Chapter XXXVI
Integration Issues in the Healthcare Supply Chain

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ABSTRACT

The efficacy, quality, responsiveness, and value of healthcare services provided is increasingly attracting the attention and the questioning of governments, payers, patients, and healthcare providers. Investments on integration technologies and integration of supply chain processes, has been considered as a way towards removing inefficiencies in the sector. This chapter aims to initially provide an in depth analysis of the healthcare supply chain and to present core entities, processes, and flows. Moreover, the chapter explores the concept of integration in the context of the healthcare sector, and indentifies the integration drivers, as well as challenges.

INTRODUCTION

Healthcare organizations, just like many other business entities, are information-intensive enterprises, generating on a daily basis huge volumes of data from many different units such as clinics, laboratories, surgeries, pharmacies, administrative offices, and so on. At the same time, the healthcare industry has become tremendously complex and specialized, with numerous entities

being simultaneously involved in many interactions and processes during the provision of patient care, including hospitals, individual physician and specialty practices, pharmaceutical and medical suppliers, and finally insurance companies.

Within this interdisciplinary and competitive healthcare environment, it is commonly accepted that the safe, high quality, and cost effective delivery of healthcare services depend heavily on timely access to accurate and comprehensive information. Many business analysts, as well as scientists, have emphasized over the years the need to treat information as a valuable resource, which has an important role to play not only in the successful operation of an entire healthcare organization, but also in delivering value to its stakeholders (e.g. patients, professionals, government authorities, etc.). Thereby, information management and its environs have emerged from a secondary to a primary subject of institutional management, constituting a critical component in the process of successful healthcare delivery. This new business strategy has forced many healthcare organizations to reorganize their processes, and implement new Information and Communication Technologies (ICT), such as Internet applications, enterprise systems, and mobile technologies, in order to reduce costs, be more competitive, and provide better and more personalized patient care (Siau, 2003).

Furthermore, healthcare providers and institutions nowadays are being constantly under an increasing pressure, from different sides (e.g. consumers, payers, government) to deal with a number of inefficiencies, in order to achieve an optimum balance between improvements in quality healthcare services and cost effectiveness (Norris, 2002). Most of these inefficiencies are nowadays perceived, in comparison to the past, to be a problem that concerns not single healthcare entities, but rather the entire healthcare supply chain. In fact, supply chain management inefficiencies and its accrued costs have been identified as one of the largest areas of spending in healthcare, where improvements must be made. According to many surveys (CSC Consulting, 1996; HFMA, 2002), supply chain costs can actually account for over one-quarter of a hospital's operating budget, while the healthcare industry could significantly improve its ability to deliver quality healthcare products and services to consumers and save as much as $11 billion in supply chain costs. Savings opportunities, which based on the report, are not currently exploited by organizations due to supply chain inefficiencies, such as ineffective inventory control and materials management, inadequate purchasing orders, inefficient product movement, redundant processes, and distortion of information flows, involved in the transport and delivery of supplies to the healthcare providers. Nevertheless, despite the fact that the supply chain management concept has been widely accepted and practised in many different business sectors, there is still relatively little evidence of its successful presence in the delivery of healthcare at the point of use (Towill & Christopher, 2005).

Evidently, there is an apparent need for improvements in the healthcare supply chain, with respect to streamlining information flows and information sharing processes. This need is definitely not a new one as many authors in the literature have described the significant importance of information management and system integration as a vital element in this drive toward improvements in the efficiency and effectiveness of the supply chain (Thoneman, 2002; Bartezzaghi, 1999; Spekman et al., 1998). Xu et al. (2005) suggest that a competitive value chain requires, from the information systems perspective, the transparent availability of accurate and pertinent information in the right format to the proper users, at the right time to ensure that decision-making can be made in a timely manner across the whole supply chain. Dongsoo (2005) and McCann (2003), also argue that one of the most important critical success factors towards added value in the supply chain management is the facilitation of efficient and effective information sharing between the involved