INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD)
© 2026 IJNRD | Volume 11, Issue 7, July 2026 | ISSN: 2456-4184 | IJNRD.ORG

Public Health Expenditure in Odisha: An Analysis of Trends, Patterns and Growth

[1]Ritanjali Behera, [2]Aparajita Biswal
[1] Research Scholar, [2] Professor
[1] Department of Economics,
[1] Rama Devi Women's University, Bhubaneswar, India

Abstract: Public health expenditure plays a vital role in strengthening healthcare systems and improving population health. This study examines the trend, pattern and growth of public health expenditure in Odisha during the period 1990–91 to 2023–24. The study is based on secondary data collected from Odisha Budget Documents and the Reserve Bank of India's Handbook of Statistics on Indian States. A descriptive analytical approach is adopted using graphical analysis, percentage analysis, Annual Growth Rate and Compound Annual Growth Rate. The findings indicate a substantial increase in public health expenditure over the study period. Revenue expenditure remained the dominant component of health spending, while capital expenditure showed gradual improvement. Public health expenditure as a share of Gross State Domestic Product and total government expenditure exhibited an overall upward trend, reflecting an increasing fiscal commitment to the health sector. Although annual growth rates fluctuated, the estimated CAGR of 15.41% indicates sustained long-term growth in public health expenditure. The study concludes that Odisha has strengthened its investment in the health sector; however, continued emphasis on balanced resource allocation and healthcare infrastructure is essential to ensure sustainable improvements in public health financing.

Keywords: *Public Health Expenditure, Health Financing, Trend Analysis, Growth Analysis, Odisha.*

I. INTRODUCTION

Investing in public health is fundamental for better population health, productivity to work and sustainable economic growth over the medium and long-term. There is a growing recognition that investing in health improves both human capital and economic outcomes via higher social (and individual) returns with limited public investment costs (Bloom et al., 2004). Hence, governments spend considerable amounts on strengthening their health care infrastructures to provide quality health care to all citizens and realize universal health coverage (UHC) as promoted by WHO. In India, the primary mandate of health care provision rests with the state governments who are the largest contributors of public health financing followed by the central government which drafts policies and runs various programs. The nature and amount of money spent on health varies between states based on differences in fiscal capability, demographics and priorities. Despite such disparities, over the last few decades, different measures have been put in place through health missions aiming at building up the country's health infrastructural framework. More importantly, given the current situation of the country amidst the pandemic, there has never been a time when having strong health systems was more crucial than now. Historically, there have been several challenges that are faced by Odisha including poverty, regional disparities, adverse geography, insufficient provision of health care facilities (especially to Tribals and remote areas), poor governance etc. To tackle various problems, the Government has taken up various initiatives for the development of Healthcare Infrastructure, Maternal & Child Health Services, Institutional Deliveries & Immunization Coverage. This study is based on the extent of public health expenditure, which can throw light on the composition (revenue vs. capital account), proportionate contribution vis-à-vis total government expenditure and gross state domestic product (GSDP) etc., which are critical for understanding trends and future directions in public health expenditure (Musgrove, 1996).
Despite numerous investigations regarding the impact of public health expenditures on health outcomes in various states of India, there are few research addressing the long run trend and composition of public health expenditure at state level, let alone focusing on the Indian state of Odisha specifically. The purpose of this 2022 study was to analyze the trend, pattern and growth of public health expenditure in Odisha for 1990–91 to 2023–24. In particular, we study revenue and capital outlay on health and family welfare, public health spending as a percentage of GSDP and annual growth pattern of health spending.

II. LITERATURE REVIEW

Public health expenditure is widely recognized as an essential component of economic and social development, as it improves healthcare accessibility, strengthens health systems, and enhances population health. The growth and composition of public health expenditure are influenced by demographic changes, technological advancement, fiscal capacity, and government priorities (Mehrotra et al., 2003; Kinner & Pellegrini, 2009).

In India, public health expenditure has increased over the years; however, its share in GDP and total government expenditure remains relatively low compared with many developing countries (Guruswamy et al., 2008; Hooda, 2015). Considerable interstate disparities in health financing have also been reported, reflecting differences in fiscal capacity, governance, and socio-economic development (Behera et al., 2020). Studies have further emphasized that sustained public financing and efficient resource allocation

are essential for strengthening healthcare systems and achieving Universal Health Coverage (Bahuguna et al., 2018; Tandon et al., 2018).

Research focusing on Odisha indicates that public expenditure has contributed to socio-economic development, although greater fiscal priority towards the health sector is still required. Social sector spending has increased over time, but improvements in financial management and resource allocation remain necessary for enhancing healthcare delivery (Sahu & Mahapatra, 2015; Jena & Panigrahi, 2017; Rout et al., 2022). In addition, rising healthcare expenditure and hospitalization costs continue to impose a financial burden on households, highlighting the need for sustained public investment in health services (Singh et al., 2022). Recent evidence also suggests that increasing public health expenditure contributes to economic growth and will continue to play a critical role in meeting future healthcare demands (Samal & Patra, 2023).

Although previous studies have examined health financing, expenditure patterns, and health outcomes, most focus on national-level analysis, interstate comparisons, or the relationship between health expenditure and economic growth. Limited research has comprehensively analyzed the long-term trend, pattern, and growth of public health expenditure in Odisha. Moreover, studies rarely distinguish between revenue and capital expenditure or examine their shares in total government expenditure. Addressing this gap, the present study analyses the trend, pattern, and growth of public health expenditure in Odisha during 1990–91 to 2023–24, providing evidence to support policy decisions on public health financing.

III. OBJECTIVES

a) To examine the trend and pattern of public health expenditure in Odisha during the period 1990 to 2023.

b) To assess the growth performance of public health expenditure in Odisha.

IV. METHODOLOGY

Secondary data for the study covers the period 1990–91 to 2023-24. Data on revenue expenditure, capital expenditure, Medical & Public Health expenditure and Family Welfare expenditure, and total Health & Family Welfare (H&FW) expenditure collected from the Odisha Budget Documents. At constant prices OF GSDP data were sourced from Reserve Bank of India (RBI) Handbook of Statistics on Indian States. All economic variables were expressed in crore rupees to maintain homogeneousness for the analysis.

Public Health Expenditure (PHE) constitutes the total expenditure incurred on Medical and Public Health + Family Welfare all in revenue account + capital account. The study will use the descriptive analytical method to analyze the trend, pattern and growth of public health spending in Odisha.

The trend in public health expenditure is analyzed using graphical representations of revenue expenditure, capital expenditure, total government expenditure, and expenditure on Health and Family Welfare over the study period. The expenditure pattern is examined by estimating Public Health Expenditure as a percentage of Revenue Expenditure, Capital Expenditure, Total Government Expenditure, and Gross State Domestic Product, thereby assessing the fiscal priority accorded to the health sector. Growth in public health expenditure is analyzed using the Annual Growth Rate and the Compound Annual Growth Rate. In addition, descriptive statistics, including the mean, minimum, maximum, standard deviation, and coefficient of variation, are used to summarise the characteristics and variability of the expenditure variables.

V. RESULTS AND DISCUSSION

The discussion has been organized into four subsections. The first subsection presents the descriptive statistics of the selected variables. The second examines the trend in public health expenditure from both the revenue and capital accounts. The third analyses the pattern of public health expenditure in relation to total government expenditure and GSDP, while the final subsection discusses the growth performance of public health expenditure using the Annual Growth Rate. Together, these analyses provide an overview of the evolution of public health financing in Odisha over the last three decades.

VARIABLES	Mean	Minimum	Maximum	Standard Deviation	Coefficient of Variation
Revenue Expenditure	36926.16	2190.533	148831.8	40773.29	110.4184405
Capital Expenditure	8097.965	446.9066	43273.38	10921.91	134.8722796
Total Expenditure	45024.12	2741.594	192105.2	51486.58	114.3533288
Medical and Public Health	2470.758	109.6762	15300.79	3697.29	149.6419317
Family Welfare	187.8871	30.9055	664.4904	173.2992	92.23581608
Public Health Expenditure	2658.645	140.5922	15913.58	3863.303	145.3109761

Table 1: Descriptive Statistics of Public Health Expenditure Variables in Odisha (1990–91 to 2023–24)

Source: Author's own calculation

The summary statistics of the expenditure variables examined in this paper are shown in the Table 1. Results The results show a significant increase in government expenditure and public health expenditure over the study period. Average revenue expenditure stood at ₹36,926.16 crore and average capital expenditure was ₹8,097.97 crore with an average total government expenditure of ₹45,024.12 crore. The average public sector health expenditure is ₹2,658.65 crore. In the health sector, Medical and Public Health constituted the bulk of expenditure while Family Welfare had lower allocations. The coefficient of variation reveals substantial variability in Medical and Public Health expenditure (149.64%) and Public Health Expenditure (145.31%), indicating sustained growth of health spending across the study period. Conspicuous in this regard is the Family Welfare expenditure, with the highest proportion of budgetary allocation stability evident in its coefficient of variation (92.24%). Based on descriptive stats the results provide evidence of a persistent rise in government expenditure and public health expenditure during three decades.

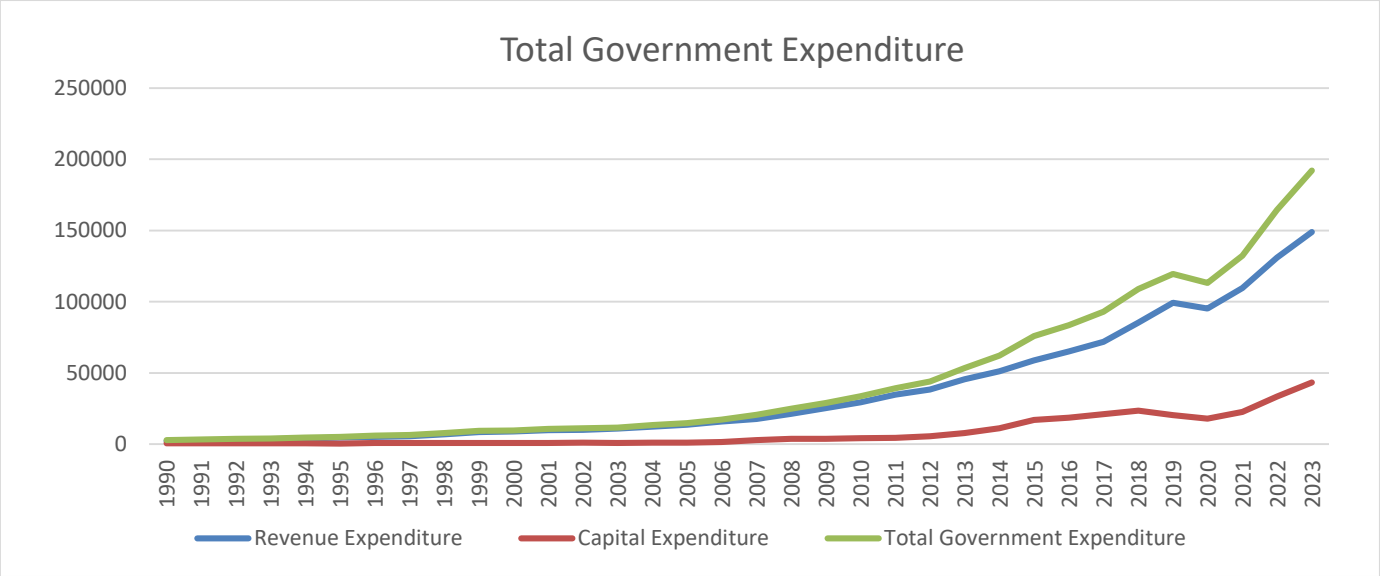

Figure 1: Trend of Total Government Health Expenditure in Odisha (1990–2023)
Source: Annual Financial Report, Odisha Budget, Finance Department, GoO.

Figure 1 illustrates the trend in revenue expenditure, capital expenditure, and total government expenditure in Odisha from 1990–91 to 2023–24. All three expenditure components exhibit a steady upward trend throughout the study period. Revenue expenditure remained the dominant component of total government expenditure, while capital expenditure also increased considerably, although at a relatively slower pace. Consequently, total government expenditure increased from ₹2,741.59 crore in 1990–91 to ₹192,105.16 crore in 2023–24, indicating a significant expansion in the state's fiscal capacity. The sharper rise observed after the mid-2000s suggests increased government spending to support developmental and social sector programmes.

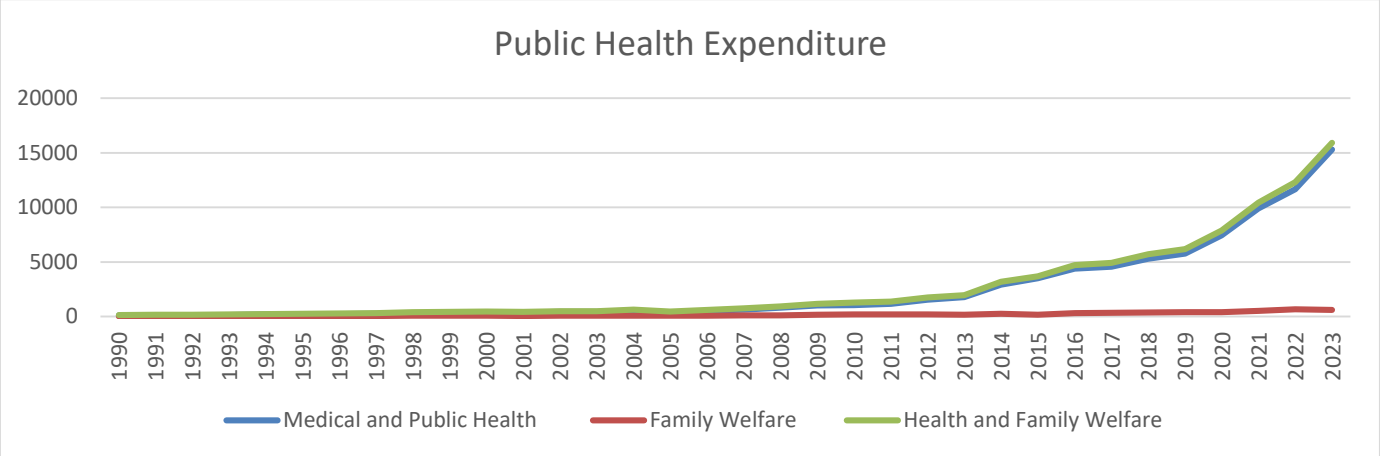

Figure 2: Trend of Public Health Expenditure in Odisha (1990–2023)
Source: Annual Financial Report, Odisha Budget, Finance Department, GoO.

Figure 2 presents the trend in public health expenditure. The results reveal a continuous increase in expenditure on Health and Family Welfare over the study period. Medical and Public Health constituted the largest share of total public health expenditure, whereas Family Welfare remained relatively small. Although public health expenditure increased gradually during the 1990s and early 2000s, a faster rise is observed after 2014–15. A temporary decline in 2005–06 was followed by a sustained increase, with total Health and Family Welfare expenditure reaching ₹15,913.58 crore in 2023–24. The findings indicate that the Government of Odisha has progressively expanded financial allocations to the health sector, with greater emphasis on medical and public health services.

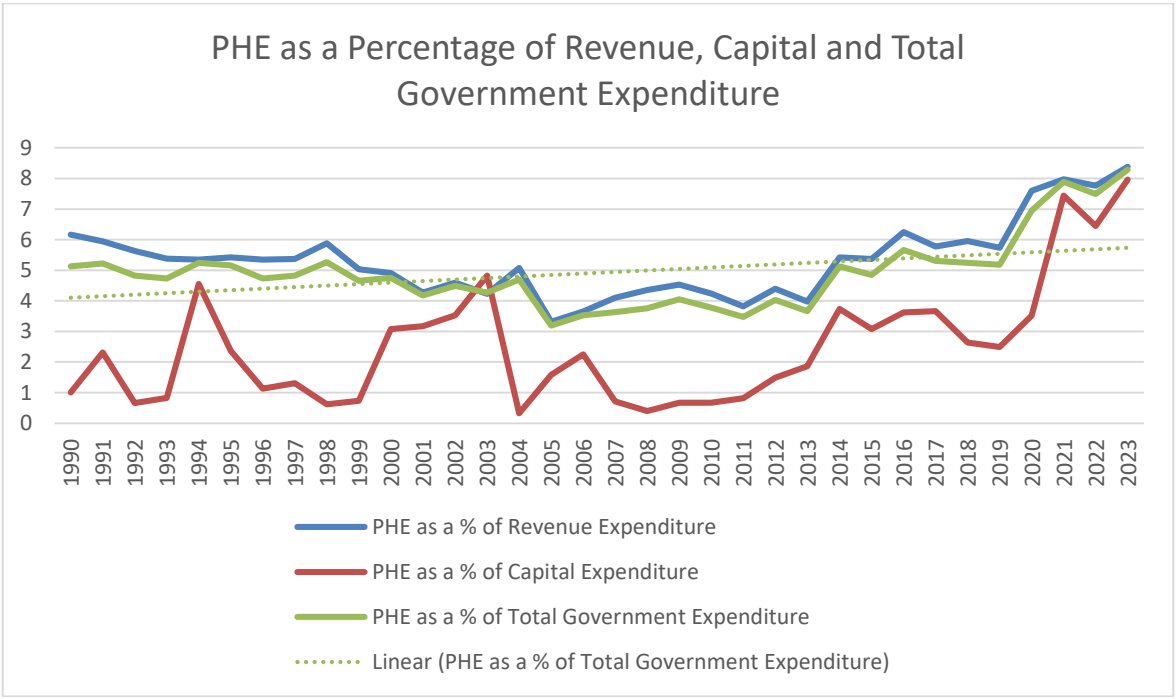

Figure 3: Public Health Expenditure as a Percentage of Revenue, Capital and Total Government Expenditure in Odisha (1990–91 to 2023–24)
Source: Annual Financial Report, Odisha Budget, Finance Department, GoO.

Figure 3 presents public health expenditure as a percentage of revenue expenditure, capital expenditure, and total government expenditure. The share of public health expenditure in revenue expenditure remained around 5–6 per cent during much of the study period before declining slightly in the early 2000s. Thereafter, it increased steadily and reached 8.38 per cent in 2023–24. Similarly, public health expenditure as a proportion of total government expenditure followed an overall upward trend despite moderate fluctuations, indicating that the health sector has gradually received greater budgetary priority. In contrast, the share of public health expenditure in capital expenditure exhibited greater year-to-year fluctuations. However, a noticeable increase is observed after 2014–15, suggesting enhanced investment in health infrastructure and capital assets.

The share of public health expenditure in total government expenditure followed a relatively smoother trend compared to capital expenditure. It remained around 5 per cent during the early 1990s before declining to 3.19 per cent in 2005–06. From 2006–07 onwards, the share gradually recovered and accelerated after 2014–15. During the final years of the study period, public health expenditure accounted for more than 7 per cent of total government expenditure, reaching 8.28 per cent in 2023–24. The positive slope of the trend line further indicates a gradual increase in the government's expenditure priority towards the health sector over the study period.

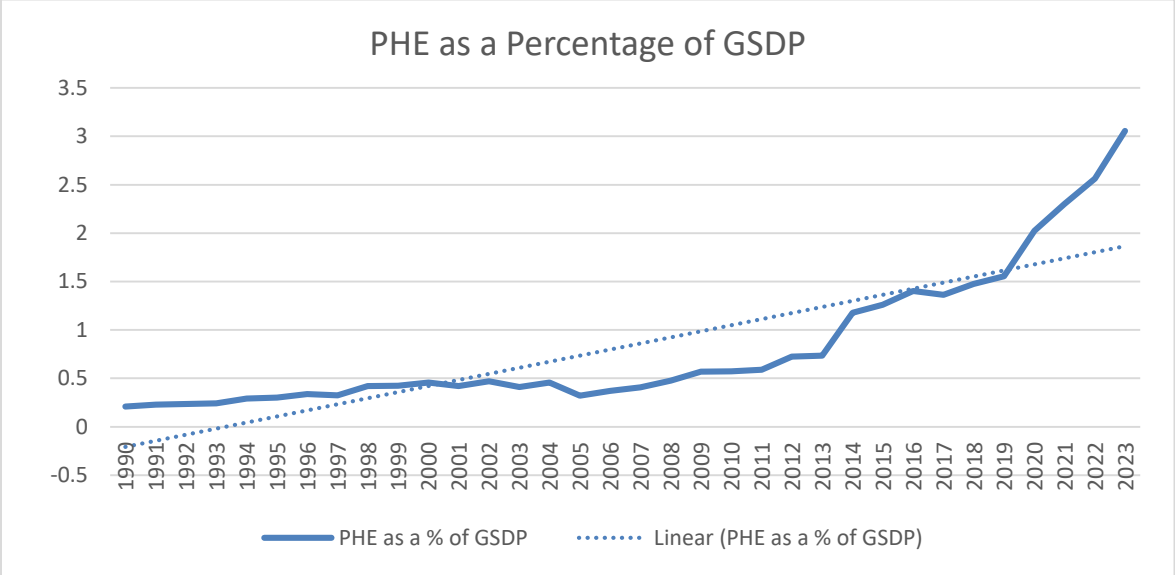

Figure 4: Public Health Expenditure as a Percentage of GSDP in Odisha (1990 to 2023)
Source: Author's own calculation

Figure 4 shows public health expenditure as a percentage of GSDP. The ratio remained below 0.5 per cent during the 1990s and early 2000s but increased steadily thereafter. A notable improvement is observed after 2014–15, with the share crossing one per cent and reaching 3.05 per cent in 2023–24. This upward trend suggests that public health expenditure has grown at a faster pace than the state's economy in recent years, reflecting an increasing allocation of economic resources to the health sector.

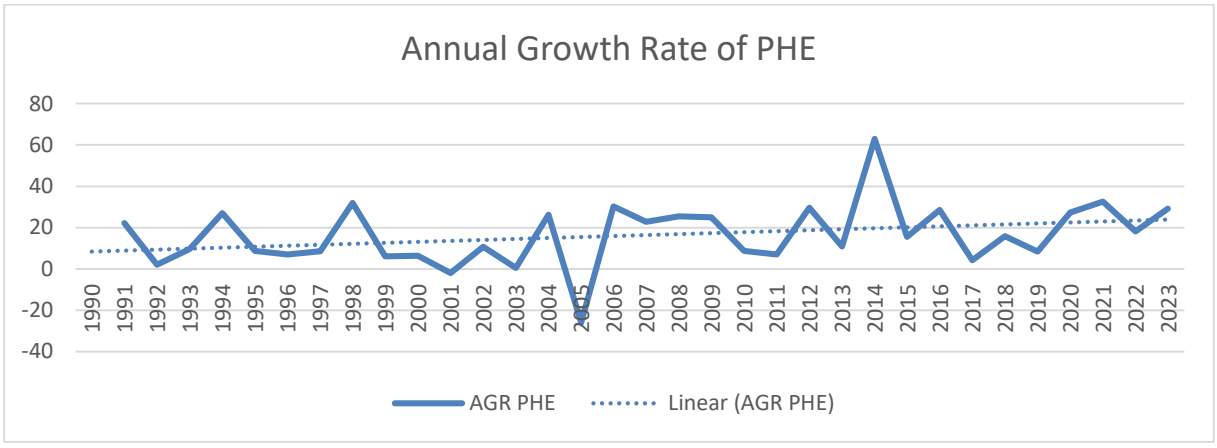

Figure 5: Annual Growth Rate of Public Health Expenditure in Odisha (1991–92 to 2023–24)
Source: Author's own calculation

Figure 5 depicts the Annual Growth Rate of public health expenditure in Odisha. The results indicate that the annual growth rate fluctuated considerably across the study period, reflecting variations in year-to-year budgetary allocations. Negative growth was observed in 2001–02 and 2005–06, whereas relatively high growth rates were recorded in 1998–99, 2006–07, 2012–13, 2014–15, 2021–22, and 2023–24. The highest annual growth rate of 62.87 per cent was recorded in 2014–15.

Despite these fluctuations, the overall growth trajectory remained positive. The estimated Compound Annual Growth Rate of 15.41 per cent indicates a robust long-term expansion in public health expenditure during the study period. The combined evidence from the trend analysis, expenditure shares, and growth indicators demonstrates that public health expenditure in Odisha has increased substantially over the last three decades. The findings suggest that the state has progressively accorded greater fiscal priority to the health sector, as reflected in the sustained rise in expenditure and its growing share in government expenditure and GSDP.

VI. CONCLUSION

Using secondary data, the present study analyzed trend, pattern and growth of public health expenditure in Odisha for 1990–91 to 2023–24. The study covered the variables such as revenue expenditure, capital expenditure, total public health expenditure, expenditure in per cent of GSDP, in per cent of total government spending and growth performance of public health expenditure.

The results show that over the study period there is a huge increase in public health expenditure as Odisha Government is giving more priority to health sector. Revenue expenditure has always constituted the highest component of health spending, revealing a push by government on funding the running costs of healthcare services (human resources, medicines, maintenance and programme implementation). While capital expenditure as a share of health spending is smaller, it also grew rapidly in recent years and bolsters possibilities for strengthening health systems capabilities to better prepare for larger future expenditures by expanding healthcare facilities. The study also highlights that the share of health in total government expenditure and GSDP has shown an improvement over all years. An investigation of Annual Growth Rate shows that public health expenditure was erratically more volatile on an

annual basis during the study period. This shows that while annual expenditures have varied consistent with fiscal priorities and policy needs, public expenditure on health has been increasing over the long term. The study ends with the conclusion that Odisha, between 1991 and 2020, has made advances in expanding public health expenditure over three decades. Nonetheless, there is still need to maintain this momentum in order to respond to the growing health care needs of the population and enhance the quality, accessibility and equity of health services. But maintaining a focus on the balanced investment in the revenue and capital elements of health expenditure will be critical for improving the state of healthcare in the region, as well as generating better health outcomes to come.

REFERENCES

[1] Bahuguna, P., Mukhopadhyay, I., Chauhan, A. S., Rana, S. K., Selvaraj, S., & Prinja, S. (2018). *Sub-national health accounts: Experience from Punjab State in India*. *PLOS ONE, 13*(12), e0208298. https://doi.org/10.1371/journal.pone.0208298

[2] Behera, D. K., Mohanty, R. K., & Dash, U. (2020). Cyclicality of public health expenditure in India: Role of fiscal transfer and domestic revenue mobilization. *International Review of Economics, 67*(1), 87–110. https://doi.org/10.1007/s12232-019-00333-w

[3] Bloom, D. E., Canning, D., & Sevilla, J. (2004). *The effect of health on economic growth: A production function approach*. *World Development, 32*(1), 1–13. https://doi.org/10.1016/j.worlddev.2003.07.002

[4] Das, R. C., Ray, K., & Das, U. (2017). Health expenditures across major states of India: Issues of convergence and equality. In *India Studies in Business and Economics* (pp. 293–306). Springer. https://doi.org/10.1007/978-981-10-6104-2_16

[5] Grossman, M. (1972). *The demand for health: A theoretical and empirical investigation*. National Bureau of Economic Research.

[6] Guruswamy, M., Mazumdar, S., & Mazumdar, P. (2008). Public financing of health services in India. *Journal of Health Management, 10*(1), 49–85. https://doi.org/10.1177/097206340701000104

[7] Hooda, S. K. (2015). Government spending on health in India. *Journal of Health Management, 17*(4), 458–486. https://doi.org/10.1177/0972063415606306

[8] Jena, P. K., & Panigrahi, R. (2017). Effects of public expenditure on economic growth and poverty in Odisha. *Indian Journal of Economics and Development, 13*(1), 85–92. https://doi.org/10.5958/2322-0430.2017.00012.9

[9] Kinner, K., & Pellegrini, C. (2009). Expenditures for public health: Assessing historical and prospective trends. *American Journal of Public Health, 99*(10), 1780–1791. https://doi.org/10.2105/AJPH.2008.142422

[10] Marjit, S., Sasmal, R., & Sasmal, J. (2020). Composition of public expenditure and growth of per capita income in Indian states: A political perspective. *Journal of Social and Economic Development, 22*(1), 1–17. https://doi.org/10.1007/s40847-020-00097-y

[11] Mehrotra, A., Dudley, R. A., & Luft, H. S. (2003). What's behind the health expenditure trends? *Annual Review of Public Health, 24*, 385–412. https://doi.org/10.1146/annurev.publhealth.24.100901.141008

[12] Musgrove, P. (1996). Public and private roles in health: Theory and financing patterns. *World Bank Discussion Paper No. 339*. World Bank.

[13] Rout, S. K., Chandrashekar, S., & Kadam, S. M. (2022). Resource flow and fund management at district level in Odisha: Evidence for improving district health systems in developing countries. *The International Journal of Health Planning and Management, 37*(4), 2135–2148. https://doi.org/10.1002/hpm.3455

[14] Sahu, P., & Mahapatra, S. K. (2015). *Social expenditures at sub-national level: An experience from Indian State of Odisha*. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2586026

[15] Samal, D., & Patra, S. (2023). An analytical study of public health expenditure and economic growth in eastern states of India. *EPRA International Journal of Economic and Business Review*, 16–26. https://doi.org/10.36713/EPRA14543

[16] Singh, J., Paul, K., & Pradhan, J. (2022). Hospitalization and health expenditure in Odisha: Evidence from National Sample Survey (1995–2014). *Indian Journal of Medical Research, 156*(1), 130–139. https://doi.org/10.4103/ijmr.ijmr_412_19

[17] Tandon, A., Cain, J., Kurowski, C., & Postolovska, I. (2018). *Intertemporal dynamics of public financing for universal health coverage*. World Bank. https://doi.org/10.1596/31211

[18] World Bank. (1993). *World development report 1993: Investing in health*. Oxford University Press.

[19] World Health Organization. (2000). *The world health report 2000: Health systems: Improving performance*. World Health Organization.

[20] Yu, B., Fan, S., & Magalhães, E. (2015). Trends and composition of public expenditures: A global and regional perspective. *The European Journal of Development Research, 27*(3), 353–370. https://doi.org/10.1057/ejdr.2015.26