An Analysis of public health expenditure and infrastructure in India

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Abstract: Health standards in India have been steadily improving, indicating a robust health infrastructure. Providing better healthcare facilities has been a major challenge since independence. Growing population and economic backwardness have posed challenges for the government in ensuring access to healthcare for the general public. The state of healthcare facilities, especially in rural areas, remains poor, resulting in the gap between rural and urban health indicators. Along with providing healthcare facilities, the government has also implemented population control and family planning programs alongside health services, thus establishing a multifaceted and multi-purpose healthcare infrastructure in India. After 1991, in the changing economic conditions, health services were not spared by privatization and liberalization policies. Positive changes in per capita income and reduced government responsibilities following privatization and liberalization have opened the way for increased spending on improved healthcare. The government has increased public health spending and is making efforts to provide modern healthcare services free of charge, helping to ensure widespread access to improved healthcare to a wider population.

This research paper presents a comprehensive assessment of India's public health infrastructure, highlighting public expenditure on the country's vast healthcare system, as well as the availability and trends of public health infrastructure.

Keywords: Public Health Infrastructure, India, National Health Mission (NHM), Ayushman Bharat, Free Diagnostic Services Initiative (FDSI), Universal Health Coverage (UHC)

INTRODUCTION

A high level of health-related standards among a country's population reflects the direction of its economic development. Improvements in demographic variables are also closely related to health-related standards. Therefore, it can be said that health standards clearly reflect a country's economic and demographic variables. Achieving health objectives in India is a significant challenge due to rural-urban economic disparities and a growing population. The efficiency and effectiveness of the public health infrastructure plays a crucial role in influencing health outcomes in India, given its population of over 1.4 billion and its wide

socio-economic and geographical diversity (Mukherjee & Basumallik, 2018). The evolution of India's healthcare system since 1991 reflects a combination of governmental changes, infrastructure expansion, and constraints affecting the general accessibility and quality of medical services.

In the concept of a welfare state, improving food supply and nutrition, along with improved healthcare, is a key government goal. Since independence, the government has attempted to improve healthcare, but limited resources have limited its impact. To control population growth and implement widespread vaccination programs, primary health centers in rural areas were given special attention, which gradually began to provide modern healthcare facilities, leading to improved healthcare in rural areas. The government not only modernized healthcare services in urban areas but also established additional primary health centers in cities, similar to primary health centers. Access to basic health facilities was ensured for a larger population through health centers. One of the benefits of this was that awareness about health and family planning could be spread among the people.

By 1991, there was sufficient awareness among the people about health facilities, and the population pressure on the established health services began to increase. As a result, there was a need not only to expand the health care infrastructure but also to increase public health expenditure to meet the health needs of the growing population. Although the government's public health expenditure continued to increase after 1991, it was not sufficient considering the health needs. Furthermore, the privatization and liberalization taking place in every sector also had an impact on health services, which led to widespread competition and investment trends in health services.

The availability of public health and increasing privatization in the health sector since 1991 have certainly played a significant role in improving the health standards in India, but if public health facilities are evaluated, they are still not of that high standard and there is still a lot of scope for improvement in them compared to global health standards. The government has implemented several programs to ensure widespread access to public health services, such as the National Rural Health Mission (NRHM) launched in 2005, the National Health Mission (NHM) launched in 2013, and Ayushman Bharat launched in 2018. These are all examples of government initiatives aimed at reducing inequalities in access to medical treatment, especially in rural areas (Raj et al. (2025). Despite these efforts, there are still problems that hinder the equitable distribution of health services. These problems include inadequate

funding, uneven distribution of health facilities, and a shortage of manpower (Santiago, D. L. (2006).

This paper presents a comprehensive analysis of India's public health infrastructure. It focuses on key aspects such as the number of government hospitals, primary health centers (PHCs), community health centers (CHCs), medical personnel, and health services, as well as the distribution of these facilities. Furthermore, it examines public health. It also explores the challenges of health system reform, appropriate policy solutions, and future prospects.

Impact of Public Health Expenditure on Infrastructure Development and Health Outcomes in India

The role of public health spending in India as a central factor in infrastructure development and overall health outcome is long a cause of concern, and various studies have identified the inefficiency, regional variation and the possibility of reform as reflects in the empirical studies conducted across states and sectors that all point to the need to increase and better use that health spending to assure equitable access and sustainable gains. In their analysis of the public expenditure on health in Haryana, Goel and Garg (2016) show that state-level spending has not affected health status indicators, such as the infant mortality rates, which have improved by only 15 percent between 2010 and 2015 despite increasing the budgetary allocations by a quarter, and claim that a more targeted investment in rural facilities would have greater benefits, as the establishment of more sub-centers and hospitals has had a positive effect on health infrastructure. Continuing on this, Chatterjee and Laha (2016) provide an analysis of the states that indicates that there is a high relationship between the accessibility to public health care and the financing of infrastructure, with the southern states such as Kerala and Tamil Nadu, which allocates more money on this sector of about Rs. 2,500 per capita per year, having better infrastructure indicators such as 90 percent coverage of basic services than the northern states such as Bihar, which has this indicator at 60 percent. Gupta and Ranjan (2019) change their focus on non-communicable diseases (NCDs) and present an analysis of budget data revealing that less than 10% of total health budgets is dedicated to NCDs and injuries, which results in overcrowded infrastructure with hospitals taking 30% more cases than they can handle and suggests redistribution of the budget to specialized units that would save 25% of the population, according to their estimates based on 2015-2018 trends. Mahal et al. (2000) offers a distributional understanding of beneficiary distribution, which suggests that the poorest quintiles do not receive fair benefits of the spend in the public health, receiving 20

percent of the subsidies despite their 40 percent population, which would translate into pro-poor policies that would help to redirect funds to rural sub-centers and immunization programs. The article by Das (2024) provides a recent state-level examination of the nexus between public health spending, infrastructure, and manpower, concluding that a 1 percentage point rise in the spending is associated with a 0.8 percentage point rise in manpower density, e.g. doctors per 1000 population increasing by 0.7 to 1.0 in high-spending (e.g. Delhi) and low-spending (e.g. Uttar Pradesh) states, proposing integrated manpower training as part of national programs as a way Prabu et al. (2023) emphasise the fact that critical care delivery in government sectors urgently requires revamping, and a need analysis revealed that an outdated infrastructure is a contributing factor to 40 percent of preventable deaths in intensive care units, with government spending on critical care constituting one-fifth of health budgets, which affects the general population by increasing wait times and rates of infections, and in the present case offer solutions to reallocate 50 percent on equipments upgrade such as ventilators and monitors, based on the post-COVID lessons The study by Srinath et al. (2018) provides a qualitative and quantitative analysis of expenditures between 2005-06 and 2014-15, demonstrating that the public health budgets doubled to Rs. 1.5 lakh crore but systemic infrastructure shortages, arguing that a disjointed planning approach leads to the absence of data-driven allocation of resources, and suggesting that such plans are more probable to succeed with data. Bhat and Jain (2004) use state-level data to examine spending trends, where capital expenditure on infrastructure such as creating new CHCs has produced economic multipliers of 1.5 times, but revenue expenditures on maintaining facilities have not, with 25 percent of facilities not operational, thus encouraging the concept of balanced budgets to ensure long-term sustainability. Hati and Majumder (2013) examine relationships between district health infrastructure, outcomes, and economic wellbeing and find strong relationships between district health infrastructure and 20 per cent higher life expectancy and GDP contributions with healthier working populations in Maharashtra, with over 80 per cent of PHCs equipped, compared to Odisha, and propose decentralized funding models to improve local outcomes. Determinants of health spending identified by Hooda (2016) are based on panel data, which demonstrates that GDP growth and political priorities cause a 10-15% disparity in sub-national spending, which, in turn, has an implication on infrastructure, with the states that are better-off financially investing three times more in digital health tools and that equalization grants are necessary to even the playing field. Kaur (2020) points out weak links revealed by disasters in a cramped Indian public health infrastructure, which, when confronted by events such as floods, causes 50% of the affected population to die, as the

existing facilities operate at 120% capacity with low spending (1.5% of GDP), and recommends resilient designs with emergency response units financed by special disaster health budgets. Issac et al. (2016) discuss the out-of-pocket (OOP) payment at public facilities, discovering that even with free care, incidental costs average Rs. 1,000 per delivery, making 20 percent of households poorer, and contributing to a decreased use of infrastructure, which they suggest should be fully reimbursement schemes to increase attendance by 25 percent. According to the case study by Lakshmi and Sahoo (2013), Andhra Pradesh has improved its health indicators by 18 percent since investing in infrastructure, however, the gaps in tribal areas have not yet been reduced because of uneven allocation, indicating region-specific allocation. Mohanty and Kastor (2017) contrast OOP on maternal care before and after the National Health Mission, writing that there was a decrease of 15% in catastrophic spending in the government centers after 2013 but the bulk of it was still in the private sectors since infrastructures are better than the government ones and call on the government to upgrade their facilities to capture 40% of the cases. Mukherjee (2017) examines the nexus between the growth in public spending on healthcare and economic growth, and discovers that there exists a bidirectional relationship between 1 percent growth in expenditure on healthcare and 0.5 percent growth in GDP due to healthier populations, with infrastructure as an intermediary, suggesting that investments in hospitals may enhance this effect in the context of India demographic dividend. Reddy and Mathur (2014) mention the measures to develop the infrastructure of the public health, which focus on the training of the workforce and the inclusion of technologies and add that the low number of doctors to the population ratio in India undermines the service delivery, and suggest that every effort should be aimed at increasing spending to 2.5% of GDP to reach the global standards by 2030. Lastly, Das and Guha (2024) shatter the riddle of spending and infrastructure by empirically investigating it, showing that funds are inefficient.

STUDY OBJECTIVES

1. To explore trends in public expenditure on health since the year 2000.
2. To trace and evaluate the growth and development of India's public health infrastructure.
3. To explore policy measures to improve scope and accessibility of public health facilities.

METHODOLOGY

The methodology of this assessment is analytical and descriptive. The study is primarily based on a detailed review of government policy and institutional documents rather than collecting new primary data. The study primarily considers central government budget-based health expenditure as a basis. An attempt was made to assess the tradeoffs in public expenditure on public health, as well as to measure the development of health infrastructure and human resources by studying data from periodic reports and surveys of the Central Health Department. Systematic infrastructure analysis was conducted to categorize and evaluate the stated goals and actual operational reach of major government initiatives designed to build health infrastructure.

Growth and Development of Public Health Infrastructure since 1991

In India, the public health infrastructure is classified into primary health care, secondary health care, and tertiary health care levels to provide access to health services to the public. Sub-health centers and primary health centers fall under the primary level of public health services, which are primarily established to meet the primary health needs of rural and urban areas with dense populations. While community health centers and district hospitals constitute the second level of public health centers. These are more equipped than primary health centers and provide public health services to a comparatively larger population. District hospitals and community health centers, located in larger rural and urban areas, primarily provide comprehensive and multidisciplinary healthcare services, as well as primary health care. At the top of the multi-level model are specialized hospitals and medical colleges, established primarily for the teaching and research of medical students, as well as for intractable or communicable diseases. These specialized hospitals and medical colleges not only have specific goals compared to general hospitals but also play a vital role in providing the necessary infrastructure, both technical and human resources, to meet changing health needs.

Since 1991, India's basic health system has undergone significant changes, primarily due to the growing population and the relatively low health standards in India, as defined by the World Health Organization. There is a difference in standards. It is a well-established concept that positive change in standards makes the population more conscious about better health. This trend is growing rapidly in India as well and currently with the increase in life expectancy, awareness among people regarding various health related problems has increased more than ever before.

The physical health system infrastructure in India has expanded significantly since 1991, although this expansion has not been uniform across all three levels. The declining rural population has particularly impacted the numerical expansion of primary health centers. Nevertheless, the number of public hospitals and community health centers has grown rapidly. Considering India's current health needs, the per capita availability ratio still falls short of World Health Organization standards, limiting population access and the quality of health services.

In the early 1990s, the number of primary health centers, which serve as the backbone of physical health in rural areas, was approximately 20,000, which increased to 30,045 by 2019. However, from a qualitative perspective, these primary health centers have consistently lacked basic medical facilities and medical and paramedical staff compared to the 1990s, and without addressing these needs, the utility of these primary health centers cannot be proven.

Similarly, community health centers have also seen a significant increase in numbers compared to the 1990s, increasing from approximately 2000 to 6,155 by 2018. While the availability of doctors and infrastructure at community health centers is much better than at primary health centers, they too face a shortage of doctors.

The number of health services in India peaked in 1991, when there were approximately 12,000 government hospitals. By 2018, this number had increased to 25,778, including central, state, and municipal hospitals. This growth reflects the government's efforts to expand access to healthcare, especially in areas currently underserved.

Trends in Government Public Expenditure on Health and Family Welfare

As mentioned above, the government has been continuously improving the public health infrastructure since 1991. However, given the growing health needs, merely building infrastructure is not sufficient; more public expenditure will be required to make this infrastructure functional. In the Indian context, the trend in public expenditure on health has not been as expected. Table 1 presents the central government's public expenditure on health since 2000. This table provides information on India's health expenditure from 2000 to 2021, according to the following three parameters: current health expenditure as a percentage of GDP, current health expenditure per capita measured in current US dollars, and domestic general government health expenditure per capita measured in current international dollars.

Table.1 clearly shows that public health expenditure was 4.23% of GDP in 2000, which declined to 2.95% by 2019 but increased to 3.34% and 3.28% in 2020 and 2021 respectively once the focus shifted to public health services during the Covid pandemic. Current health expenditure per capita (in US dollars) has been rising steadily since 2000, from $18 to $74 in 2021. Additionally, domestic general government health expenditure per capita (PPP), a measure of government expenditure adjusted for purchasing power, increased dramatically from $18 in 2000 to $81 in 2021. This increased expenditure is a reflection of increasing government investment in healthcare (Sehgal, Jatrana, & Johnson, L. (2024).

However, changing patterns in GDP percentage allocation mean that while per capita expenditure has increased, healthcare spending has not always kept pace with overall economic growth. This is despite the fact that overall costs have increased (Nagaraj, R. (1997)).

Table 1: India's Health Expenditure from 2000 to 2021

Year	Current Health Expenditure (% of GDP)	Current Health Expenditure Per Capita (Current US Dollars)	Domestic General Government Health Expenditure Per Capita, PPP (Current International Dollars)
2000	4.03	18	18
2001	4.26	20	18
2002	4.24	20	18
2003	4.01	22	19
2004	3.96	25	19
2005	3.79	27	23
2006	3.63	29	24
2007	3.52	36	26
2008	3.51	38	30
2009	3.49	38	35
2010	3.27	45	37
2011	3.25	48	42
2012	3.33	49	45

2013	3.75	56	43
2014	3.62	57	44
2015	3.6	58	50
2016	3.5	60	54
2017	2.94	57	59
2018	2.86	58	65
2019	2.95	61	71
2020	3.34	64	78
2021	3.28	74	81

Source: World Bank data (accessed March 21, 2025)

In Figure 1, the data in Table 1 has been analyzed and trend lines have been drawn. The trend line is accurate, clearly indicating that current health expenditure as a percentage of GDP has been steadily declining. The R-squared value of 0.712 confirms this high trend. Current health expenditure per capita initially grew faster than domestic general government health expenditure, but after 2015, the growth in current health expenditure per capita almost stabilized and slowed compared to domestic general government health expenditure. After 2020, current health expenditure per capita once again grew relatively rapidly and significantly larger. The R-squared value for current health expenditure per capita is 0.985, and the R-squared value for domestic general government health expenditure per capita is 0.995. 0.992 represents the high point of both these trend lines.

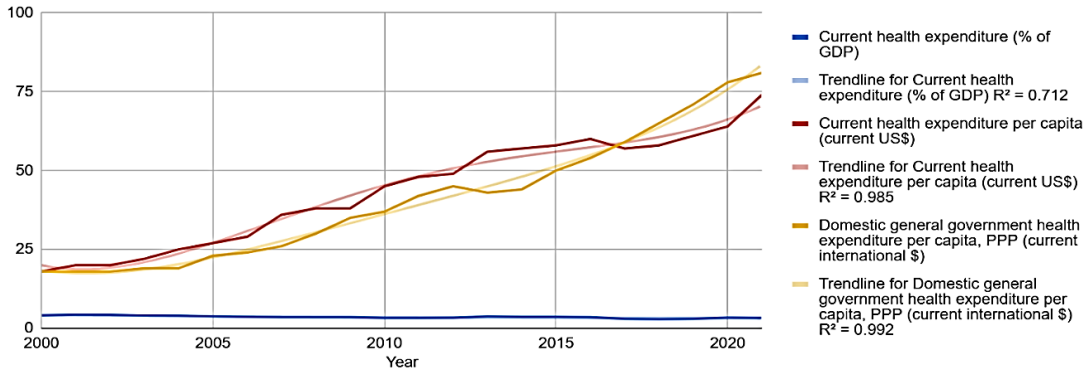

Figure 1: India's health expenditure from 2000 to 2021

It is clear from the line analysis of figure 1 that India's economic condition has continuously improved and as a result GDP has also increased but in terms of spending on health, the government has not acted in line with the increase in GDP. One effect of this is that a large part of the increasing per capita health expenditure has been done by the public through their personal resources due to which out of pocket expenditure on health has continuously increased.

The Allocation of Public Health Expenditure on Rural Health Infrastructure

Based on the findings of the XV Finance Commission report, the table.2 provides an overview of the total health funding provided for the primary health sector in rural areas of India between 2021-22 and 2025-26. Various areas of rural healthcare are covered by health grants. These components include building-less sub-centres, Primary Health Centres (PHCs) and Community Health Centres (CHCs), block-level public health units, diagnostic infrastructure, and the conversion of rural PHCs and sub-centres into health and wellness centres.

Table. 2 Total Health Grants Allocation for Rural Health Infrastructure (Rs. Crore)

Sl.	Total Health Grants	2021-22	2022-23	2023-24	2024-25	2025-26
1	Building-less Sub Centre's PHCs, CHCs	1350	1350	1417	1488	1562
2	Block level Public Health Units	994	994	1044	1096	1151
3	Support for diagnostic infrastructure to the primary healthcare facilities	3084	3084	3238	3400	3571
3 a	Sub-Centres	1457	1457	1530	1607	1687
3 b	PHCs	1627	1627	1708	1793	1884
4	Coversion of rural PHCs and Sub Centres into Health and Wellness Centre	2845	2845	2986	3136	3293
	Total Grants for primary health sector in rural areas	8273	8273	8685	9120	9577

Source: XV FC Vol I Main Report, Oct, 2022

The allocation has seen a steady increase over the past few years, starting from ₹8,273 crore in FY 2021-22 and reaching ₹9,577 crore by FY 2025-26. The largest budget has been allocated to support diagnostic infrastructure, starting at ₹3,084 crore in 2021-22 and increasing to ₹3,571 crore in 2025-26. Furthermore, there is a growing trend towards converting rural primary health care centers and sub-centers into health and wellness centers. This trend is expected to increase from ₹2,845 crore in 2021-22 to ₹3,293 crore in 2025-26, indicating an increased emphasis on expanding access to healthcare services. Similarly, funding for primary health care centers and sub-centers has been increasing over the past few years, ensuring that rural healthcare facilities are continuously improving.

Table. 3 Total Health Grants Allocation for Urban Health Infrastructure (Rs. Crore)

Sl.	Total Health Grants	2021-22	2022-23	2023-24	2024-25	2025-26
1	Support for diagnostic infrastructure to the primary healthcare facilities - Urban PHCs	394	394	415	435	457
2	Urban Health and Wellness Centres (HWCs)	4525	4525	4751	4989	5238
	Total Grants for primary health sector in rural areas	4919	4919	5166	5424	5695

Source: XV FC Vol I Main Report, Oct, 2022

According to the report of the XV Finance Commission, the following table.3 provides an overview of the total health funding provided for the primary health sector in urban areas of India between 2021-22 and 2025-26. Funding is divided into two primary categories: support for diagnostic infrastructure in urban primary health care centers (PHCs) and support for urban health and wellness centers (HWCs). There is a commitment to improving urban health services, as evidenced by the fact that total funding for urban health care starts at ₹4,919 crore

in 2021-22 and progressively increases to ₹5,695 crore by 2025-26. A steady investment in diagnostic capacity is reflected in the fact that support for diagnostic facilities in urban primary health care centers starts at ₹394 crore in 2021-22. Meanwhile, urban health and wellness centers (HWCs), which have been allocated the largest share of the budget, start at ₹4,525 crore in FY 2021-22 and will reach ₹5,238 crore by FY 2025-26. This reflects the government's commitment to improving primary healthcare infrastructure in urban areas. Efforts are being made to increase accessibility, preventive care, and diagnostic services for urban residents, and the upward trend in allocation reflects this effort.

Workforce in the Healthcare Industry and Medical Professionals

As mentioned above, India's physical healthcare infrastructure has improved significantly since 1991. However, it is also worth noting that infrastructure has primarily expanded in building construction and physical facilities. For the effective functioning of the public healthcare system, not only physical resources but also the number of medical professionals, including nurses, doctors, and other healthcare workers, needs to be substantially increased.

In 1991, India had approximately 500,000 registered physicians, which increased to over 1.2 million in 2021. However, the more significant finding is that, among these registered physicians, the number of physicians employed in public healthcare services remains comparatively low. According to World Health Organization data, in India, the availability of one doctor per lakh population in 1991 has increased to one doctor per lakh population in 2021, which is much less than the WHO recommended level of one doctor per 1000 patients.

If we look at the context of specialist doctors, in India, whether in the public sector or private health sector, specialist doctors are limited to metropolitan cities only. Here, the fact is even more important that in the context of specialist doctors, their availability in public health services is limited to highly specialized medical colleges and only a few metropolitan hospitals.

Sub-centers are staffed by an Auxiliary Nurse Midwife (ANM) and a Male Multipurpose Worker (MPW). These sub-centers provide medicines for common and minor ailments. In addition, they provide essential medicines for immunization, family planning programs, maternal and child health, and the prevention of infectious diseases. According to UMNFW data, the number of operational sub-centers is approximately 146,026.

At the second level are Primary Health Centers (PHCs). Similar to sub-centers, they offer all the same facilities, but also provide services such as women's health, immunization, institutional deliveries, and curative and preventive healthcare, all under the supervision of a medical officer in charge. In addition to a doctor, PHCs have trained paramedical and other staff members. The PHC serves as a referral unit. According to a report by the Ministry of Health, the number of PHCs in India has reached 23,236 this year, but this is still 16% short of the target number.

Community Health Centers (CHCs) represent the highest level of rural health infrastructure. They provide inpatient facilities, laboratory services, and other basic amenities to address immediate health needs. These centers are established and operated by the central and state governments under the Minimum Needs Programme (MNP)/Basic Minimum Services (BMS) program. They are staffed by a surgeon, physician, gynecologist, and pediatrician, along with paramedical and other professional staff. Currently, there are 3,346 Community Health Centers functioning across the country, which represents a 50 percent shortfall from the target.

The shortage of personnel in all cadres of positions, such as male MPWs, female ANMs, and female LHVs, in public health centers is particularly noteworthy, as is the lack of adequately trained doctors, pharmacists, and lab technicians. The shortage of medical personnel is comparatively more pronounced in rural areas. Due to modern facilities, doctors have preferred urban and suburban medical centers over rural ones. According to available data, approximately 49.9 percent of the sanctioned specialist positions in Community Health Centers (CHCs) were vacant.

Despite the shortage of human resources in health facilities, the level of participation of the existing staff is lower than expected, due to inadequate and poorly functioning equipment, insufficient supply of medicines and vaccines, poor cooperation and coordination with paramedical staff, and other factors. While it is true that doctors are able to demand higher salaries and seek more lucrative practices, it is also true that modern medical school graduates, who are trained to use expensive new technologies in diagnosis and treatment, find that the basic facilities to apply their knowledge and skills are not available in most government health centers. Furthermore, rural practice locations typically generate lower incomes for doctors and have fewer and older technological resources compared to urban and suburban practice locations. Consequently, adequately trained doctors are rarely sufficiently equipped to work

in rural settings. The direct result of this is that rural areas suffer from a persistent shortage of doctors.

BARRIERS RELATED TO PUBLIC HEALTH INFRASTRUCTURE

Despite the expansion of public health facilities to villages, India's healthcare system still faces numerous challenges, which can be seen in the inadequacy and limitations of the physical infrastructure of health facilities and the shortage of trained healthcare professionals and doctors in public health services. It is evident that the number of primary health centers and community health centers is not commensurate with India's vast population, according to global health standards. According to the Indian Public Health Standards (IPHS) Report 2025 published data, of the 40,451 public health centers and hospitals studied, only approximately 20% of the facilities met 80% or more of the established standards (infrastructure, human resources, medicines, diagnostics, and equipment), while 42% of the health centers scored less than 50%, indicating serious deficiencies in essential healthcare areas. Healthcare facilities in rural areas often suffer from inadequate funding and staffing levels, while metropolitan areas have well-equipped hospitals. Providing adequate medical treatment is difficult in most rural public health centers and urban hospitals because there is a lack of sufficient qualified medical personnel, especially specialist doctors in urban hospitals. Many public hospitals and primary healthcare centers (PHCs) lack essential facilities such as clean water, sanitation, electricity, and emergency medical equipment, which negatively impacts patient care.

9.4 percent (2022-23) of total healthcare expenditure is still borne by individuals, which can result in significant financial strain, especially for low-income groups. Since the healthcare facilities available at public health centers are still inadequate due to evolving circumstances, most people are compelled to spend on healthcare services in the private sector.

India's public health infrastructure has developed significantly since 1991, with notable progress in the number of hospitals, primary health centers, community health centers, and the growth of the healthcare workforce. Government programs such as the National Health Mission and Ayushman Bharat have resulted in increased availability of healthcare services. However, there are still several obstacles hindering further development. These obstacles include limited funding, manpower shortages, and infrastructure inadequacies. The future of India's public health system can be improved by strengthening healthcare legislation, increasing investment, and utilizing technology. This will help India achieve a more robust and equitable public health system.

PROSPECTS FOR PHYSICAL INFRASTRUCTURE OF PUBLIC HEALTH IN INDIA

To address these difficulties and build healthcare infrastructure, the following initiatives need to be implemented:

India's public healthcare expenditure remains low, averaging 1.2-1.5% of GDP, significantly lower than the global average of 6.74%. To improve both the quality and accessibility of services, the government needs to increase its spending on healthcare to at least 2.5% of its GDP, which is currently around 1.9%.

As a result of low government funding, infrastructure is substandard, staffing levels are inadequate, and access to essential medicines is limited. Healthcare facilities in rural areas often suffer from insufficient funding and staffing levels, while metropolitan areas have well-equipped hospitals. Many public hospitals and primary healthcare centers (PHCs) lack essential facilities such as clean water, sanitation, and electricity, negatively impacting patient care. To address this problem, it is essential to improve the infrastructure of community health centers and bring them up to modern healthcare standards. By working with healthcare stakeholders through public-private partnerships to strengthen existing healthcare infrastructure, improvements can be made in medical equipment and service delivery. Private sector participation can play a crucial role in areas where healthcare services are currently unavailable. Encouraging community-based healthcare initiatives and preventive healthcare awareness campaigns is an important part of fostering community participation and awareness.

Since 1991, the government has implemented several projects to strengthen the infrastructures in the field of public health and ensure that all people can access healthcare with the increasing health needs of the population. Through all this, the National Rural Health Mission (NRHM-2005) was instituted to improve access to healthcare in the rural areas. This gave rise to the engagement of Accredited Social Health Activists (ASHAs), upgrading of Primary Health Centres (PHCs) and expanding maternal and child health initiatives. The NRHM initiatives succeeded in accessing the large rural populations to immunization, health, sanitation, and maternal-child services, providing significant results. The National Urban Health Mission (NUHM) later came up as a subset of the National Health Mission (NHM). NUHM is designed to address the healthcare needs of urban dwellers, particularly the poor in the urban setting, by providing the basic primary care facility and reducing the expenses they incur in treatment.

The Government of India implemented a program called the National Free Diagnostic Services Initiative in 2015 in an effort to address the rising cost of health services in the country. Its essence is to increase the affordability and accessibility of pathological and radiological diagnostics to all and reduce out-of-pocket expenditure (OOPE) and increase Universal Health Coverage (UHC). These incorporate a fundamental list of basic diagnostic assessment tests that should be implemented relating to the health needs on different levels of public facilities, implemented either through in-house operations, called a public-Private partnership (PPP), or a combination of both as defined by the National Health Mission (NHM).

The National Health Policy (2017) aimed to extend the area of the universal healthcare cover and to increase the amount of governmental spending on health to 2.5% of GDP. Ayushman Bharat Program (2018) combined these objectives in order to maximize the current basic health arrangements. It transforms the existing primary health care centers (PHCs) and secondary health care centers (SHCs) into 150,000 Health and Wellness Centers (HWCs) by 2022 to provide comprehensive primary care. Also, Ayushman Bharat (2018) incorporates Pradhan Mantri Jan Arogya Yojana (PMJAY), which is an expansion of health insurance coverage to over 500 million individuals. The PM-JAY in particular will alleviate out-of-pocket expenses and provide financial safeguards to low-income families up to 5 lakh cover of the family per year. The Insurance Regulatory and Development Authority of India (IRDAI) has spurred the growth of the private health insurance in supporting health financial protection. Such initiatives as Rashtriya Swasthya Bima Yojana (RSBY, 2008) and Pradhan Mantri Jan Arogya Yojana (PMJAY, 2018) have increased financial security in terms of health matters among individuals and families.

The medical education and training should also be increased to create an adequate number of doctors, nurses and paramedics. Despite the increased investments by the private sector in medical colleges and consequently increase the number of doctors and professionals, this is not guaranteeing their role in promoting health among the people. The specialists require incentives and better conditions to attract them to the state facilities since the lack of proper infrastructure restricts their expertise. The National Medical Commission (NMC, 2019) replaced the Medical Council of India (MCI) to improve supply and standards of the medical and healthcare personnel and enhance the education oversight. This introduced reforms of increasing medical and paramedical seats in institutions and establishing high-quality standards.

The National Ambulance Service (NAS) increases the timely access to healthcare among the remote and rural population and operates in 34 states and territories. When a user needs to dispatch an ambulance, he/she makes a toll-free call to a call center. Dial 108 is an emergency system that is used on critical patients, trauma, accident victims, and similar cases. Dial 102 specializes in regular transportation, and it targets pregnant women and children. It is complementary to Janani Shishu Suraksha Karyakram (JSSK) since it will provide free rides to the facility to the mothers, referral transfers, and postpartum returns together with the babies. Telemedicine and digital health records allow provision of care in remote locations because of the shortage of specialists in those locations. There are helicopter ambulances which are available in few areas.

The drugs and cosmetics act has been strengthened by the government to control the quality and price of medicines. In the National Health Service (NHS), Free Drug Service Initiative (FDSI) provides the supply and free distribution of essential medicines in the public facilities. This is funded by the states and union territories. FDSI purchasing is strictly regulated and needs medicines to be of Good Manufacturing Practices (GMP)-compliant manufacturers. Similarly, Drug and Vaccine Distribution Management System (DVDMS) follows procurement, quality control, store, inspection, complaint, treatment guideline and instantaneous notification of required medicine availability and operations.

The Ayushman Bhava campaign that was introduced in 2023 aims to provide comprehensive healthcare at all villages and towns. It entails the beneficiaries data collection by the state and targets such as early detects through awareness at Ayushman Arogya Mandirs, extreme consciousness, reduced gaps in issuing health IDs, population screenings, routine immunizations, and the continuous PM-JAY follow-ups.

ANALYTICAL DISCUSSION

Since 1991, India has been experiencing a progressive change in its public health efforts, whereby the basic rural infrastructure has been replaced by coverage models, though there has remained structural gaps in the funds and delivery that remain despite the covers. Rural access was stimulated by the National Rural Health Mission (NRHM-2005) of rural-based accredited social health activist (ASHAs) and the upgrading of Primary Health Centre (PHC) and the urban equivalent (NUHM) as slum populations, and therefore, the reduction of out-of-pocket expenditure (OOPE) was achieved through equitable access to primary care. Others, such as the National Free Diagnostic Services Initiative (2015) and Free Drug Service Initiative

(FDSI), took advantage of the public-private partnership (PPP) as a way to standardize tests and other necessary drugs, made under Good Manufacturing Practices (GMP), in line with the objectives of Universal Health Coverage (UHC) and to reduce the OOPE that used to dominate 60% of health costs.

These efforts were enhanced by Ayushman Bharat (2018) that converted PHCs and secondary centers into 150,000 Health and Wellness Centres (HWCs) to provide preventive care and by Pradhan Mantri Jan Arogya Yojana (PM-JAY) which provided ₹5 lakh yearly insurance cover to more than 500 million vulnerable families, with the precedents of Rashtriya Swasthya Bima Yojana (RSBY, 2008). Emergencies and Janani Shishu Suraksha Karyakram (JSSK) transfers were facilitated by National ambulance service (NAS) through dial 108/102, but the helicopter coverage is limited to non-pilot areas. The Medical Council of India (MCI) was superseded by the National Medical Commission (NMC, 2019) to increase the number of seats and quality, and Drug and Vaccine Distribution Management System (DVDMS) and Ayushman Bhava (2023) improved supply chains and medical checks at the village level.

These programs achieved real increases, PHCs increased by more than 30,000 since 1990s to over 30,000 in 2019, immunization coverage was at 90 percent in high-performing states, and spending by the government increased to 3.3 percent of GDP since 2019, but are still below National Health Policy (2017) targets such as 2.5 percent GDP allocation. The facilities in the rural areas are in most cases 120 percent with 50 percent vacancies in the Specialist profiles in the Community Health Centres (CHCs), basic shortages (water, power) and at best 20 percent of the facilities are up to the Indian Public health Standards (IPHS). Distribution bias within the workforce increases inequities, where the southern states such as Kerala perform better than Bihar due to increased investments of about 2500 per capita (compared to half) whereas non-communicable diseases (NCDs) incur lower budgets even though their burden increases.

Federal dynamics put a strain on execution, with the disparities between states resulting in uneven PM-JAY uptake and constant 1,000/delivery incidental costs of even free public care. Since 1991, privatization increased the number of professionals (1.2M doctors in 2021) at the expense of urban-public balance, strengthening OOPs. The promise of last-mile gaps through telemedicine of Ayushman Bhava is beneficial but without 2.5% GDP escalation incentives, pro-rural incentives, reallocation of NCDs, and digital interoperability, UHC is merely a dream

- likely to unlock 0.5% GDP growth through healthier labor but with 25% preventable intensive care deaths as a result of under-equipped infrastructure.

CONCLUSION

This paper, through its evaluation of India's public health infrastructure, highlights the various policy initiatives and programs adopted by the government to adapt to contemporary circumstances. The study reveals that while the government has attempted to increase public spending on health, the amount is still significantly below the target. To address the need for transformation in the basic public health infrastructure and ensure its accessibility to all, it is essential to adopt a multi-pronged approach through the Public-Private Partnership (PPP) model. The government has implemented schemes like the National Health Mission and launched ambitious policy programs such as Ayushman Bharat, which are extending healthcare services to underserved populations through private sector participation. Nevertheless, achieving true and equitable universal health coverage (UHC) for India's diverse population requires a more robust and resilient public health policy and its implementation, strategically allocating human and material resources.

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