

THE ROLE OF SUPPLY CHAIN MANAGEMENT IN THE HEALTHCARE SECTOR: A CASE STUDY OF DISPENSARIES IN ELDAMA RAVINE, BARINGO COUNTY, KENYA

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ABSTRACT

Purpose of the study: Supply Chain Management continued to become an integral element in healthcare sector. Thus, the paper sought to find out the impact of supply chain management on the quality of healthcare service in dispensaries at Eldama Ravine Town.

Research Methodology: The research was conducted through a descriptive design using a survey of five dispensaries in Eldama Ravine town to identify the effect of supply chain management on quality of health services. The study employed purposive sampling to select the sample and sample elements. Structured questionnaire was used as a data collection instrument.

Findings: The majority of the respondents were males (69%), while the main age group was between 41-50 years (41.7%). Bachelor's degree holders were the largest percentage among members of the study sample with a percentage of 58.3%. In regards to experience years, the majority of the respondents were between 5-10 years. The correlation coefficient of supply chain management measurements with the quality of healthcare services was 0.5 and the Beta value was 26.2. The coefficient of determination value was found to be 0.25.

Conclusions: The research concluded there is a significant effect of supply chain management measurements on the quality of health services, but indicated a low correlation between supply

chain management and the quality of health services based on demographic variables like gender, qualification, age, or experience

Recommendations: The study recommended that the management of healthcare service providers need to give emphasis to supply chain management activities in order to improve quality of healthcare services. The healthcare institutions should also recruit highly skilled and specialized personnel in the supply chain department and be trained on quality standards so that they can appropriately handle suppliers in accordance with specific technical guidelines.

Keywords: *Supply chain management, quality of healthcare services, dispensaries, Eldama Ravine, Baringo, Kenya*

INTRODUCTION

Supply chain management incorporate activities involved in controlling the flow of information, materials, services and funds among supply chain partners in order to satisfy consumer needs in an efficient way; with the aim of improving operations, service delivery and reduction of costs (Chopra, & Meindl, 2007). Supply chain management in the health sector is an intricate system that is concerned with the resources and services that are related to patient care. The objective of supply chain management in the healthcare sector is to enable visibility of products in the distribution network and ensure the delivery of products in a timely manner. The healthcare sector consists of institutions that manufacture medical equipment and medications, provide medical services, provide medical insurance and facilitate the provision of healthcare to patients. Depending on the category of supplies, the healthcare sector has two options for purchasing. One is to purchase through a main contracted distributor, the other option is to purchase through a government medical organization that contracts a manufacturer and purchases for a group of health facilities.

Supply Chain Management in healthcare should ensure complete end to-end visibility of information among suppliers, manufacturers, distributors and customers. The involvement of the government, regulatory agencies, and insurance companies makes health care supply chain more multifaceted (Ryan 2005). To enable the healthcare service providers to receive treatment supplies and the equipment needed for the patients' healthcare, a well-organized and connect supply system needs to be in place.

LITERATURE REVIEW

Healthcare Supply Chain Management

Supply chain management is the control of the extended flow of goods, services and information starting from raw materials and going finally to the end user (Kaplan et al 2007). It provides a connection between local and global companies to integrate the process of management and to manage the interaction between all members of a supply chain (Parker & DeLay. 2008). The healthcare supply chain involves the flow of different product types and the participation of several stakeholders. In healthcare sector, supply chain management has gained importance because of movement of pharmaceutical products to achieve patient satisfaction and improve service quality. The stakeholders in the healthcare supply chain can be divided into three major groups: manufacturers, procurers, and healthcare providers. Manufacturers in the healthcare supply chain are involved in the creation of the original medical equipment and devices, and the formulation of the active ingredient contained within the medication.

Manufacturers include pharmaceutical companies, medical-surgical products companies, medical devices manufacturers, and manufacturers of medical capital equipment and information systems. The secondary manufacturers are involved with the assembly of equipment and devices; conversion of the active ingredient into useable products such as syrup, tablets or capsules; and packaging and labelling. The secondary manufacturing may be geographically separated from primary manufacturing so as to serve targeted regional markets (Shah et al, 2008). Purchasers include grouped purchasing organizations, pharmaceutical wholesalers, distributors, independent contracted distributors, and product representatives from manufacturers. Providers include Hospitals, Physicians, Clinics and Pharmacies (Toba et al, 2008).

The healthcare supply chain is described as highly fragmented and relatively inefficient (Schneller & Smeltzer 2006). This is because each stage of the supply chain operates independently, leading to nonaligned operations that prevent the supply chain from operating as a unit system. Some of the challenges in the healthcare supply chain includes contract non-compliance, lack of inventory control, excess inventory levels, stock-outs, costly emergency deliveries and expensive equipment rework. The introduction of e-procurement systems in healthcare can reduce purchasing costs through the consolidation of supplier networks and creation of supplier partnerships (Schneller & Smeltzer 2006). The healthcare supply chain network can be summarized as shown in Figure 1.

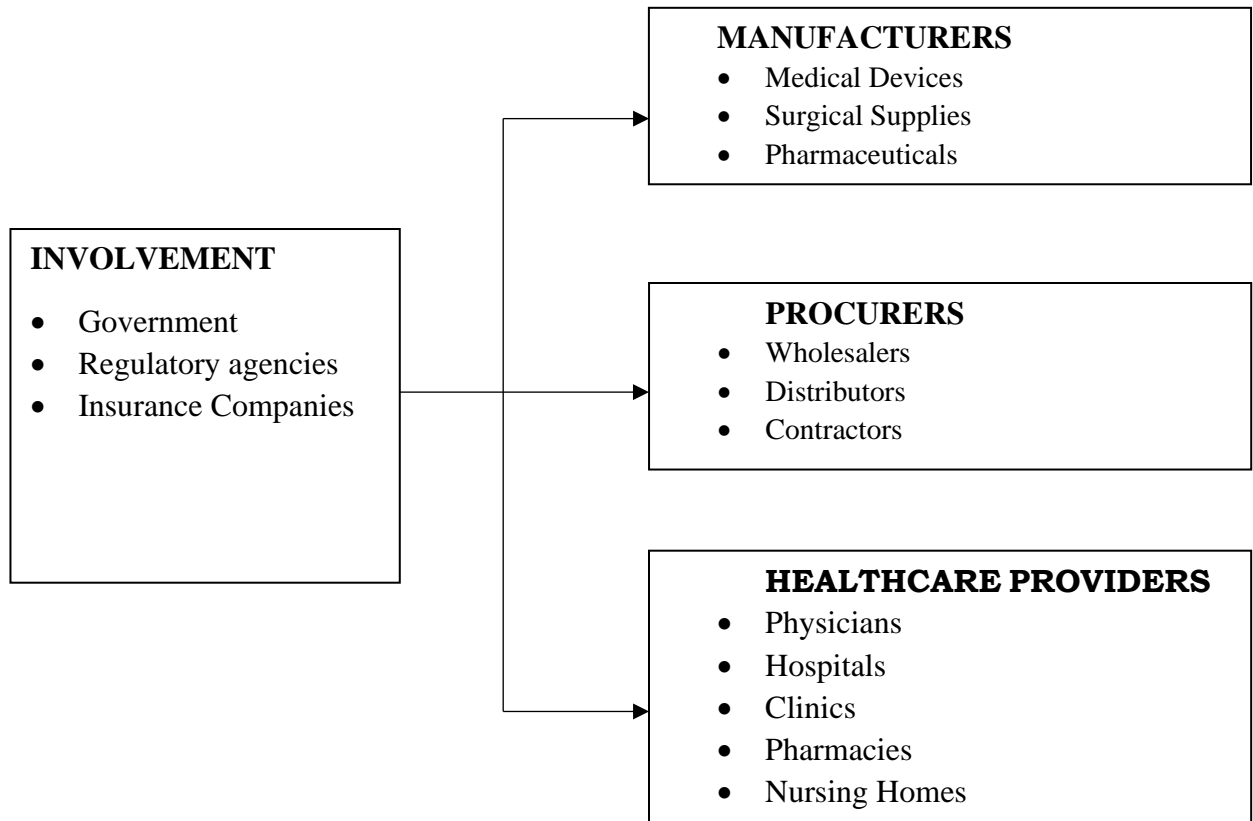


Figure 1: Healthcare Supply chain structure

Procurement in healthcare are the activities and processes that lead to the acquisition of healthcare resources. During procurement, healthcare institutions may encounter challenges when acquiring a new product associated with technology advancement, high cost, new supplier and customer dissatisfaction.

The effects of supply chain management on health care quality may be viewed from the perspective of the recipient of the healthcare service or from the healthcare administrative perspective. The quality of healthcare services looks at from an administrative perspective primarily has to do with making use of available resources economically, and the ability to attract new resources to meet the desired objectives of providing the right service at the right time at a reasonable cost.

This research aims at finding out the relationship between the supply chain measures and the quality of health services indicators as shown in Figure 2

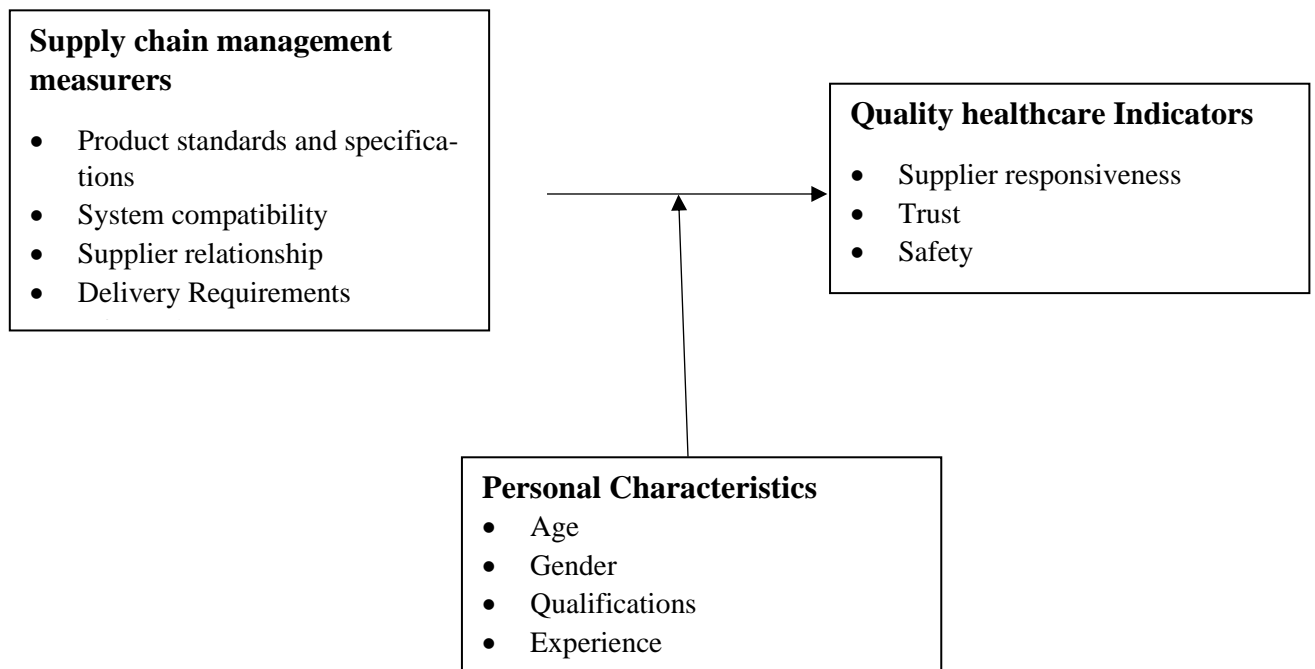


Figure 2: The research framework

RESEARCH METHODOLOGY

The research was conducted through a descriptive design using a survey of five dispensaries in Eldama Ravine town to identify the effect of supply chain management on quality of health services. The study employed purposive sampling to select the sample and sample elements. This resulted to a sample size of 24 procurement and management officers. Structured questionnaire was used as a data collection instrument. A total of 96 questionnaires were distributed to the employees working in the procurement and supply chain management department.

RESEARCH FINDINGS

The summary of the personal characteristics (gender, age in years, qualifications and experience in years) is presented in Table 1

Table 1: Study sample

Variable	Categories	Frequency	Percentage
Gender	Male	66	69
	Female	30	31
Age in Years	18-30	8	8.3
	31-40	32	33.3
	41-50	40	41.7
	Above 51	16	16.7
Qualifications	Diploma	40	41.7
	Undergraduate	56	58.3
Experience Years	Less than 5	22	22.9
	5-10	36	37.5
	11-15	24	25
	Above 15	14	14.6

Based on the study results presented in Table 1, the majority of the respondents were males (69%), while the main age group was between 41-50 years (41.7%). Bachelor's degree holders are the largest percentage among members of the study sample with a percentage of 58.3%. In regards to experience years, the majority of the respondents were between 5-10 years. Further, the regression analysis was examined to ascertain the influence of supply chain management measurements on the quality of healthcare services as summarized in Table 2

Table 2: The Simple Regression Analysis of Supply Chain Indicators

Variables	Quality of	Healthcare	Services
	Beta Value	Coefficient of correlation (R)	Coefficients of determination (R ²)
Standards and Specifications	54.6	0.39	0.16
Delivery Requirement	41	0.35	0.12
Supply Chain Management	26.2	0.50	0.25
Supplier Relationship	58	0.40	0.16
After-sale Support	64	0.43	0.18

The results in Table 2 shows that the correlation coefficient of supply chain management measurements with the quality of healthcare services was 0.5 and the Beta value was 26.2. The

Coefficients of determination (R^2) ratio is the proportion of variation in quality of healthcare services that can be explained by supply chain management measurements. This ratio had a value of 0.25, and indicated that supply chain management measurements impact on to the quality of healthcare services in the dispensaries under study.

The research pointed out the importance of supply chain management in the healthcare sectors and its effect on service quality. The comparative influence of supply chain management measurements in the quality of healthcare services was noted to be 0.25. The study supported other research that have been done to emphasize the uniqueness of supply chain management, and its impact in the quality of services provided.

CONCLUSION

The research revealed there is a low correlation between supply chain management measurement and the quality of healthcare services based on demographic factors such as age, gender, educational qualification and experience. It was noted that the management of healthcare sector should be aware of patients' needs and expectations and refer to them when providing healthcare services. Healthcare management need to take into account the gender, age and the future needs of the patients when procuring medical equipment, pharmaceuticals and other healthcare tools. The recruited healthcare staffs should be selected based on their medical qualifications, ability to effectively communicate with the patients and technical knowledge of medicaments and equipment used in the healthcare facility. It was concluded that healthcare service providers' knowledge about service quality is a decisive element in continuous quality improvement.

RECOMMENDATIONS

Based on the research study results, it was recommended that the management of healthcare service providers need to give emphasis to supply chain management activities in order to improve quality of healthcare services. The healthcare institutions should also recruit highly skilled and specialized personnel in the supply chain department and be trained on quality standards so that they can appropriately handle suppliers in accordance with specific technical guidelines. It was discovered that, in order to achieve its objectives of value addition, the supply chain management in the health sector needs to have a central role with specific tasks and objectives within the healthcare sector. Further research needs to be done to ascertain how qualitative indicators in the health sector influence the role of supply chain management and the quality of services in health service sector.

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