

# Role of Supply Chain Management in Quality of Healthcare Services

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**Abstract:** Healthcare organizations in Haryana (Kurukshetra) face many supply chain management challenges that can be addressed through effective operational and management decisions. The aim of this paper is to examine the supply chain management of healthcare quality in developing countries, particularly in rural healthcare in Haryana (Kurukshetra), and to consider demographic variables such as gender, age, education level and healthcare experience. Design and Hypothesis Testing Approach Distributed 500 questionnaires to determine the impact of aspects of supply chain management on the quality of health services. 27 of his seven procurement officers and administrative staff in Kurukshetra Haryana. The primary method was to collect data from 73 rural health managers and procurement managers to identify the quality and size of health services. The results of our study show that a combination of timely delivery of health products, specifications, level of health product providers and safety in the rural health sector of Haryana (Kurukshetra) is related to the quality of health services. The scope of this article focuses on employing appropriate human resources and highly trained professionals in supply chain departments to improve the quality of health services in the supply chain. As a practical contribution, this article can help healthcare supply chain managers and organizations do their jobs better or create a competitive advantage by addressing the issues and challenges facing individual healthcare managers, organizations and their partners.

Keywords: Supply Chain Management (SCM), Healthcare, Quality Services

## INTRODUCTION

The term "supply chain management" (SCM) was introduced in 1982 and, according to the Supply Chain Management Professional Council, is the integrative function primarily responsible for linking critical business functions and processes within and between enterprises is described as [1] Encompasses the planning and management of procurement and procurement, transformation, all logistics management activities, and all activities related to manufacturing operations, facilitating the coordination of processes and activities, marketing, sales, product design, finance, and information between techniques. SCM also includes coordination and collaboration with channels his partners such as suppliers, intermediaries, third parties, and customers. [2]

The healthcare sector around the world is currently undergoing major changes due to legal and regulatory barriers, globalization, and rising operating costs. Many healthcare leaders strive to reduce the cost of inbound shipments while maintaining quality standards. However, it has been argued that many healthcare institutions ignore the total costs provided (Kumar et al, 2008). [3] Various other issues in health services, such as communication, patient safety, waiting times, and integration, have also been identified by existing research (Meijboom, et al., 2011).[4] In nearly every country in the world today, improving hospital supply chain performance is recognized by all healthcare institutions as an enabler for improving operational efficiency and reducing costs (Chen, 2013 Year). [5]

Health care is the continual maintenance of health through the prevention, diagnosis, and treatment of illness and physical and mental disorders in people. Healthcare logistics include pharmaceuticals (Heinbuch, E. Susan, 2005), medical and surgical supplies, equipment, and other products needed by healthcare professionals such as doctors, nurses, and administrative staff. [6]

Hospitals are currently working to identify areas of weakness that can be done to improve service quality and patient care. SCM's top priority is transparency in all processes. Information flow should be centralized and

checked/corrected in a timely manner. Visibility and clarity of information must be maintained among manufacturers, retailers, insurers, providers, and patients. [7]

Reducing healthcare costs has become the mantra of many hospitals and medical practices, especially as payers begin to tie reimbursement value to quality and value for money. A supply chain generally refers to the resources required to provide goods and services to customers.[8] Healthcare supply chain management, therefore, includes procuring resources, managing supplies, and delivering goods and services to healthcare providers and patients. Vendors use a variety of items, including syringes, prescription drugs, gloves, pens, paper, and computers. Healthcare supply chain management is responsible for supplying the products required by providers and managing inventory in the organization with the association of employees. [9]

However, managing the supply chain is not as simple as ensuring that vendors have enough gloves. James Spann, the leader of Simpler Healthcare's Supply Chain & Logistics practice, said: a 2015 interview. "The challenge for hospitals is aligning the supply chain with the care model." [10]

India's healthcare sector offers a wide range of quality healthcare services, from world-renowned hospitals to facilities with an unacceptable quality of care. Efforts to improve the quality of intensive care are hampered by the lack of reliable quality data and technical difficulties in measuring quality. Ongoing efforts in the public and private sectors aim to improve data quality, develop better policy and understand quality of care, and develop innovative solutions to long-term challenges. [11 ]

Supply chain can be defined as the life cycle process or path of an item from producer to point of use and payment. A supply chain consists of physical, information, financial, and knowledge flows with the aim of satisfying end-user needs with products and services from many interconnected sources (Health Systems). University of Maryland, 2008). [12] The ultimate goal of the supply chain is to provide materials and information that help patients receive quality care. An efficient supply chain delivers the right materials and information to the right place, at the right time, and in the right quality. [13] The objective of this study is to investigate supply chain management of health service quality in a rural health facility in Haryana ( Kurukshetra).

## **METHODOLOGY**

### **Design & Participants:**

The study used primary data collected from supply chain managers and purchasing staff in rural hospitals. Questionnaires were prepared and administered to 473 specialist agents in the healthcare sector to identify aspects of healthcare supply chain management and health service quality in the medical field.' Haryana (Kurukshetra). Several interviews were conducted during the investigation and key points were subsequently covered in our investigation.

### **Data Collection and Sample:**

A total of 500 questionnaires were conducted in rural hospitals, of which 27 were incomplete and 473 were calculated using the standard sample size method. An initial survey tool/questionnaire built from existing literature/work on relevant topics (e.g. by Paul Oguya Odhiambo, 2014; Md. Mobarak Karim, 2020) [14] was adjusted and revised to include respondents' socioeconomic information (gender, age, education, and years of work) and was used for data collection. Data were collected from all 7 blocks (Thanesar, Shahbad, Pehowa, Ladwa, Ismailabad, Babain and Pipli including rural health facilities in Haryana (Kurukshetra). supply chain management for healthcare service quality [15].

## **RESULTS:**

### **Explanation of the Variables:**

The survey is divided into four parts; In the first section we measure the demographic profile of variables which includes Gender, Age, Education and Work Experience, In the second part there are 4 dimensions of supply chain management, each dimension is consist of 5 items and 20 items are used to measure SCM, with interrelationships between supplier relationships, compatibility, specification and safety, in healthcare in the form of Independent variables. In the second part, 5 dimensions are used with 25 items, allocated to the respondents to measure the

quality of students as a dependent variable through relevance, tangibles, reliability, responsiveness, assurance. and empathy. A pilot study was also conducted to examine the reliability of the survey after interviewing potential executives from the Procurement departments. The study's overall Cronbach's alpha was 0.90, which is significant in social science research [Reynaldo & Santos, 1999]. Table 1 show that the male response rate is 69.3% and the female response rate is 30.7%. The majority of respondents are between the ages of 25 yrs. and 35 yrs. The largest number of respondents in the sample is graduate students and the majority of respondents have more than 8 years of professional experience in the health sector as a supply chain manager or administrative officer. of Haryana (Kurukshetra) (see Table 1). The population for this study was from hospitals in rural Haryana (Kurukshetra). A qualitative method was used in this article to determine the role of SCM on Healthcare service quality.

**TABLE: 1 DEMOGRAPHIC PROFILE OF THE SUBJECTS:**

Variables	Opts	Percentage (%)	Frequency(f)
Gender	Male	69.3%	328
	Female	30.7%	145
Age	25-35 years	59.4%	281
	36-45 years	26.2%	124
	46-55 years	9.3%	44
	Above 55 Years	5.1%	24
Educational qualification	Undergraduate	10.1%	48
	Graduate	30.7%	145
	Postgraduate	59.2%	280
Work experience	0-3 years	7.8%	37
	3-6 years	34.0%	161
	6-8 years	19.7%	93
	> 8 years	38.5%	182

### Preliminary Analysis

This section presents the results obtained using SPSS software. First, the correlation test was examined to discover the relationship between all the variables. After this regression test is run on all the assumptions to determine the influence of the independent variables on the dependent variables. This is done by computing the moment-to-moment correlation of the Pearson product between all variables.

### Plan of Analysis:

Analysis and interpretation of data was done according to the objectives using descriptive and inferential statistics. The level of significance chosen was at  $p \leq 0.05$ .

### Organization of Analyzed Data:

The analyzed data was organized according to the objectives and presented under the following sections:

### Description of demographic profile:

This section describes the demographic characteristics of the sample under study. The data obtained describes the characteristics pertaining Gender, Age, Educational qualification, Work experience.

**Table –2: Frequency & Percentage distribution level of Supply Chain Management**

Criteria measure of supply chain management score		
Level of scores n= 473	Percentage	Frequency
<b>Good supply chain management.(74-100)</b>	8.5%	40
<b>Average supply chain management.(47-73)</b>	19.0%	90
<b>Poor supply chain management.(20-47)</b>	72.5%	343

Maximum =100 Minimum=20

**Table – 3: Descriptive statistics of Supply Chain Management**

					<b>N=</b>	<b>473</b>
<b>Descriptive statistics</b>	<b>Mean</b>	<b>Median</b>	<b>S.D.</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Range</b>
<b>Supply Chain Management score</b>	<b>42.43</b>	<b>42</b>	<b>14.99</b>	<b>74</b>	<b>20</b>	<b>54</b>

Maximum=100 Minimum=20

**Table 3.** Represents the descriptive statistics of Supply Chain Management. It was found that the mean value was 42.43, median score was 42, maximum score was 74, minimum score was 20, and range of score was 54.

**Hypothesis Testing:**

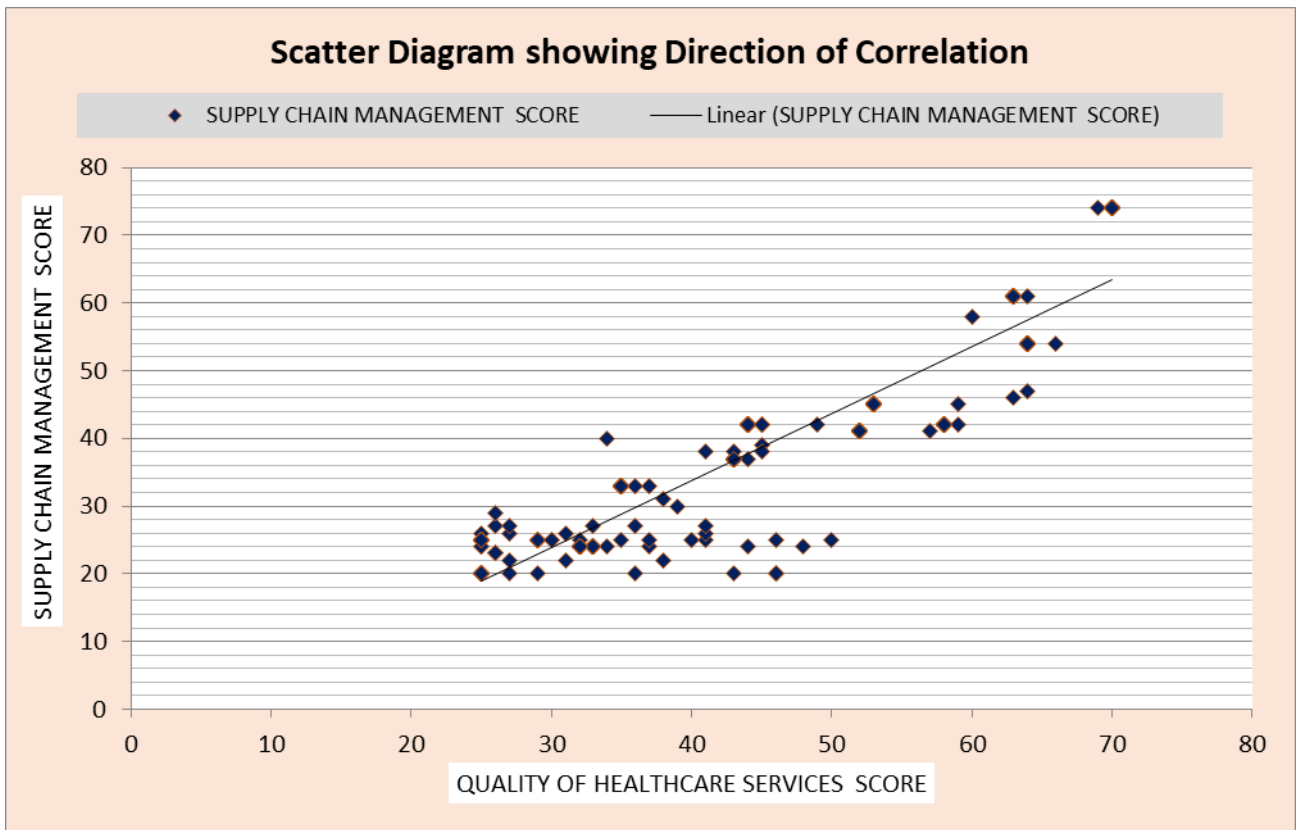
For a hypothesis to be accepted it needs to have a significant result  $\leq 0.05$ , otherwise, it will be rejected. All hypotheses have significant results and are, thus, all accepted. Therefore, there is a positive and consequential influence of supply chain management dimensions on the quality of Healthcare Services in Kurukshetra (Haryana).

**Correlation:**

**Table 4.:**

<b>Descriptive Statistics</b>	<b>Mean</b>	<b>S.D</b>	<b>N</b>
Supply Chain Management	42.433	14.989	473
Quality of Healthcare Services	48.727	13.936	473

**Table 5:**



**Table 6:**

Variable 1	with	Variable 2	Pearson Correlation	P Value	N	Result
Supply Chain Management	with	Quality Of Healthcare Services	.920**	<0.001	473	Significant

**DISCUSSION**

In this section, we describe the contribution of this article to management professionals, focusing more on what experts and organizations need to know to do their work better or to build a better quality management system for health services. So we focus much more on what the results mean for managers and healthcare organizations. This article analyzes the impact of the dimensions of HSCM, in addition, this study also lists the skills of managers and leaders of health centers in the context of rural health services. The presented framework covers two management domains (resource management and professional and personal use) and five technical domains (supplier relationship, compatibility, specification and security).

It can guide health professionals to apply procedures and processes correctly [Loevinsohn, 2008]. Given the complexity of human resource management (HRM), a specific plan may be necessary to improve relevant SC policies and procedures. Ideally, this plan should be integrated into broader national security and HR strategies. Key health care stakeholders (Ministry of Health and/or health worker administrations and developers working in human resource management in health care organizations) must be involved in the planning and implementation process, even if they are not typically involved in SC interventions. Stakeholder engagement can be difficult because health and HR professionals may feel it is not their responsibility. However, the lack of SC-tailored HRM policies may weaken the sustainability of capacity building activities.

**CONCLUSION:**

The objective of this paper is to study the impact of supplier SCM sizing, specification, standards, delivery and after-sales service on healthcare quality services (responsibility), reliability and safety) in Kurukshetra (Haryana) and based on the results of this study, we recommend better involvement of regulators and/or their organizations in the health sector. The results of this paper show that there is a significant relationship with the SCM aspects and Quality of Healthcare Services in Kurukshetra (Haryana). In addition, this study investigated SCM aspects of Quality of Healthcare Services management in Kurukshetra (Haryana).. This article is written about the rural health sector in Kurukshetra (Haryana) which is limited. In the future, researchers will be able to integrate other aspects of HSCM to measure the Quality of Healthcare Services or any other fields using qualitative research methods.

#### **RECOMMENDATIONS:**

Based on our research, there are recommendations to improve health care management services in Kurukshetra (Haryana) and also in rural health organizations; The rural health sector in Kurukshetra (Haryana) needs to focus on proper strategic management responsibility, SCM and its activities to improve the quality of health services. Practitioners and management of health organizations in Kurukshetra (Haryana) must communicate and build relationships with providers to improve the quality of health services. We strongly recommend that healthcare management focus on hiring appropriate human resources and highly skilled professionals in healthcare supply chain (HSCM) disciplines to improve healthcare quality and practitioner management. Health management should establish the appropriate standard and provide timely deliveries to customers to maintain the quality of health care and the management of health organizations. Management behavior of rural health organizations should be positive to customers after the sale of goods and services.

#### **FURTHER STUDY:**

Only rural hospitals in Haryana (Kurukshetra) were considered in this study. In future research, consideration should be given to expanding the scope to include city hospitals. Other studies related to the health sector, including comparative studies between the rural, urban and military health service sectors, may also be undertaken.

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