHS context.

### ***Evidence on the impact of procurement and supply chain management 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.

### ***Portfolio approaches to improving procurement and supply chain management 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.

### ***Areas for further research***

We suggest three main areas for further research:

1. 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.
2. 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 health-care 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.
3. We recommend empirical research to explore how much understanding of integrated SCM 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.

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