

## **AN EMPIRICAL ANALYSIS OF PUBLIC EXPENDITURE ON HEALTH SECTOR IN INDIA**

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### **Abstract**

Government expenditure in India increasing continuously since independence. According to Musgrave, government performs various functions such as allocation function, distribution function, and stability function. Government can redistribute the income through the budget to reduce the inequalities in the country. There was much debate among researchers on the relationship between public expenditure on health and its effectiveness. Moreover, the United Nations, in its sustainable development goals, has given the highest priority to ensuring healthy lives and promoting well-being of all people. The purpose of this article is to examine trends and pattern of healthcare spending and its impact in India. The research uses the times series data from 2001 to 2020 on health expenditure. The study mainly depends on secondary sources of data and the required data collected from the National Health Accounts, Economic Survey of India, RBI Database, etc. we used descriptive statistical tools analysis to examine the health expenditure and its impact.

**Keywords:** Health care, descriptive statistical tools, Government expenditure.

### **Introduction**

Health spending is defined as money spent on health-related goods and services, as well as money spent on equipment and facilities. This definition closely reflects the definitions and ideas provided by the System of Health Accounts (OECD, Eurostat, and WHO 2011) framework of the Organization for Economic Co-operation and Development (OECD). It does not include spending that has a 'Health' outcome but is not incurred in the health sector. Personal activity spending has little to do with sustaining or improving one's health. The term 'Health Expenditure' refers to both the monies provided by the Indian government to state and territory governments, as well as the cash allocated to health care providers by the state and territory governments. In 2014, India's private health spending (as a percentage of GDP) was 3.28. It reached a high of 3.42 in 2001, and a low of 2.89 in 1996 over the previous 19 years. India's health-care spending in 2019-20. . The latest NHP (2017) has been focused on the "Health in All" approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India's health, healthcare system, and human security.

In many circumstances, information on expenditures is not available directly from health-care providers. Public health spending is one of the most essential factors in the provision of health services, which leads to improved health outcomes. India appears to be falling short of most of the Millennium Development Goals (MDGs). India is the world's second most populous country, with altering socioeconomic patterns that have drew international attention in recent years. Despite the government's adoption of various growth-oriented initiatives, the country's health sector is facing issues due to rising inequities. The fact that public health spending in India is so minimal in comparison to GDP is one of the most evident evidence of its insufficiency. Government spending on health amounts for roughly 5% of GDP or more in wealthy countries. Even eliminating India, the average is roughly 3% of GDP in Asian countries. People in India spend 6.8% of their consumption spending on health care, according to the CES, 68th Round, 2011. The federal government spends money on health directly and also offers funds to state governments to help them cover health-care costs. State governments spend health expenditures directly from their own resources, in addition to the grants-in-aid they receive from the federal government. . The latest NHP (2017) has been focused on the "Health in All" approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India's health, healthcare system, and human security.

The sum of each of these three tiers of government's health expenditures provides an estimate of India's public health spending. The following is how the paper was written: Following a brief review of the literature on health expenditure in section, the author presents Methodological Design of the Regression Model Used, Current Trend Status of Health Expenditure in India and Odisha, Growth Rate of Health Expenditure in India and Odisha, Pattern of Public Health Expenditure in India, Suggestion and Recommendation, and concludes with an overview.

## **REVIEW OF THE LITERATURE**

There are numerous substantial literature reviews devoted to topics concerning India's healthcare expenditure trend. We can divide this material into the following general categories if we look closely. Health Expenditure Economics has evolved as a significant branch of economics.

Many researchers had previously divided the topic of healthcare expenditure in India, partly in the context of private or governmental expenditure without involving it in the overall picture of the health expenditure scenario. Here, an attempt has been made to piece together diverse studies on health status, health expenditure and finance, and so on.

Singh Balwant Mehta (2008)<sup>1</sup> examined both public and private healthcare expenditure patterns in India. Based on secondary sources of information from the Reserve Bank of India and the National Sample Survey Organization, Singh Balwant Mehta (2008)<sup>1</sup> examined both public and private healthcare expenditure patterns in India. In the year 2002, it was discovered that the average per capita health expenditure was Rs. 617. The average public per capita health spending (Rs. 170) was, however, significantly lower than the average family per capita health expenditure (Rs. 641). Developed countries spent a smaller percentage of their GDP on government than developing countries. In contrast, private health expenditure patterns were found to be higher in developed states such as Kerala (8.38%), Punjab (7.51%), and Haryana (7.46%).

US Mishra, Joe William, and K. Navaneetham (2008)<sup>2</sup> The second study used data from the National Family Health Survey to present an empirical assessment of income-related health inequality in India. They used the standard technique of concentration curves and concentration indices to investigate income-related health inequality. It was discovered that the poorer sections of the population were plagued with ill health, whether as a result of the quest for child survival or due to concerns about child nutrition. Additionally, an attempt was made to understand the relationship between income inequality and health status in the Indian context.

Selvaraj Sakthivel and Anup K. Karan (2009)<sup>3</sup> investigated the nature and significance of the rising burden of health-care costs on households as a result of increased reliance on private providers. They discovered that the private sector's role in healthcare delivery had grown dramatically during the study period. In 2004, the public sector provided approximately one-fifth of total outpatient care, compared to more than one-fourth (26.1 percent) in 1987-88. Furthermore, the comparative cost of hospitalization revealed that households ended up paying more than twice as much in private healthcare institutions as they did in government settings. Unfortunately, government healthcare facilities, which used to provide free services, have forced patients to obtain drugs and diagnostic services from private sector providers.

Singh Narinder Deep's (2010) study estimated the level of credit acquisition for health care purposes by marginal and small farmers in Punjab. Using primary data collected, It was discovered that in Punjab, households accounted for nearly 76.1 percent of total health care spending, while public spending accounted for only 18 percent and all other sources, such as non-governmental organizations, charitable trusts, and so on, accounted for only 5.9 percent of total health expenditure. The author proposed that rural areas be prioritized in various policies and programmes in order to bridge the rural-urban divide and provide equitable justice to the rural population.

Bhadra K.K. and Bhadra J (2012) investigated various factors influencing low public expenditure on health across Indian states. According to the study, the level of public spending on health for the Centre and states combined remains less than 1% of GDP. The paper revealed the states' progress in meeting their committed liabilities, which leaves very little room for health spending. It also discussed the role and contribution of the Finance Commission to complete state equalization.

Himanshu (2010) examined the gender bias (or unbiasedness) in HHE using primary data collected from four districts in Odisha, India, using a multi-stage random sampling method. Multiple regression analysis and descriptive statistics are used to substantiate the gender bias (or unbiasedness) in health expenditure. The findings show that there is a significant difference in average male and female HHE in rural, urban, and combined areas, but not in tribal areas. Long-term and sustained improvements in women's and men's health are required to reduce the gender disparity in HHE. This could be accomplished by increasing educational and economic opportunities.

The purpose of this paper is to investigate the trends, composition, and rate of growth in Government Expenditure on Health in India from 2001 to 2020.

The paper focuses on the Central Government of India's expenditure on the health sector.

It spans the years 2001 to 2020. The study also examines the "Annual Financial Statements" of Union Budgets from various years, which are available on the websites of the Ministry of Finance, the Bank of India, and the Government of India, as the primary source for analyzing the government's expenditure on the health sector in India.

## **OBJECTIVES**

Specific objectives for the current study have been developed based on relevant literature.

1. To investigate the composition, growth, and trends of public expenditure on the health sector in India during the study period.
2. To examine public health spending in India under various headings.
3. To investigate India's health infrastructure provision.

**The Study's Hypotheses**

In light of the objectives stated above, the study attempted to test the following hypotheses:

1. Health-care spending is rising over time.
2. private expenditure is higher than public expenditure.

**METHODOLOGIES**

The current paper is based on secondary sources of information, such as the data required for analysis, which were obtained from various issues of the Government of India's Economic Survey.

The study relies on secondary data gathered from India stat, National Health Accounts, the RBI Database, the World Bank Database, and the Ministry of Health and Family Welfare. The Reserve Bank of India has compiled detailed financial statements for state governments based on budget documents and other supplementary data. In comparison to public health expenditure, information on private health care expenditure is extremely limited. . The latest NHP (2017) has been focused on the "Health in All" approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India's health, healthcare system, and human security. Statistical methods are used to analyses data in order to examine the study's objectives. A preliminary list of all potential indicators of health status was created.

An attempt was made to collect data for the greatest number of indicators for the greatest number of states.

**Present Trend Status of Health Expenditure in India**

Total health spending is the sum of both public and private health spending. It includes the provision of health services (both preventive and curative), family planning activities, nutrition activities, and health-related emergency aid, but excludes the provision of water and sanitation. . The latest NHP (2017) has been focused on the "Health in All" approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India's health, healthcare system, and human security. Total healthcare expenditure in India was 7.66 percent of GDP in 2020, and has only increased to 9.69 percent, which is more than neighboring countries such as Pakistan and Sri Lanka, but far less than European Union (EU) Member States' healthcare expenditure, which typically accounts for about 9 percent of GDP, up from about 7 percent in 1980. Despite poor health indicators, India's health-care spending is far below what is required. The lack of funding will have a negative impact on the development of a preventative health infrastructure.

**Table-1 Health Expenditure in India from 2001 to 2020**

year	Private Health Expenditure (% Of Current Health Expenditure)	Government Health Expenditure (% Of General Government Expenditure)	Government Health Expenditure (% Of GDP)	Government Health Expenditure (% Of Current Health Expenditure)	External Health Expenditure (% Of Current Health Expenditure)	Health Expenditure Total Per Capita (Current US\$)	Health Expenditure Total (% Of GDP)
2001	76.64	3.29	0.83	20.68	2.68	18.56	4.03
2002	78.79	3.18	0.80	18.88	2.33	19.86	4.26
2003	79.38	2.87	0.77	18.16	2.45	20.30	4.24
2004	79.76	2.75	0.75	18.72	1.52	22.01	4.01
2005	79.34	2.81	0.71	17.98	2.23	25.14	3.96
2006	78.66	3.63	0.76	20.13	1.53	27.75	3.76
2007	77.59	2.95	0.75	20.11	1.44	26.95	3.52

2008	75.50	2.96	0.74	20.19	1.51	29.65	3.51
2009	73.37	2.97	0.80	22.63	1.87	35.96	3.49
2010	72.82	3.19	0.89	25.61	1.02	37.99	3.29
2011	70.26	3.17	0.86	26.21	0.97	38.14	3.27
2012	71.07	3.49	0.94	28.87	0.87	45.25	3.25
2013	76.66	3.52	0.93	27.99	0.94	48.72	3.33
2014	75.59	3.10	0.87	23.07	0.27	49.05	3.75
2015	73.65	3.03	0.86	23.66	0.75	56.22	3.62
2016	73.55	3.14	0.92	25.64	0.71	57.15	3.60
2017	72.64	3.15	0.92	25.43	1.02	58.97	3.66
2018	73.51	3.15	0.93	24.82	1.16	62.72	3.71
2019	76.89	3.46	0.94	26.21	1.58	64.81	4.1
2020	78.61	3.97	0.95	28.71	1.97	66.83	4.29

Source:-World Bank data (2020)

India's per capita health expenditure has increased over time, but not to a satisfactory level. . The latest NHP (2017) has been focused on the “Health in All” approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India’s health, healthcare system, and human security. Table 1 shows the breakdown of health expenditure in India by budget. In the budget 2000-2020, public health expenditure increased from 3.29 to 7.14 percent. Private Health Expenditure (as a percentage of Current Health Expenditure) fell from 76.64 to 73.55 between 2000 and 2020.Overall, from 2000 to 2020, the total health expenditure (as a percentage of GDP) from 4.03 to 7.66. Table-1.1 provides descriptive statistics on the Current Status of Health Expenditure in India.

Table-1.1 Descriptive Statistics of Present Status of Health Expenditure

year	Health expenditure per capita (current US\$)	Health expenditure per capita, PPP	Health expenditure, private (% of GDP)	Health expenditure, public (% of GDP)	Health expenditure, public (% of government expenditure)	Health expenditure, public (% of total health expenditure)	Health expenditure, total (% of GDP)
mean	75.93	3.09	0.83	22.65	1.43	38.46	3.70
Standard Error	0.73	0.05	0.02	0.85	0.17	3.67	0.08
median	76.64	3.10	0.83	22.63	1.44	37.99	3.63
Standard Deviation	3.03	0.21	0.08	3.50	0.69	15.11	0.31
Sample Variance	9.18	0.04	0.01	12.25	0.48	228.38	0.10
Kurtosis	-0.96	0.15	-1.43	-1.17	-0.80	-1.42	-0.67

Skewness	-0.41	0.51	0.05	0.28	0.39	0.18	0.39
Range	9.52	0.77	0.23	10.89	2.41	44.16	1.01
Minimum	70.26	2.75	0.71	17.98	0.27	18.56	3.25
Maximum	79.78	3.52	0.94	28.87	2.68	62.72	4.26
Confidence Level(95.0%)	1.56	0.11	0.04	1.80	0.36	7.77	0.16
Number of obs =17, F(4,12) = 13.14, Prob> F = 0.0002, R-squared = 0.8141, Adj R-squared = 0.7521, Root MSE = 0.15487							

**India's Health Expenditure Growth Rate**

Public health spending is an important component of analyzing India's health scenario. Table 1 depicts the increase in public expenditure on the health sector in India. The total public expenditure on health in India in 2000-01 was Rs. 2472.33 crore .In the fiscal year 2019-20, it increased dramatically to Rs. 29719.41crore. It grew at a CAGR of 29.91 percent between 2000-01 and 2019-20.During this time, India's public health expenditure increased at a 47 percent annual rate on average . In 2018-19, it is expected to reach Rs. 25723.81crore (as per the revised estimates of the Union Budget).The budget estimates for the health sector in India for 2019-20 are Rs. 29719.41crore, an increase of 29.14 percent over the previous year's budget of 2019-20.According to the annual growth rate, there was a comparatively higher increase in public health expenditure during the period 2011-12.Over the 2011-12 fiscal year, it increased by 55.04 percent.over to The latest NHP (2017) has been focused on the “Health in All” approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India’s health, healthcare system, and human security.

**Table-2 Growth Rate of Health Expenditure in India (Rs in Crores)**

year	Government Expenditure	Growth Rates (%)
2001	2472.33	-
2002	2826.61	14.33
2003	3028.04	7.13
2004	3761.12	24.21
2005	4311.37	14.63
2006	6684.49	55.04
2007	8325.66	24.55
2008	10726.78	28.84
2009	13750.50	15.55
2010	15888.84	17.32
2011	18641.47	14.32
2012	19447.67	24.75
2013	24261.06	25.79
2014	22500.05	37.00
2015	37221.00	36.30

2016	14054.00	17.90
2017	21.940.00	20.40
2018	20037.00	19.04
2019	25723.81	24.62
2020	29719.41	29.91

Chart-1 depicts the increasing trend in health-care spending over time. Public health spending is an important component of analyzing India's health scenario. Table 2 depicts the increase in public spending on the health sector in India. The total public expenditure on health in India in 2000-01 was Rs. 2472.33 crore. In the fiscal year 2010-11, it increased dramatically to Rs. 18641.47 crore. Between 2000-01 and 2019-20, it grew at a CAGR of 29.91 percent. During this time, India's public health expenditure increased at a 43 percent annual rate on average.

### **Recommendation and Suggestion**

To improve health expenditure and healthcare in India, the following measures are proposed. . The latest NHP (2017) has been focused on the “Health in All” approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India’s health, healthcare system, and human security.

1. To address the issue of low public spending, the total outlay for healthcare must clearly be increased at both the national and state levels. Furthermore, a budgetary allocation was made for the poor's health insurance scheme. The Rashtriya Swasthya Bima Yojana (RSBY) should also be expanded to cover more people.
2. Regulatory reforms, such as raising the FDI limit, are required to stimulate private-sector efforts to improve financial access to healthcare.
3. Offering tax breaks to employers and families for purchasing health insurance would also help this sector grow.
4. Developing an international framework for a public-private partnership (PPP) model to address the demand-supply gap in healthcare.
5. The government should priorities promoting private-sector profitability by providing tax breaks, particularly for modern health-care technologies.
6. India needs to expand the public healthcare system and enhance the expenditure as per the set goals in NHP-17 and WHO standards. The private healthcare system has not been proved reliable during the emergency. Only the public health system is suitable for the country wherein the population’s substantial size is rural and poor.

### **Conclusion**

In India, public spending on health is both inefficient and inequitable. It is inefficient because allocated health spending does not result in significant health benefits for the vast majority of the population. Public spending on preventive and basic health care constitutes a minor portion of the total health budget. The Central Government accounts for a sizable portion of the state's total government expenditure on public health and family welfare activities. In order to improve fund planning, monitoring, and utilization, concerted efforts in these areas must be launched. . The latest NHP (2017) has been focused on the “Health in All” approach. On the other hand, the ongoing pandemic COVID-19 had left critical impacts on India’s health, healthcare system, and human security.

It is believed that the health sector would require a significant strengthening of regular and sustained government interventions, which would inevitably necessitate a much higher magnitude of public health expenditure than is currently in place in India. As a result, as an immediate action, the Union and State Budgets must be addressed. The overall allocation for the health sector should be increased in the Union Budget 2019-20 in order to meet the Government's commitment to increasing health expenditure to 2-5 percent of GDP. The primary goal of this paper is to examine access to the Indian healthcare system as well as the pattern of healthcare expenditure on the Indian health sector.

The analysis of the pattern and growth of public health expenditure in Odisha revealed that there is little variation in the growth of public health expenditure and its components over the study period 2001-02 to 2019-20. Over the previous year, the growth rate of public expenditure on health and its components did not show any specific trend of increase or decrease. During this time period, the average health expenditure in a given year rises by 29.66 percent over the previous year's value. The growth of public health expenditure and its components over time as a percentage of state GSDP is not impressive.

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