

Financing Healthcare Expenditure And Digitalisation Of Healthcare Services: A Study Of Recent Trends In India

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Abstract

This study examines contemporary macro-trends in healthcare financing and the digital transformation of healthcare services in India. Historically constrained by fiscal pressures and regional socioeconomic disparities, India has experienced a critical structural shift in healthcare expenditure. Using longitudinal data, this paper analyses three core metrics: Current Health Expenditure (CHE), Domestic General Government Health Expenditure (GGHE), and Out-of-Pocket Expenditure (OOPE). Comparative regional assessments indicate that while India's CHE experienced slight decadal contractions compared to China, state-led GGHE expanded from 0.86% of GDP in 2014 to 0.99% by 2019. Crucially, this fiscal expansion, driven by public welfare programs, correlates with a sharp, multi-decadal decline in domestic OOPE, falling from 71.70% in 2000 to 54.78% in 2019. Beyond financial metrics, this paper evaluates recent public initiatives toward digital integration. Key mechanisms such as the Ayushman Bharat Digital Mission (ABDM), the "Scan and Share" rapid registration system, and the Ayushman Health Account (ABHA) architecture have significantly improved access to healthcare. Ultimately, the study concludes that combining rising financial commitments with robust digital infrastructure has laid the foundation for an accessible, affordable, and compassionate Indian healthcare ecosystem.

Keywords: *Health financing, Out-of-pocket expenditure (OOPE), Digital healthcare, Ayushman Bharat Digital Mission (ABDM), Healthcare infrastructure.*

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I. Introduction

The growing recognition that a healthy and productive workforce, called 'human capital,' adds to the growth of an economy, encourages countries to set aside a considerable part of the GDP to be used for enhancing the quality and quantity of healthcare infrastructure (Bloom, Canning, & Sevilla, 2004). In India, planners and policy makers have long been engaged in framing policies that enhance the health status of the people (Bali & Ramesh, 2015). But considering the size of the land and the number of people it accommodates, managing health services has never been easier in the country. In the early years of post-independence, the country was caught in a severe health crisis, threatened by sporadic outbreaks of communicable diseases. The low availability of and access to nutrient rich food stuff in nearly three decades led to severe health issues among people, especially those residing in rural areas.

The healthcare sector in India has long been a mixed one, with the private sector having a comparably bigger stake. However, it continues to remain a fallacy that people in India largely believe that (nine out of ten individuals) the government should be held responsible for their healthcare services, making it something that does not fall under the responsibility of individuals (Mishra & Kumar, 2023). It may be reiterated here that before the launch of leading healthcare schemes by the government, private players were running clinics and hospitals in many suburban and urban areas in the country, not to speak of only rural areas. Owing to the mounting pressure on available resources, India has been struggling to allocate a desirable share to the health sector development. Unlike many other countries, India has had to take care of the needs of people living in different regions of the country. Moreover, socio-economic, cultural, and linguistic divisions in the country have been a reckoning force in determining the quantum and direction of resources for various sectors in the economy, including the healthcare

sector. At this juncture, it need not be further specified that the availability of scarce financial resources parked with both the individuals and government, and the growing demand for it from various corners of the economy, have to be factored into while discussing any trend in the allocation of financial resources for the healthcare sector.

Objectives

The objective of this paper is twofold: One is to trace out the trends in financing the healthcare expenditure in India, and to make a comparative assessment with the immediate neighbouring countries, viz. China, Bangladesh, Sri Lanka, and Pakistan. Second, and perhaps, the most important objective is to examine the recent initiatives at digitalising the healthcare services in India, and the recent accomplishments

To trace out the trends in health financing in India, we need to look into three types of data:

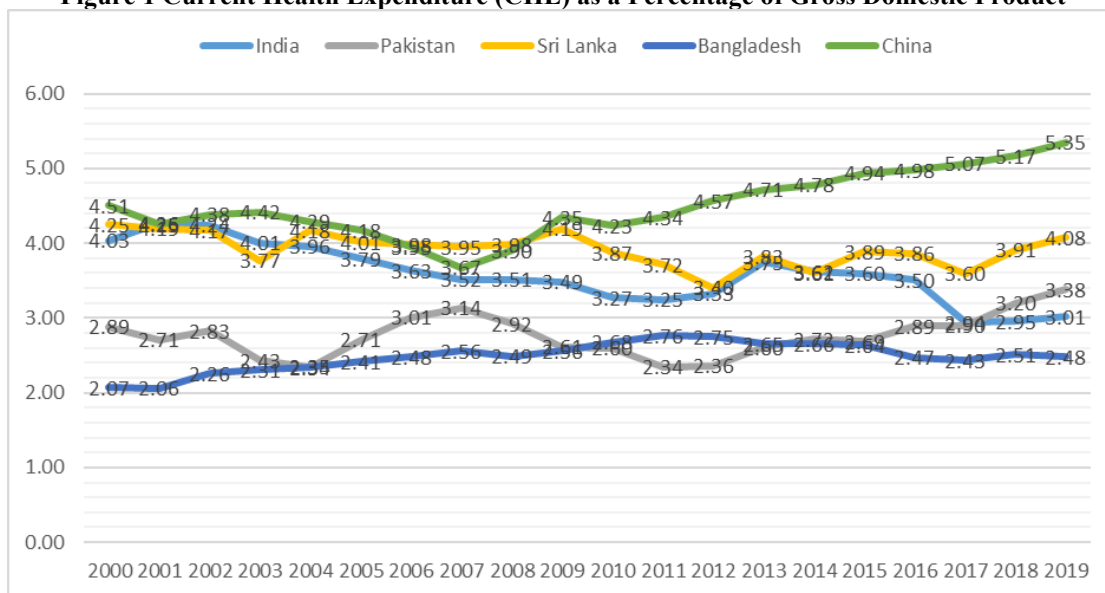
- Current Health Expenditure (CHE) as a percentage of GDP
- Domestic General Government Expenditure (DGGE) as a percentage of GDP
- Out-of-pocket expenditure (OOPE) as a percentage of Current Health Expenditure (CHE).

Of the above, the last one needs some clarification. OPE is the amount of money a patient pays for medical expenses that are not covered by a health insurance company. They include deductibles, coinsurance, co-payments, and costs of non-covered healthcare services.

Current Health Expenditure (CHE) as a percentage of GDP

Social sector financing, including health sector financing, has been considered vital for bringing about desirable changes in the Human Development Index of countries. Spending on the health sector as a percentage of GDP (Gross Domestic Product) has long been recognised as a reliable tool by health economists across nations. Now we look at the trends in Current Health Expenditures (CHE) of India and its immediate neighbouring countries. We know that CHE shows the operational expenditure on the health sector, which directly influences the health outcomes in a particular year (NHA, 2018). Looking at the figure illustrating the trend in CHE, it becomes evident that at the beginning of the last decade, India spent nearly 4.03 per cent of its GDP on the health sector, while China spent 4.51 per cent and Pakistan and Bangladesh spent 2.69 per cent and 2.0 respectively. However, the trend in later years has shown a declining figure as far as India is concerned, whereas China has made a substantial upward trend in respect of CHE as a percentage of GDP (Figure No.1).

Figure 1 Current Health Expenditure (CHE) as a Percentage of Gross Domestic Product



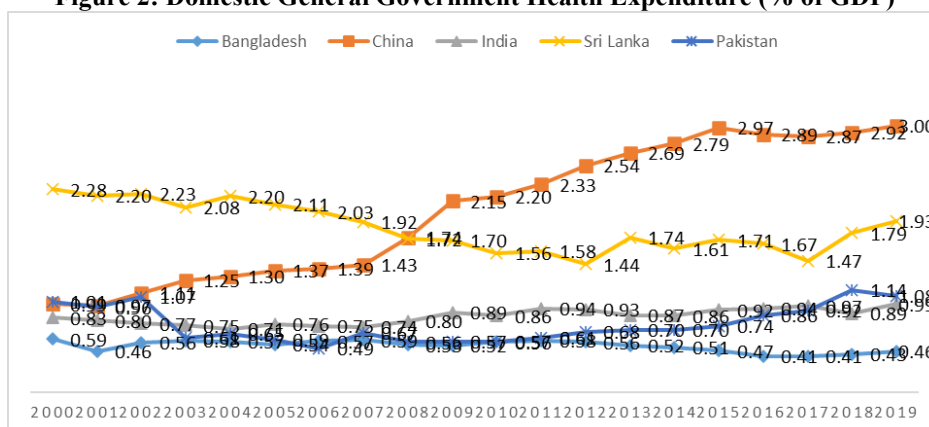
Source: data.worldbank.org

Domestic General Government Expenditure (DGGE) as a percentage of GDP

Coming to the Domestic Government Health Expenditure, which constitutes health spending by the entire schemes supported and managed by the Union, State, and Local Self Governments. This has important implications as a decline in this clearly shows an increasing burden on the households, individuals, and a consequent rise in the Out-of-Pocket (OOPE). It is worrying that India’s GHE as a percentage of GDP has always been less than one per cent from 2000 to 2019. But, since 2014, India has made remarkable improvements in

GHE as a percentage of GDP, which increased to 0.99 of GDP from 0.86 in 2014. Moreover, the period 2014 to 2019 did not witness a reverse trend in GHE as a percentage of GDP.

Figure 2: Domestic General Government Health Expenditure (% of GDP)

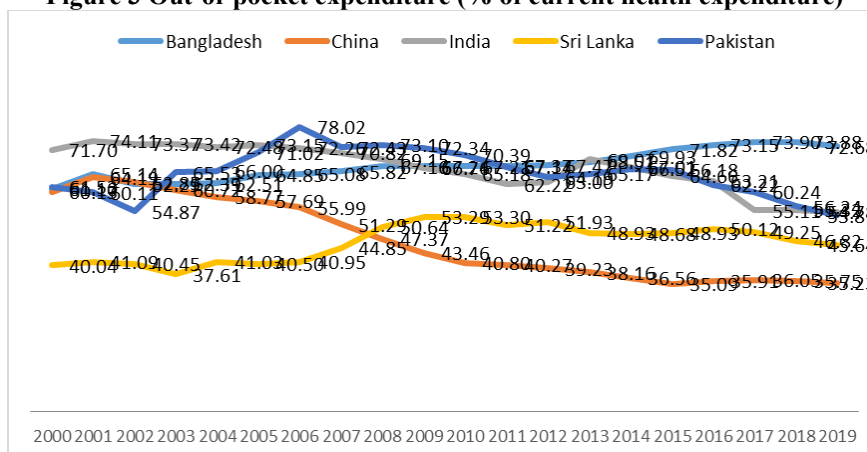


Source: data.worldbank.org

Out-of-pocket expenditure (% of current health expenditure)

The increased use of technically assisted diagnosis and treatment has led to a skyrocketing of healthcare expenditure in recent times. Coupled with this, the increasing health awareness of people thanks to social media and public awareness programmes has also enhanced the demand for high-quality healthcare services (Archana , Kar, Premarajan, & Lakshminarayanan, 2014). As a consequence of these developments, the number of people seeking medical assistance has gone up in both rural and urban areas. This has led to a mismatch between the demand and supply of health services, given the slow pace of growth in respect of government-supported health infrastructure. The offshoot of this can easily be reflected in the Out-of-Pocket Expenditure (OOPE). Out-of-Pocket Expenditure (OOPE) is a measure of how much money an individual has to spend from his or her pocket to access and use healthcare services. In India, the OOPE was as high as 71.70 per cent of the current health expenditure in 2000, whereas it declined to 54.78 per cent in 2019. This nearly twenty per cent decline in OOPE is by any count a remarkable achievement as far as the health sector is concerned. Nonetheless, a comparison with our immediate neighbours brings us a dismal picture. In China, in 2000, the OOPE was just 60.10 per cent, and it declined to 35.23 per cent in 2019, a decline of nearly 25 per cent. China’s performance in reducing the OOPE over the last few years has really been remarkable. It is quite interesting to note that Sri Lanka has had a relatively low OOPE. In 2000, Sri Lanka had an OOPE of 40.04 per cent, but it increased to 45.64 per cent in 2019. The story of Bangladesh is the same as that of Sri Lanka. Bangladesh has witnessed a secular increase in its OOPE from 61.10 per cent of current health expenditure in 2000 to 73.90 per cent in 2019. Pakistan’s OOPE has remained almost the same in 2019 as in 2000. Thus, it boils down to the fact that although India’s OOPE has been a little bit high compared to its immediate neighbours, it has been declining over the years, and the decline has been sped up in recent times, showing that initiatives taken to enhance public healthcare facilities in recent times have become successful.

Figure 3 Out-of-pocket expenditure (% of current health expenditure)



Source: data.worldbank.org

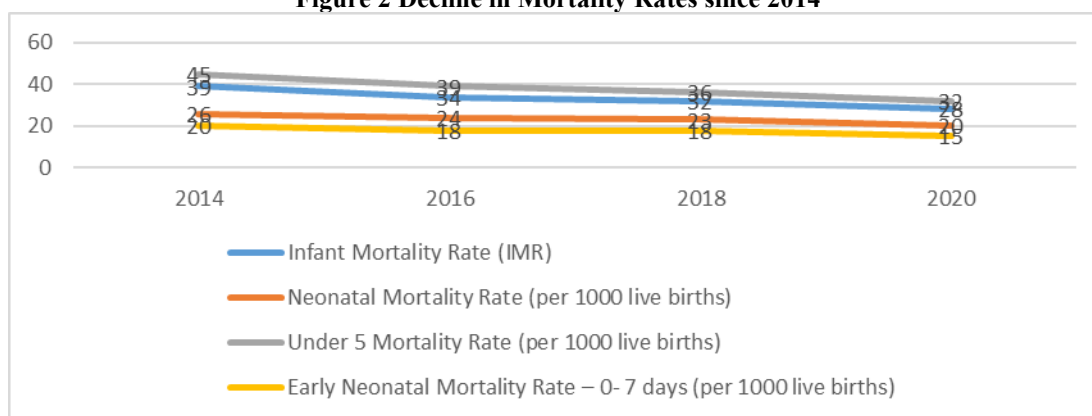
Health and Wellness: A Paradigm Shift in Health Care in Recent Times

Going by the recent reports, it is true that in terms of quantitative assessment, India has made major strides in healthcare expenditure. For instance, the Total Health Expenditure (THE), which covers current and capital spending both by the Centre and State governments, has registered a growth rate of 3.8 per cent of GDP. It is interesting to mention at this juncture that governments' share in Total Health Expenditure went up to 40.6 per cent in 2019 from 28.6 per cent in 2013-14. It is found that in 2019, only under the stewardship of the Union government led by Prime Minister Sri. Narendra Modi, India has been in a transient period as far as the health sector is concerned. As a part of focusing more on the wellness aspect, Yoga has been given top priority. Every year, June 21st has been celebrated as the International Day of Yoga to preach and practice the significance of Yoga in maintaining the wellness of people. To help the people take care of their health directly and to link the health services to the entire gamut of the health field, including the private sector entities, the government has started health insurance schemes aiming at helping the poor and disadvantaged to enjoy the state-of-the-art health services available in India. With this aim, 21.24 crore Ayushman Cards have been issued in India. These efforts have been put in place to ensure the presence of a comprehensive and compassionate health care system that ensures accessibility, availability, and affordability of various health care approaches. Another revolutionary change in making health services more accessible and affordable is the implementation of the "Scan and Share" service under the Ayushman Bharat Digital Mission (ABDM), which has been operationalised from October, 2022. It has been reported that around five lakh beneficiaries made use of this service, helping them to reduce the waiting time to get registered in a hospital to avail of services (The Hindu Bureau, 2023).

Digital technologies such as telemedicine, artificial intelligence (AI), electronic health records, and digital health platforms are transforming healthcare delivery in India. Among these innovations, telemedicine has emerged as a significant component of primary healthcare services by improving access to medical consultation, especially in rural and remote areas. The Government of India's eSanjeevani platform, launched in 2019, rapidly expanded across 28 states and union territories. During the COVID-19 pandemic, the platform played a vital role in ensuring continuity of healthcare services and enabled millions of people to access medical consultations remotely. Within its initial six months, eSanjeevani facilitated more than one million teleconsultations, and by 2022, the number of consultations had exceeded 50 million.

The digital healthcare market is expected to grow significantly due to internet penetration and smartphone usage. App-based health services have gained momentum in India in recent times, thanks to the implementation of a range of apps in the healthcare sector, including ABHA App, Arogya Setu app, Eka Care, DRiefcase, Bajaj Health, and Pay TM, which have played a bigger role in managing and mitigating the COVID-19 crisis. Introduction of a unique health ID (ABHA number) has also given a fillip to the digitalisation of health services in India (The Hindu Bureau, 2023). These steps have reflected in a decline in mortality rates in India in recent times

Figure 2 Decline in Mortality Rates since 2014



Source: Economic Survey, 2022

II. Concluding Remarks

The longitudinal assessment of financing trends and digital architecture presented in this paper provides vital insights into the evolving landscape of the Indian healthcare sector. For decades, India's health infrastructure grappled with the dual pressures of intense demand-supply gaps and sub-optimal state allocations. This forced a heavy reliance on private providers and exposed the population to highly regressive out-of-pocket costs. However, empirical evaluations of data from the past decade prove that strategic state-directed interventions have initiated a critical trend reversal. The primary contribution of this research lies in demonstrating the clear inverse relationship between rising government expenditure and household financial vulnerability. While India's domestic

government spending has historically hovered beneath 1% of GDP, the upward trajectory observed after 2014—reaching 0.99% by 2019—has generated measurable societal benefits. This sustained fiscal support is directly credited for the significant 20% reduction in domestic out-of-pocket expenditures. This drop marks a substantial policy achievement, even when contrasted with the steeper declines observed in China. This reduction highlights the successful rollout of safety-net initiatives that have protected disadvantaged populations from health-induced poverty.

Simultaneously, the paper shows that financial expansion is being reinforced by an unprecedented digital paradigm shift. The rollout of mobile applications like ABHA and Aarogya Setu, alongside decentralised systems like the ABDM's "Scan and Share" portal, has democratized entry points into the medical system. These tools have successfully minimised administrative friction, reduced hospital wait times, and generated vast repositories of portable health data via unique IDs. Ultimately, this study concludes that India is transitioning from a curative, fragmented healthcare model into an integrated system focused on holistic wellness and digital equity. The tangible impact of these structural reforms is validated by the downward trend in national infant, neonatal, and under-5 mortality rates recorded since 2014. To ensure these gains remain sustainable, policy frameworks must continue expanding public health allocations while deepening the digital infrastructure to bridge rural-urban divides.

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