

A STUDY RELATED TO THE IMPACT OF THE MERGER AND ACQUISITION OF GIANT CHAIN HOSPITALS ON THE SUSTAINABILITY HEALTHCARE OF INDIAN HOSPITALS

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Abstract

There has been an enormous shift in the Indian healthcare sector in recent years, marked by the rise of giant hospital chains and an increase in “mergers and acquisitions (M&A).” This study aims to examine the impact of the merger and acquisition of giant chain hospitals on the sustainability healthcare of Indian hospitals. The study uses primary data collection methods and purposive sampling to achieve its aims. The primary data is analyzed based on a sample of 384 hospital workers in India. The questionnaire used in the survey is closed-ended. Careful use of software (MS-Excel and SPSS) and methods (Mean, Standard deviation, and Regression) were put into collecting and analyzing the data. According to the results of this study, hospital mergers and acquisitions have a positive effect on hospital performance in India. The study further demonstrates that the sustainability of healthcare is enhanced by the implementation of mergers and acquisitions.

Keywords: Merger and Acquisition (M&A), Giant Chain Hospitals, Healthcare Sector, Healthcare Sustainability, Healthcare Policy

INTRODUCTION

One of India's most rapidly growing industries, healthcare also makes a substantial impact on the country's GDP (Jakovljevic et al. 2020). With regards to healthcare service quality and availability to the general public, India ranked 145th out of 195 nations. According to the Indian Healthcare Industry Report 2019, a number of factors are causing the Indian markets to fluctuate constantly nowadays, making it difficult for hospitals to remain stable in the country's very competitive industry (Swarnakar, et al. 2021). Three factors (social, environmental, and economic) can be considered to promote sustainability. According to this viewpoint, the problem facing healthcare organizations is to consider the needs of each stakeholder while striking the correct balance “between the triple bottom line (3BL) of sustainability” (Alves and Alves 2015; Zhu, et al. 2018).

Hospitals close to one another are frequently involved in merger deals when different hospitals join together under a shared license (Dafny et al. 2019). Acquisitions happen when two or more hospitals join forces while maintaining their own legal identities; they can take place between hospitals that are close by or far away. Mergers and acquisitions may represent quite diverse hospital objectives, and as a result, may impact efficiency in various ways (Cuellar & Gertler 2003). Mergers or acquisitions can result in hospital consolidation (Ho & Hamilton 2000).

Multihospital systems, that acquired freestanding hospitals, were the key participants in this extensive M&A boom (Fennell & Alexander 1993). The primary factors commonly mentioned to elucidate the heightened integration of the sector in recent decades encompass the expanding market influence, economies of scale and scope, reduced duplication of resources, enhanced training effectiveness, improved

efficiency and wider availability of care, and the exchange of expertise within multispecialty groups (Angeli & Maarse 2012).

The quality of treatment may either increase or decline as a result of hospital mergers and acquisitions. For example, acquiring hospitals may provide “managerial, clinical, or operational experience to the hospitals that they acquire.” The larger size brought about by a merger might enhance clinical results (for example, through volume-outcome effects). The availability of information regarding hospital quality may have strengthened competition based on patient outcomes, leading to increased market share for top hospitals; as a result, the consequences of weakened competition may now be more significant (Duggirala, et al. 2008).

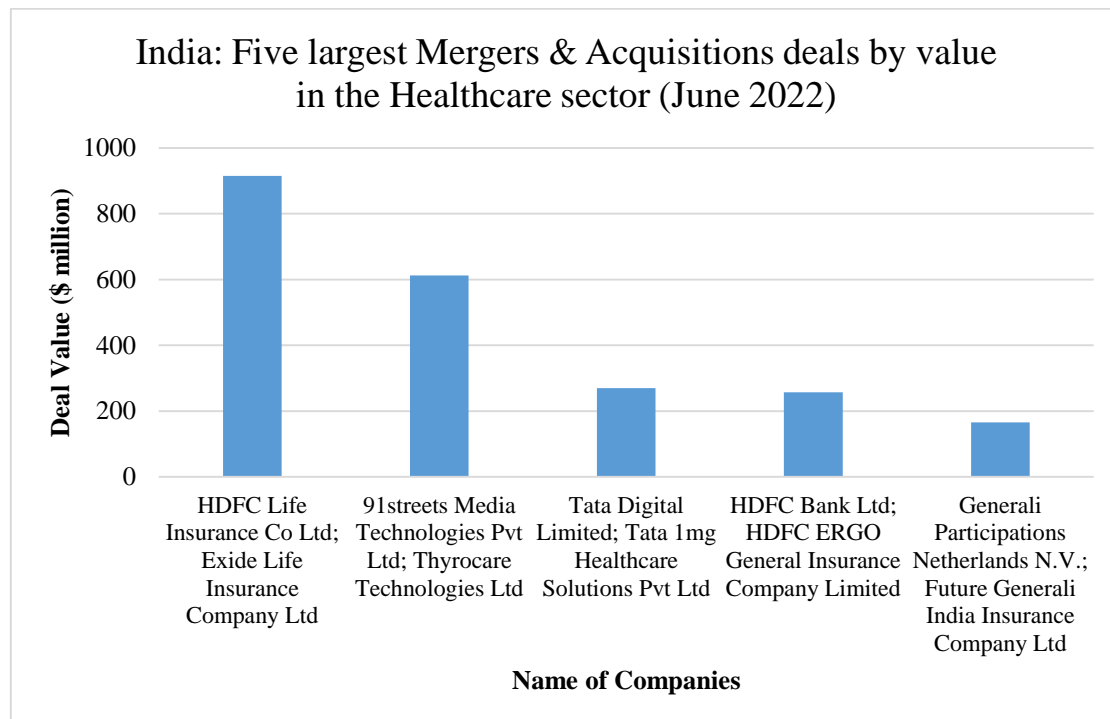
Merger and Acquisition of Giant Chain Hospitals

In recent years, there has been a notable surge in mergers and acquisitions within the healthcare business, namely with large-scale hospital chains (Zimmerman & Dooley 2001). The transactions are influenced by several objectives, such as the aim to attain operational synergies, the objective of entering new markets, and the aspiration to gain a competitive edge in a dynamic healthcare environment (Bimbatti Mattos 2019). Strong mergers and acquisitions (M&A) in the technology domain are emerging as the quickest approach to increasing digital capabilities (Srivastava 2020), due to the rapid transition to digital health and the growing demand for tech-enabled health services. The demand for digital technologies such as telehealth, AI/analytics, and m-health has surged as a result of loosening government rules, making targets in this field more desirable for mergers and acquisitions (Sheikh 2022).

The quality of treatment provided by a merged hospital might either increase or decrease. For instance, purchasing hospitals may provide their acquired institutions with management, clinical, or operational knowledge. It's also possible that the increased scale brought about by the merger will lead to better clinical results (for instance, through volume-outcome effects) (Romano & Balan 2011). The process of consolidation has the potential to diminish the motivation of hospitals to provide superior treatment in order to attract patients or secure inclusion in insurer networks (Zwanziger et al. 1994). Additionally, the presence of diseconomies of scale, such as bureaucratic inefficiencies, may redirect resources away from investments aimed at improving the quality of care.

The figure 1 shows the five most significant mergers and acquisitions transactions in the healthcare industry within the Indian market, spanning the period from 2021 to 2022, based on their deal value. Collectively, the aggregate value of the five highest-ranking transactions was \$2,221.5 million (GlobalData Plc 2023).

Figure 1: Mergers & Acquisitions in the Healthcare Sector



Source: <https://www.globaldata.com/data-insights/hatcr/india--five-largest-mergers---acquisitions-deals-by-value-in-the-healthcare-sector--itm-2088607/>

Concept of Sustainability in Healthcare

Advancing, maintaining, or restoring health while minimizing negative impacts on the environment and capitalizing on opportunities to restore and improve it is the definition of a sustainable healthcare system, according to the “World Health Organization (WHO)” (who. int). Medical care and the health industry will be rethought to consider the interconnectedness of the Earth's ecosystems and human well-being.

The healthcare business has begun to recognize its social, economic, and environmental obligations, and as a result, sustainability has become a central focus. Healthcare systems are adopting environmental sustainability and sustainability methods as they work to improve the quality of care they give (Tsarfati & Cojocar 2022). Sustainability concepts are increasingly being incorporated into the operations of hospitals and other healthcare institutions, including the reduction of energy consumption and waste creation as well as the adoption of environmentally friendly practices and technology (Azmal et al. 2014).

By implementing eco-friendly procedures, hospitals and clinics may strengthen their operations, maximize their use of resources, and boost the quality of treatment they provide to their patients (Marege 2014).

Despite changes in the healthcare system, a commitment to long-term sustainability is essential if we want to leave the environment in better shape for future generations (Alexander et al. 2003). Environmental, social, and economic sustainability in healthcare can be best achieved by an emphasis on prevention rather than treatment, but this demands a paradigm change from the current model (Naylor & Appleby 2013). This calls for financial models that match incentives with wellness results and policies

that promote primary care and public health, extensive screening programs, equitable and universal access to healthcare resources, and so on (Sherman et al. 2020).

The remainder of the paper is divided into six sections. In section 2, a review of the literature has been offered. The objectives and research methods for the study are explained in Section 3. Section 4 describes the results and discussion. Section 5 displays the theoretical and practical implications. Conclusions are included in Section 6. Section 7 represents the recommendations, limitations, and suggestions for further studies. Finally, references are presented.

LITERATURE REVIEW

This section of the study includes assessments of related previous studies that have been carried out in order to help comprehend the current state of the topic, as indicated by the brief introduction above. To facilitate comprehension, the section has been strategically split into three categories:

- a) Merger and Acquisition of chain Hospitals
- b) Sustainability Healthcare
- c) Impact of Merger and Acquisition of Giant Chain Hospitals

Merger and Acquisition of Chain Hospitals

From the perspective of healthcare systems, Dafny et al. (2019) highlighted the insurance sector's consolidation and rising costs as important influences altering the industry during a time of merger and acquisitions for healthcare companies. Further, Steininger et al. (2016) revealed that the goals of migration were the primary consideration in three hospitals' selection of a migration strategy. On the other hand, several studies (e.g., Currie, et al., 2005; Prager and Schmitt, 2021) analyzed that look into hospital mergers and uncovered growing monopsony power both conducted.

In their study, Masoumi et al. (2017) offered metrics reflecting the predicted supply deficit and excess, as well as a cost efficiency (synergy) measure linked with "mergers and acquisitions in the blood banking business." A massive blood supply chain network example, based on an actual upcoming merger, was used to demonstrate the methodology's structure and its application in both normal and emergency situations.

Sustainability Healthcare

Buse and Hawkes (2015) were concerned that neither the international society nor the global health community appreciated the scope of the shift required to implement this health agenda, which was a key factor in determining the likelihood of long-term success. Additionally, Chen et al. (2016) developed "Smart Clothing" to enable the covert gathering of numerous physiological signs of the human body in order to acquire big healthcare data through sustainable health monitoring.

Likewise, Lennox et al. (2018) determined which methods were now accessible in use to evaluate and affect healthcare sustainability and to explain the many viewpoints, applications, and constructions within these methods so as to better direct their future implementation. Further, Conceptual, and practical advances in sustainability were described by Molero et al. (2021), along with an analysis of their development through time in the healthcare industry. Sustainable practices were considered as a means by

which clinical laboratories might lessen their negative effects on the environment by making better use of the resources at their disposal.

The study concluded by outlining the ways in which laboratory medicine may help ensure the long-term viability of the healthcare system through the use of innovation and new technology to deliver premium care to patients and medical professionals alike. Further in their study, Hu et al. (2022) looked at the current thinking and actions being taken to promote healthcare sustainability solutions in high-, middle-, and low-income nations where healthcare is predicted to grow the quickest.

Impact of Merger and Acquisition of Giant Chain Hospitals

Beaulieu et al. (2020) discovered that slight decreases in patient satisfaction were related to hospitals being acquired by other hospitals or hospital systems, but there were no discernible effects on readmission or death rates. Inconclusive results were found for process quality indicators.

In addition, Tijani-Eniola (2016) discovered that hospital mergers' influence on these indices has been mixed, suggesting that there is no certain effect that hospital mergers would surely have. It does appear that the effects of a hospital merger are context-dependent, depending on factors such as the level of hospital consolidation in the area where the hospitals are located, the market share of each partner in the merger, and the quality of care provided by each hospital individually.

In their study, Attebery et al. (2020) concluded that hospitals that merged had a slower increase in "Hospital Consumer Assessment of Healthcare Providers and Systems" (HCAHPS) ratings than comparable hospitals that did not combine in two of the four HCAHPS domains (overall and nurse communication). Further, Jiang et al. (2021) contrasted rural hospitals that combined after providing treatment to patients with those that did not merge but continued to provide care independently. The results implied a lower death rate for "acute myocardial infarction (AMI)" and other illnesses following hospital mergers in rural areas.

OBJECTIVES AND METHODS

The study formulates the following objectives, which have to be fulfilled in this study:

- To ascertain the performance of Indian hospitals in the recent past and drive meaningful insights after the Merger and Acquisition of giant chain hospitals.
- To examine the impact of the Merger and Acquisition of giant chain hospitals on the sustainability healthcare of Hospitals in India.

The hypotheses of the study are as follows:

H1: There is a significant impact of Mergers and Acquisitions on the Performance of Indian hospitals.

H2: There is a significant impact of Mergers and Acquisitions on the Sustainability of healthcare.

The current study utilized "primary data collection methods" in combination with the purposive sampling technique to examine the "Impact of Merger and Acquisition of giant chain hospitals on sustainability healthcare of Indian Hospitals." The study takes place in India.

The primary data is collected from a sample size of 384 workers in Hospitals in India. A thoroughly structured questionnaire was given to them after their consent and approval.

The survey is conducted through a closed-ended questionnaire. The data were carefully gathered and analyzed using various tools (MS-Excel and SPSS) and techniques (Mean, Standard deviation, and Regression). A descriptive research design has been used in the study. The primary data justify the objectives of the paper regarding the better interpretation of findings.

The figure 2 shows the research model consisting of variables of the study based on the hypothesis of the study.

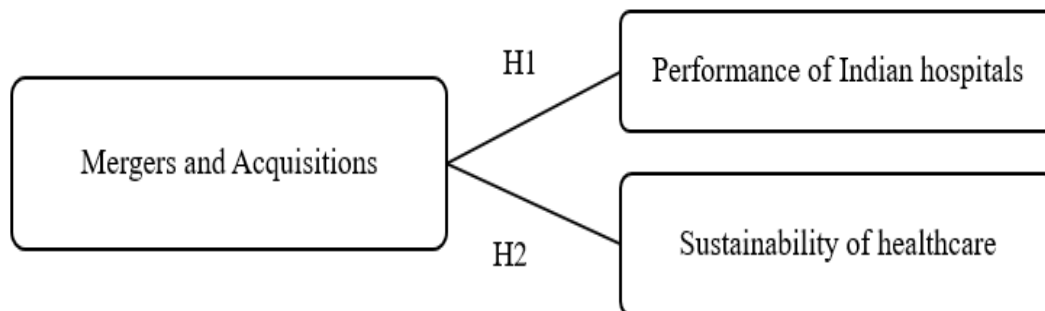


Figure 2: Research Model

DATA ANALYSIS

Statistical analysis was performed on the data by use of computer software, “Statistical Package for the Social Sciences” (SPSS 25).

Reliability and Validity Testing

A questionnaire is utilized to collect data in the study. It is vital to evaluate the reliability of a questionnaire before commencing the analysis. The accuracy of a questionnaire is determined by its reliability. Cronbach's Alpha (CA) is frequently used to evaluate the reliability of a measurement procedure. Cronbach's Alpha values close to 1 showed that every element contained inside the construct was consistent in terms of scope and meaning (Cronbach, 1971). The instrument's Cronbach's Alpha value is 0.825, suggesting that the questionnaire's reliability is established because the value is more than 0.70. The degree of its measurement features reveals its measurement effect, and when the validity is higher, it fits with the purpose of the questionnaire test, therefore the Bartlett sphericity test and Kaiser–Meyer–Olkin (KMO) are chosen (Kang, 2013). The KMO value is 0.738, suggesting that the validity of the questionnaire has been established because the value is more than 0.50.

Table 1: Reliability and Validity Statistics

Test	Value
Cronbach Alpha	0.825
KMO	0.738

Demographics Profile of the Respondents

Table 2: Demographics Profile of the Respondents

S No.	Demographic Characteristics	Category	N	%
1.	Gender	Male	208	54.20%
		Female	176	45.80%
2	Age	21-30 years	104	27.10%
		31-40 years	125	32.60%
		41-50 years	78	20.30%
		Above 50 years	77	20.10%
3	Educational Background	Bachelor's degree	99	25.80%
		Master's degree	142	37.00%
		Doctorate or professional degree	143	37.20%
4	Occupation	Healthcare professional (doctor, nurse, technician, etc.)	154	40.10%
		Hospital administrator / Manager	131	34.10%
		Other	99	25.80%
5	Years of Experience in Healthcare	0-5 years	120	31.30%
		6-10 years	111	28.90%
		11-15 years	99	25.80%
		More than 15 years	54	14.10%
6	Type of Healthcare Facility	Public hospital	128	33.30%
		Private hospital	173	45.10%
		Other	83	21.60%
7	Have You Experienced or Been Affected by a Hospital Merger or Acquisition?	Yes	217	56.50%
		No	167	43.50%
8	Do you think mergers and acquisitions involving giant chain hospitals have had an impact on the overall sustainability of healthcare in India?	Positively impacted	140	36.50%
		Negatively impacted	91	23.70%
		Not Impacted	77	20.10%
		Not sure	76	19.80%

Table 1 shows “the Demographic Characteristics of the respondents” like Age, Gender, Education Qualification, Occupation, Years of Experience in Healthcare, Experience with Hospital Mergers/Acquisitions, Impact of Giant Chain Hospital Mergers/Acquisitions. “According to Table 1, out of 385 respondents, 54.20% are male and 45.80% are females, the age group of these respondents varies from 21-30 years to Above 50 years, in which most of them belong to the age group 31-40 years (i.e., 32.60%).” The education level of the respondents is defined under “three categories (i.e., bachelor’s degree, master’s degree, Doctorate or professional degree)” in which most of them had completed Doctorate or professional degree (i.e., 37.20%), and their occupation is defined under “four categories (i.e., Healthcare professional (doctor, nurse, technician, etc.), Hospital administrator / Manager, Other) in which most of them are Healthcare professional (i.e., 40.10%), The Years of Experience in Healthcare of the respondents is defined under “Four categories (i.e., 0-5 years, 6-10 years, 11-15 years and more than 15 years)” in which most of them have Experience in Healthcare is 0-5 years (i.e., 31.30%), The Type of Healthcare Facility of the respondents is defined under “three categories (i.e., Public hospital, Private hospital and Other)” in which most of them are Private hospital (i.e., 45.10%), The Experience with Hospital Mergers/Acquisitions of the respondents is defined under

“two categories (i.e., Yes and No)” in which most of them are from Yes (i.e., 56.50%), The Impact of Giant Chain Hospital Mergers/Acquisitions of the respondents is defined under “four categories (i.e., Positively impacted, negatively impacted, Not Impacted and Not sure)” in which most of them are from Positively impacted (i.e., 36.50%).

Objectives Results and Discussion

- **To ascertain the Performance of Indian hospitals in the recent past and drive meaningful insights after the Merger and Acquisition of giant chain hospitals.**

Table 3: Regression Analysis

Objective	Regression Weights	Beta Coefficient	R	R2	F	t-value	p-value	Hypotheses Result
1	Merger and Acquisition --> Performance of Indian hospitals	.106	.106	.009	4.302	2.074	.039	Supported

The objective analyses if Mergers and acquisitions have an impact on the Performance of Indian hospitals. The dependent variable Performance of Indian hospitals was regressed on the predictive variable Merger and Acquisition to test the hypothesis. $F = 4.302$, $p < 0.05$, displaying that mergers and Acquisitions have a significant effect on the Performance of Indian hospitals, ($b = .106$, and $p < 0.05$). Moreover, the $R^2 = .009$ denotes that the model explains 0.9% of the variation in the Performance of Indian hospitals. According to the findings, mergers, and Acquisitions increase the Performance of Indian hospitals, so the alternative hypothesis is accepted.

This result shows that the performance of big chain hospitals in India is significantly impacted by mergers and acquisitions. These deliberate measures frequently result in greater economies of scale, simpler processes, and resource pooling, all of which can improve the standard and effectiveness of healthcare services. This result of the current study is consistent with previous studies like Masoumi et al. (2017), who found mergers and acquisitions in the blood banking business, and Jiang et al. (2021), who revealed that Mortality rates for "acute myocardial infarction (AMI)" and other illnesses were shown to be lower after hospital mergers in rural areas. Similarly, Zhang et al. (2018) showed that When all other factors remained constant, there was a positive relationship between "value-chain-extension mergers and acquisitions" as well as technology-seeking mergers and acquisitions, and business performance. on the other hand, Attebery et al. (2020) found that hospitals that merged had slower growth in "Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)" scores than similar hospitals that did not merge, specifically in the areas of "overall" and "nurse communication." From this, it can be seen that mergers and acquisitions have some obstacles in preserving and integrating patient-centered care. Thorough planning, efficient administration, and a commitment to upholding or raising patient care standards are necessary for these transactions to be successful.

- **To examine the impact of the Merger and Acquisition of giant chain hospitals on the sustainability healthcare of Hospitals in India.**

Table 4: Regression Analysis

Objective	Regression Weights	Beta Coefficient	R	R2	F	t-value	p-value	Hypotheses Result
2	Merger and Acquisition --> Sustainability healthcare	.108	.108	.009	4.494	2.120	.035	Supported

The Objective analyses if mergers and acquisitions have an effect on Sustainability healthcare. The dependent variable Sustainability healthcare was regressed on the predictive variable Merger and Acquisition to test the hypothesis. $F = 4.494$, $p < 0.05$, determining that mergers and Acquisitions have a significant effect on the Sustainability of healthcare, ($b = .108$, and $p < 0.05$). Moreover, the $R^2 = .009$ denotes that the model describes 0.9% of the variation in Sustainability healthcare. According to the findings, Merger and Acquisition increase the Sustainability of healthcare, so the alternative hypothesis is accepted.

This result shows that the sustainability of healthcare systems is significantly impacted by mergers and acquisitions. They may provide advantages including increased operational effectiveness, access to cutting-edge technology, and enhanced financial stability. This result of the current study is consistent with the study by Hu et al. (2022), who analyzed current concepts and initiatives to promote sustainability solutions in the healthcare business across high-, middle-, and low-income nations, where the healthcare sector is projected to grow at the quickest rate. Similarly, Cerezo-Espinosa de los Monteros et al. (2021) found that collaborative procedures improve the health system's sustainability. However, very few studies are there on the sustainability of healthcare, which makes this finding different from previous studies.

THEORETICAL AND PRACTICAL IMPLICATIONS

The study's findings have both theoretical and practical implications, some of which have been addressed below:

Theoretical Contribution

This study strives to address the existing research gaps in the existing literature pertaining to the effects of mergers and acquisitions of large hospital chains on the sustainability of healthcare in Indian hospitals. Consequently, this study has the potential to contribute empirical support to existing literature in diverse healthcare settings, aiming to ascertain the enduring significance of certain characteristics across different healthcare systems.

Practical Implications

Practical implications of this study include (1) an interactive method, as workers have participated in interactions; (2) the ability to elaborate a road map of the hospitals' merger procedure on the basis of relevant evidence; (3) the ability to plan for the merger and acquisition procedure over the long term; (4) the ability to easily track the merger and acquisition process over time; (5) the ability to conduct both interim and final evaluations of the merger and acquisition process; (6) the ability to easily involve the community in the merger and acquisition process.

CONCLUSION

In conclusion, the M&A of large hospital chains has shown a complex environment in terms of the future of healthcare in the Indian setting. After reviewing the relevant literature, it is clear that healthcare M&A deals can have far-reaching effects on sustainability in terms of the environment, operations, society, and the bottom line. Despite the fact that results are inconsistent and situation-dependent, many trends do emerge.

Mergers and acquisitions have a major impact on hospital performance in India, as seen in Table 2. The efficiency of Indian hospitals has improved as a result of mergers and acquisitions. Mergers and acquisitions also significantly impact healthcare sustainability, as seen in Table 3. The sustainability of healthcare systems is improved via mergers and acquisitions. Furthermore, the data shows that while M&A can produce short-term profits, a complete and strategic strategy is necessary for long-term sustainability. Hospital administration, staff, patients, and government agencies all have a stake in the implementation of sustainability principles. To make sure the advantages of hospital mergers are in line with the larger objective of a robust and sustainable healthcare system, hospitals must keep initiatives like energy efficiency, waste reduction, and fair access to treatment at the forefront of their agendas.

Therefore, it is imperative that politicians, regulatory authorities, and stakeholders work together to develop and implement comprehensive frameworks that support ethical consolidation, promote healthy competition, and put the needs of patients first in healthcare delivery. A well-structured strategy for M&A may contribute greatly to the sustainability of the industry as the Indian healthcare environment continues to develop, so long as it is in line with the ultimate aim of guaranteeing fair and excellent healthcare for all segments of the population.

RECOMMENDATIONS

The current study recommended that in order to oversee and control healthcare mergers and acquisitions there is a need to make sure that these mergers and acquisitions don't undermine affordability and competition, and a clear regulatory framework is there for the same. Furthermore, it is crucial to promote cooperation between government organizations and healthcare providers in order to provide equal access, high-quality patient treatment, and cost containment first priority. Any merger or acquisition plan should prioritize long-term sustainability and make a commitment to preserve or improve the healthcare services for all Indian population groups.

Limitations, and Suggestions for Further Studies

Similar to all research, this study has some limitations, like the current study is limited to the impact of the "merger and acquisition" of giant chain hospitals in India only. Moreover here in the current study, the long-term sustainability has been ignored due to the time constraint. Therefore, in the future, researchers should look at the general group of hospitals in order to do real-world studies to find out the influence of "mergers and acquisitions" on the long-term sustainability of hospitals in other countries as well.

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