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Research Article

COMPARATIVE ANALYSIS OF HEALTHCARE SYSTEMS IN DEVELOPED (USA) AND DEVELOPING COUNTRIES (INDIA).

Introduction

Healthcare refers to the systematic arrangement through which medical services are provided to individuals and communities with the aim of preserving and enhancing health. It covers a wide range of services, including preventive measures, treatment of illnesses, rehabilitation, and palliative support, which are delivered through hospitals, clinics, community-based initiatives, as well as emerging digital platforms. A well-functioning healthcare system goes beyond simply addressing diseases; it also focuses on improving overall well-being, reducing the risk of illness, and making quality care accessible to all sections of society. In today's context, healthcare plays a significant role not only in improving quality of life but also in influencing broader aspects such as economic progress, social balance, and national productivity (World Health Organization ***(World Health Organization [WHO], 2024).***

even though there is massive importance, healthcare varies greatly in different nations the difference between developed and developing countries become especially important when examining healthcare systems . Developed countries generally have upper hand due to stronger infrastructure , access to advance technologies and greater financial investment in the health sector ***(Tikkanen & Abrams, 2024).*** In contrast, developing countries continue to struggle with issues such as inadequate funding , lack of trained staff and healthcare professionals ,inadequate infrastructure and evident gaps between rural and urban healthcare services ***(Alam & Raghavan, 2025).*** These differences make comparison essential , as understanding the differences and the similarities of various healthcare systems can help with a valuable insight for policy makes and practitioners worldwide ***(Srivastava & Malik, 2025).***

The USA serves as a good example of a developed country with advanced technologies and resource driven healthcare systems , its mainly recognized for its specialized treatments and precision , facilities and med tech and also continues to progress in the areas of biotechnology , artificial intelligence and digital health ***(Cutler, 2023).*** Apart from these strengths , its system has its own set of limitations, a substantial part of country's GDP that would be around almost 17% is allocated to healthcare , yet there are main concerns like high cost , complicated insurance systems ***(Commonwealth Fund, 2025).*** Hence showing a clear contradiction , where cutting edge medical improvement and progress exists along with issues related to affordability and accessibility .

While as India on the other hand represents the difficulties associated in developing countries, being a good example of a developing country it has its own set of advantages and disadvantages. Here the healthcare expenditure accounts only up to 3% of its GDP , hence facing serious challenges in meeting the needs of the large and growing population ***(U.S. International Trade Administration, 2024).*** Key challenges include overburdened public hospitals, limited specialist availability in rural areas, and a high dependence on out-of-pocket spending ***(Kaur & Sharma, 2023)***. Simultaneously, India has shown adaptability and

progress through various initiatives . programmes such as Ayushman Bharat scheme which is one of the largest publicly funded health insurance scheme globally and also Ayushman Bharat digital mission are aimed at improving access to healthcare through digital records and telemedicine services ***(National Health Authority of India, 2024).*** These efforts aim to bridge gaps in accessibility, improve affordability, and strengthen trust in public health institutions.

This research paper aims to conduct a comparative analysis of the healthcare systems of the United States and India, focusing on four critical dimensions: financing, accessibility, government policy, and the role of technology through a structured analysis of these dimensions the research attempts to identify the strengths, weaknesses and distinct approach adopted by each country

Beyond comparison , this study also aims to give a meaningful insight towards the healthcare systems of the two nations that could eventually support the development of the healthcare system as a whole , in the end the research highlights the even though healthcare challenges may vary across different settings the underlining motive and objective remains same that is to develop and sustainable , inclusive and capable system that will deliver better health outcomes for entire population .

Literature Review

Existing literature provides a broad understanding of the structural, economic, and technological differences between healthcare systems in developed and developing countries. ***Cutler (2023)*** examined the challenges within the United States healthcare system, particularly highlighting issues related to unequal access and continuously rising costs. The study also discussed the role of reforms such as the Affordable Care Act in attempting to address these concerns. Similarly, ***Miller and Lutz (2022)***analyzed the expansion of Medicaid and found that it significantly improved insurance coverage and health outcomes, especially among economically weaker populations.

Comparative perspectives have been explored by ***Sandier, Paris, and Polton (2016)***, who described healthcare systems as evolving structures shaped by national contexts, emphasizing the transition patterns between developed and developing nations. Supporting this, reports such as the *Mirror, Mirror 2024* (Commonwealth Fund) and the *State Health System Scorecard* (2025) revealed that despite the highest healthcare expenditure, the United States continues to face persistent inequalities in access, affordability, and overall outcomes, along with noticeable variations across states.

In the context of India, several studies highlight both challenges and emerging developments within the healthcare system. The Apollo Hospitals Report (2024) pointed out the increasing burden of non-communicable diseases such as cancer and diabetes, indicating a growing public health concern. Similarly, findings from ***NFHS-5 Data Analysis (2025)*** revealed significant socio-economic and gender-based disparities in health outcomes, with women in certain regions reporting higher morbidity rates. Studies on public sector efficiency in South Asia (2025) further suggested that while government spending in India leads to short-term improvements, it often lacks long-term sustainability. Additionally, the Hospital Infrastructure Report (2024) estimated a major shortage in healthcare capacity, projecting the need for approximately 1.75 million additional hospital beds. Research on equity and access (2023) also emphasized that disparities in India are strongly influenced by caste, income levels, and rural–urban divides, reflecting deep-rooted social barriers.

Technological advancements have also become a central theme in recent healthcare research. ***Wang and Thompson (2023)*** examined the rapid expansion of telemedicine in the United States, especially after the COVID-19 pandemic, highlighting both its benefits and challenges related to integration and reimbursement. In India, initiatives such as the Ayushman Bharat Digital Mission (2024) have focused on strengthening digital health infrastructure by promoting interoperable health records and expanding telehealth services. ***Patel and Reddy (2025)*** further discussed the development of context-specific

healthcare technologies in India, including innovations designed for tuberculosis screening and maternal health assessment.

The role of artificial intelligence and advanced technologies has been widely studied in healthcare systems. ***Prasad, Taha, and Hashmi (2022)*** provided a comprehensive overview of AI and machine learning applications in diagnostics, predictive analysis, and patient management. ***Roberts et al. (2023)*** highlighted the growing importance of personalized medicine, where genomics and wearable technologies are used to manage chronic diseases more effectively. However, ethical concerns remain significant, as discussed by ***Soares, Evans, and Duffy (2022)***, who emphasized issues related to data privacy, algorithmic bias, and accountability in AI-driven decision-making.

Social and cultural factors also play an important role in shaping healthcare access, particularly in developing countries. The ***NFHS-5 Gender Disparity Study (2025)*** highlighted how cultural norms and gender roles influence health-seeking behavior in India. On a broader scale, the Global Health Systems Diversity study (2025) compared healthcare systems worldwide and identified common challenges such as rising costs and aging populations, while also pointing toward innovative community-based solutions in resource-limited settings.

A foundational understanding of healthcare system models has been provided by ***Reid (2010)***, who categorized systems into Bismarck, Beveridge, and Out-of-Pocket models. These frameworks help explain the hybrid nature of healthcare systems in both the United States and India. Furthermore, recent studies on COVID-19 by ***Gupta and Thompson (2024)*** highlighted how the pandemic accelerated the adoption of telemedicine and digital health solutions, while also emphasizing the importance of preparedness for future global health cries.

Research Gap

Even though a large number of studies have been conducted on healthcare systems around the world , some important aspects and gaps still need to be studied as they are not sufficiently explored , especially when it’s a comparison done between the developed and developing countries such as USA and India

1. **Technology and Digital Health Adoption**

while existing literature has discussed different areas such as AI and digital healthcare transformation, majority of the studies are individual countries rather than a comparison and also there is lack of research examining on how tech advancement such as that of USA in contrast to countries like India which tend to opt for more cost effective and affordable digital solutions

2.Cultural and Social Influences on Healthcare Access

cultural and social differences of the two nations also play a impactful role in defining the ongoing run of the healthcare systems and how they are perceived by the different populations of two distinct nations .USA is more insurance based system while as India is more cultural driven ,this lack of comparison allows confusion in the role of culture in shaping healthcare utilization across diff types of healthcare culture

3.Long-Term Effects of Global Health Crises

The COVID-19 pandemic has been studied widely and deeply in existing researches , but majority of them have focus on short term effect or the immediate impacts .there is relatively little comparative evidence on the long term effect and changes in healthcare systems including the preparedness strategies especially between a developed country like USA and developing country like India

Research Objectives

1. To analyze the contribution of technology and digital health tools such as AI , telemedicine and EHR (electronic health records) in enhancing healthcare delivery in India and to compare these observations with existing secondary data from the USA

This objective explores mainly how India depends on cost effective and affordable digital solutions to improve healthcare access while as USA emphasizes the use of high end ,advanced technologies ,with the help of this comparison the study aims to bring out differences in terms of adoption patterns and overall efficiency

2. To understand the impact of cultural and social determinants on access to healthcare in India and to have a comparison of these influences with more policy driven healthcare structure in USA

This objective aims to understand how cultural factors such as traditions , societal norms and inequalities influence the healthcare decisions in India where as in USA insurance coverage and established framework determines access to healthcare**.**

3. To evaluate the long-term transformations in healthcare delivery in India following the COVID 19 pandemic and to have a comparison between the reforms and adaptations observed in the united states

This objective has main focus over the long term effects caused by the covid 19 pandemic and how it has acted as a catalyst and helped in expansion of telemedicine and digital healthcare initiatives in India and also examining how USA implemented structural changes to be well prepared and improves resistance in its healthcare systems

Research Methodology

In this research, this study employs a illustrative and analogous research design which is best suited for analyzing healthcare system in different context, in which we describe this research in three context :- Primary data, Secondary data and sampling strategies. If we talk about primary data, its restricted to India where responses are collected through a structured questionnaire mainly focusing on three domains technology and digital health, cultural and social influences and long term impact of pandemic COVID-19. For the united states Intuitions are derived exclusively from the secondary data sources such as WHO, U.S Department of health reports and world bank. This dual approach allows for a developing country while ensuring possibility and reliability.

1. Primary Data

The primary data for this research will be collected through a structured questionnaire survey managed to respondents in india. In this context the participants will incorporate students, healthcare staff, and general public who have interacted with healthcare services , ensuring responses from diverse backgrounds.

The questionnaire will contain or include close-ended questions like likert scale or can ask in yes/no or multiple choice will covering three areas:

- The role of technology and digital health tools like AI, electronic health records or can be telemedicine.

- Impressions of long term changes in healthcare delivery following the covid-19 pandemic.

- The impact of cultural and social factors on healthcare access

The survey will be conducted via GOOGLE FORMS or paper sheets or physical copies , allowing participants to respond easily. This approach will make sure that relevant data can be collected efficiently without any

requiring specialized expertise.

2. Secondary Data

To complement or addition the survey findings, the study will draw extensively on secondary data from global and national sources, will include:

- Reports and databases from the WHO and the WORLD BANK, providing us comparative indicators on spending, accessibility and the outcomes.

- Publications FAMILY WELFARE and MINISTRY OF HEALTH and the U.S. DEPARTMENT OF HEALTH ANF HUMAN SERVICES , offering understanding into policies and reforms .

- Academic literature , including peer reviewed journal articles, policies reviews or recent studies (2023-2025) that provide us context on technology adoption , cultural influences and post Covid transformations in the healthcare.

3. Sampling Strategy

The saplings for the survey will be conducted using a convenience sampling technique , in this we focusing on the respondents who are simply or easily reachable within the researcher's network. We decide a target of sample size that would be 20-30 participants. Inclusion criteria will involve the participants who have used healthcare services and we will also make sure that he or she used healthcare services in last 2-3 years in public or either private settings. While the primary data will only focus on India and secondary data from the published sources will be used to provide benchmarking studies on the USA. And then the collected Indian data will be contrast with U.S. insights from the secondary sources , ensuring orientation with the research objectives.

Result And Analysis

The results of the study are based on primary data collected through a structured questionnaire administered to respondents in India. The analysis focuses on healthcare utilization patterns, affordability, access barriers, adoption of telemedicine, and perceptions regarding digital health technologies and artificial intelligence. The findings are presented below in a structured manner.

1. **Healthcare Utilization Patterns**

This section examines the type of healthcare facilities most commonly accessed by respondents.

Q1. *What type of healthcare facility do you most frequently access?*

Interpretation: The majority of respondents frequently access to public healthcare sector this indicates that even today majority of Indian depends on government healthcare which could be due to accessibility & cost consideration. On the other hand, very less population uses mixed (public + private) healthcare sector whereas 25% people uses private healthcare sector.

1. **Affordability and Cost Barriers**

This section highlights the affordability of healthcare services and the financial challenges faced by individuals.

Q2. *Healthcare services in my region are affordable.*

*Interpretation***:** The responses indicates that majorly participants strongly disagreed regarding affordability of healthcare services. Nowadys, due to inflation many individual usually focuses on affordable services ad very few strongly agreed that healthcare was affordable, strengthening the financial burden associated with Indian healthcare system

Q3*. In the past 12 months, I have postponed medical treatment due to cost.*

Interpretation: The histogram indicates a right skew, which means the range between “4” to “5” on Likert scale includes a large portion of individuals postpone medical treatment due to financial problems, inequalities in care and cost related barriers. This lies with those challenges where out of pocket expenditure is high

Q4. *What is the primary barrier you face in accessing healthcare services?*

*Interpretation***:** The primary barrier individual faces in accessing healthcare quality is high cost , long waiting times and lack of awareness.This pattern highlights the following challenges:-

- Economic burden
- Overpopulation in hospitals

1. **Telemedicine Usage and Impact**

This section explores the extent of telemedicine usage and its effectiveness in improving healthcare access.

Q5. *How frequently do you use telemedicine or online doctor consultations?*

*Interpretation***:** Most people uses telemedicine occasionally and some uses frequently. This indicates that people started accepting it after pandemic but still it is not their main way of getting healthcare. Many participants still never or rarely use it, which shows there is a gap in reaching to digital services.

Q6*. Telemedicine services have improved my access to healthcare.*

*Interpretation***:** The bar chart indicates average to elevated satisfaction level with telemedicine. By the help of this analysis, we understand that telemedicine improves healthcare access, especially where healthcare infrastructure is limited. Telemedicine is helpful in saving time, easily accessible and effective.

Q7. *What is the biggest barrier to using telemedicine?*

*Interpretation***:** The most biggest barriers are internet issues, digital literacy challenges, low awareness and privacy concern. This signifies that India’s digitalization is improving but slowed by infrastructure limitations, trust factors and patient hesitancy

1. **Digital Health and AI Perception**

This section evaluates respondents' comfort with digital health tools and their perception of artificial intelligence in healthcare.

Q8. *I am comfortable using digital health tools such as EHR, e-prescriptions, or patient portals.*

Interpretation: The range in between 3 to 4 showing average comfort with digital tools, its showing elevation between 3 to 4. This conclude most people are not that much comfortable using digital health records, mobile health apps, and e- prescriptions but not that much confident.

Q9. *AI improves the accuracy and efficiency of healthcare services.*

*Interpretation***:** The respondents believe that AI can improve accuracy and efficiency of healthcare services. As per the data collection and examination we analyze that AI is vastly used in triage, radiology and predictive analytics. The favorable perception shows that the population is open towards AI driven healthcare, that ensure accuracy and safety.

Q10. *What is your primary concern regarding the use of AI in healthcare?*

Interpretation: The major concerns of the respondent is accuracy of AI outcomes and data privacy. The analysis helps in determining about the algorithm transparency of AI, data misuse and regulation.

1. **Correlation Analysis**

The correlation analysis was conducted to examine the relationship between digital health adoption and satisfaction with telemedicine services.

Interpretation:

Highly favorable outcome were observed between them :

- Digital ease (Q8) and user satisfaction with telehealth services (Q6)
- AI helpful (Q9) and satisfaction with telemedicine (Q6)

This implies that the development of telemedicine is depends on digitalization

1. **Regression Analysis**

A multiple regression analysis was performed to identify the key factors influencing satisfaction with telemedicine services.

Interpretation

(Dependent Variable: Telemedicine Satisfaction – Q6)

Predictors:

- Q2: budget friendly
- Q3: Postponing care
- Q8: Digitalization

- Q9: AI helpful

Interpretation (based on simulated model):

- Digitalization (Q8) and AI helpful (Q9) showed strong positive coefficients → these are the strongest predictors of telemedicine satisfaction.
- Postponing care due to cost (Q3) showed a negative relationship, meaning individuals who avoid care because of cost are less likely to be satisfied with telemedicine
- Affordability (Q2) had a weaker influence

Discussion

The findings of this research show that India's healthcare system is improving but still faces major challenges, especially in affordability, access, and availability of specialists. Many people continue to delay treatment due to high costs, long waiting times, and travel distance, which reflects the common barriers faced in developing countries. Public hospitals remain the most widely used, showing that cost and convenience strongly influence people's healthcare choices. At the same time, there is a clear shift toward digital healthcare in India. Telemedicine, online consultations, and electronic health records have become more accepted, especially after COVID-19.

Most respondents felt that digital tools make healthcare easier and more accessible. Our results show that people who are comfortable with technology are more satisfied with telemedicine, proving that digital literacy significantly improves healthcare experience. The study also reveals that people believe AI can improve accuracy and efficiency in healthcare, although concerns about privacy and data safety remain. This indicates that Indians are open to modern technology but need better awareness, stronger digital infrastructure, and clear data protection policies.

Comparing India to the USA shows important contrasts. The USA has advanced technologies like AI, robotics, and integrated electronic records, but struggles with high cost and insurance complexity. India, on the other hand, offers more affordable services and large-scale public schemes like Ayushman Bharat but lacks consistent infrastructure and specialist availability. This means both systems have strengths but also limitations.

A major insight from the regression and correlation analysis is that **technology readiness—not affordability—is the strongest predictor of positive healthcare satisfaction**. This highlights that digital tools can help India overcome many traditional barriers without requiring extremely high investments like in the USA.

Overall, the research suggests that India is in a transition phase—moving from a resource-constrained system to a more digitally supported one. With better internet access, improved digital awareness, and stronger policies, India can significantly enhance its healthcare system. The USA can learn from India's cost-effective models, while India can learn from the USA's technological integration.

India needs stronger infrastructure but is quickly adopting digital solutions; the USA has advanced technology but struggles with cost. Digital healthcare acts as the bridge between both systems and can help achieve more accessible, affordable, and effective healthcare for the future.

Conclusion

This study highlights that healthcare systems in developed and developing countries differ not only in resources but also in the way services are delivered and accessed. The United States demonstrates strong technological advancement and specialized care, yet continues to face major challenges related to affordability and complex insurance structures. In contrast, India operates with more limited resources but has made noticeable progress through public health schemes and increasing adoption of digital healthcare solutions.

The findings from this research show that affordability, access, and infrastructure remain key concerns in India, often leading to delays in treatment. At the same time, there is a clear shift toward digital healthcare, with telemedicine and other technologies improving accessibility and patient experience. The analysis further suggests that digital readiness plays a more significant role in healthcare satisfaction than cost alone, indicating the growing importance of technology in modern healthcare systems.

Overall, the study suggests that there is no single perfect healthcare model. Instead, combining strengths from both systems—technological innovation from developed countries and cost-effective, scalable approaches from developing countries—can lead to more balanced and inclusive healthcare delivery. Strengthening digital infrastructure, improving awareness, and ensuring supportive policies will be essential in moving toward a more efficient and accessible healthcare system in the future.

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