Learning for the NHS on procurement and supply chain management: a rapid evidence assessment

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Scientific summary

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Background

NHS organisations are under pressure to make efficiency savings, while also being required to meet the growing demand for health care and ensure the quality of treatment and care. One area that has come under scrutiny is NHS trusts' non-pay expenditure, which, on average, accounts for around 30% of their total expenditure. Non-pay expenditure in the NHS has continued to rise and there is concern that levels of spending in this area are partly due to inefficiencies in operational and administrative functions, such as procurement; these are therefore seen as important areas to achieve efficiency gains. A recent review of progress made in the NHS towards achieving efficiency savings highlighted the need for robust evidence to help the NHS make informed decisions about how to make such savings, and pointed to the potential for lessons to be learned from activities and initiatives implemented elsewhere to enable the adoption of good practice. The work presented in this report seeks to contribute to this process by advancing our understanding of the evidence on procurement and supply chain management (SCM) in sectors within and outside health care that can inform practice in the NHS.

Objectives

Principally drawing on a rapid evidence assessment (REA), this study sought to

1. describe approaches to procurement and SCM in selected areas (including, but not limited to, manufacturing and automotive sectors, defence, information technology and pharmaceutical industries)
2. identify best practices that may inform procurement and SCM in the NHS.

Methods

We conducted a REA of available evidence on procurement and SCM in a range of sectors, including health care. We searched across MEDLINE, Cumulative Index to Nursing and Allied Health Literature, PsycINFO, Academic Search Complete, Social Sciences Abstracts, Military and Government Collection, EconLit and Business Source Complete, from January 2006 to December 2013. We considered reviews and primary studies that presented empirical evidence, for example testing a hypothesis or demonstrating practice, as well as case studies of specific experiences in the sector under review. We excluded studies that focused on conceptual or theoretical work and those with limited application to practice. The outcomes of interest were cost savings, efficiency (e.g. time saving or general business performance) or effectiveness (improved delivery of the organisation's aim, quality improvement). Outcomes could be reported qualitatively or quantitatively. Empirical studies that did not report outcomes were excluded. We only considered studies conducted in high-income countries. Eligible studies had to report on aspects of procurement or SCM that were potentially transferable to a health-care setting. We included studies from trade and professional journals and grey literature which provided examples of approaches successfully applied (in industry or other sectors).

We complemented the review with interviews with a small set of key informants working within the NHS or in the private sector supporting the NHS in procurement functions. This component of the research was designed to be exploratory, to help contextualise the findings of the evidence review in the NHS and inform how our findings might best be used to meet the needs of the NHS. We further provided a review of experiences in two countries (France and New Zealand), focusing on their procurement and supply chain

strategies within their respective health systems. The international component of the study drew on information provided by a subject matter expert in each country, supplemented by a document review.

Findings

We identified a total of 72 studies eligible for inclusion in the review. Evidence identified covered a range of sectors and industries, including textiles, information technology, the automotive industry and manufacturing, alongside the health-care sector. Overall, the body of empirical work in the fields of procurement and SCM was limited, both in quantity and in quality. At the outset it was challenging to identify examples of good practice given the theoretical nature of much of the literature in these fields. Studies presenting practical examples tended to be rather weak in terms of methodology, lacking adequate description of methodological design and strategy for analysis.

Based on the empirical literature, we identified three general themes for potential learning: (i) organisation and strategy, (ii) collaboration and relationships, and (iii) materials and information management. Within the theme of organisation and strategy we identified three subthemes: (a) aspects of sustainability and 'green' issues with respect to managing and operating an organisation, (b) collaborative, or group, purchasing and (c) supply chain integration, alignment and quality improvement. The use of 'green' supply chain practices can lead to increased staff morale and organisational reputation and, in some cases, provide financial incentives by avoiding unnecessary waste. Available evidence points to the potential for cost savings through collaborative purchasing in health-care settings, particularly by strengthening of the service providers' position in price negotiations; however, further empirical evidence is needed to understand the extent to which this is an effective means to reduce costs of procurement. Studies also point to the importance of integration and alignment of corporate strategies and values within and across organisations, leading to improved organisational performance. Overall, the empirical evidence base was found to be weak, specifically with regards to practice-based evidence or evaluations of alternative approaches or interventions for better procurement and SCM.

Under the theme of collaborations and relationships, intrateam collaboration and the engagement of practitioners were recognised as enablers for effective procurement and SCM performance. In health care, clinicians were described as important actors in the procurement process, and experiences gathered from New Zealand and France pointed to the core role of clinicians in strengthening the effectiveness of procurement practices. Thus, clinician input can be seen to ensure that procurement activities meet service needs and benefit patients. Skills and capabilities of purchasing professionals were also noted as a key enabler of better procurement performance. This aspect emerged as a particularly strong theme from the international case studies in New Zealand and France, where lack of procurement capacity and capability has been viewed as one of the key barriers to effective procurement in the health-care sector.

Under the theme of materials and information management, the use of electronic means and automation of purchasing functions (e.g. online purchases or software for internal use) have been associated with more efficient inventory control and cost savings. These outcomes were more easily measured and evaluated in the studies we reviewed, with little reference made to these issues by key informants. Studies in health-care settings highlighted the potential safety implications of using tracking approaches such as radio frequency identification tagging, as this would allow for location of devices in hospitals and improved inventory management so that devices are readily available when needed at critical times.

Conclusions and research recommendations

The study highlights that there is awareness within scholarly research and industry that procurement and SCM are areas for creating efficiencies and cost savings. Several dimensions within procurement and SCM for improving organisational performance and outcomes were explored: organisation and strategy, the option of collaborative purchasing, improving relationships with suppliers, building capabilities for skilful purchasing decisions and the use of technology for data and materials management. Within the NHS specifically, these opportunities for better practice would require an examination of which good practices relate to which purchases, be they consumables, small routine items or larger medical equipment. However, some general principles, such as the use of collective purchasing, the engagement of clinicians, the promotion of environmentally sustainable approaches and the automation of purchases and inventory control, offer potential for creating efficiencies. The overall empirical evidence base was found to be weak (especially with regard to practice-based evidence), and the majority of mechanisms were only described as before-and-after studies with little rigorous evaluation of their effects. Against this background, we have identified a number of recommendations for further research in this area.

1. There is a need for further research using rigorous methodology to assess the effectiveness of different types of interventions in different settings for improving procurement and SCM. Many of the studies identified constituted modelling or theoretical approaches rarely tried in practice.
2. There is a need for more empirical research on current practices in health-care procurement and SCM, or evaluation of new practices in health-care settings as a means to understand their particular challenges and areas for improvement. A review of current practice in other industries, owing to its limitations in applicability, can only suggest general lessons, and ultimately these would have to be tried out in practice.
3. An evaluation of the Department of Health's 2013 Procurement Development Programme and its recommendations may provide an opportunity to focus evaluation efforts. Recommendations arising from this programme, including capacity training of procurement staff, better data management and strengthened clinician engagement, are believed to lead to efficiency savings and more streamlined SCM across the NHS.
4. There is a need for more interdisciplinary work across health-care management and SCM, taking account of differences in the application of methodological concepts. If adequate learning is to be compared across health-care management and general SCM research fields, future research is needed that acknowledges these differences but builds frameworks and approaches to adequately draw learning from each field.

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