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RESEARCH ARTICLE

PUBLIC HEALTHCARE EXPENDITURE IN ODISHA: TRENDS, CHALLENGES AND POLICY IMPLICATION

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ABSTRACT

To improve access to medical treatment, enhance the healthcare system, and reduce health-related disparities, public healthcare spending is essential. Despite significant economic growth and legislative initiatives, Odisha still faces significant challenges in securing enough and equitable public health funding. This paper looks at the trends, challenges, and policy implications of public healthcare spending in Odisha for the period 1991 to 2023. The secondary data sources are collected from Reserve Bank of India reports, Ministry of Statistics and Programme Implementation, and the Sample Registration System etc. The study assesses trends in public health expenditures in terms of overall spending, per capita spending and health expenditure as a proportion of Gross State Domestic Product using descriptive and trend analysis. The results suggest that while public healthcare spending in Odisha has gradually increased in absolute terms. The coefficients suggest that every 1 per cent increase in health spending leads to a decline in the mortality rate. This implies that Odisha has managed to achieve a higher return on investment for its health expenditure. To achieve inclusive and sustainable health outcomes in Odisha, it is essential to strengthen primary healthcare infrastructure and reduce the infant mortality rate as key policy imperatives.

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INTRODUCTION

Public expenditure on health care is an important factor which determines the overall well-being and human development of the population. Apart from ensuring that the necessary healthcare facilities are made available to the general public, proper public expenditure helps prevent inequalities and helps families avoid falling into poverty due to healthcare-related expenses. Public spending on health becomes particularly important for developing countries where there are differences in social and economic factors within individual states. The importance of public expenditure on healthcare can never be overstated because it serves as one of the key foundations for socio-economic progress and human welfare. Public expenditure on health is not only essential to improve health outcomes but also increases labour efficiency and contributes to reducing poverty in a society. It should be borne in mind that in countries like India, where most of the people seek treatment in public hospitals, the significance of health expenditure assumes crucial dimensions. Unfortunately, public health expenditure in India has always been very poor when compared to international standards. The human capital theory, which argues that health is more than a social service that should be consumed; it is rather a strategic spending aimed at increasing cognitive skills and efficiency of labour (Bloom & Canning, 2000; Barro, 1996).

The World Health Organization (2024) emphasizes that the realization of Universal Health Coverage depends on the amount of spending provided by the public sector. In the case of India, the provision of health care is an obligation of the state within the federal structure. The National Health Policy of India 2017 aims for the rise in the health budget to at least 2.5% of the Gross Domestic Product; the recent budget allocation remains constant between 1.3 %and 1.5 % (Berman,2010; MoH & FW, 2017). Consequently, this funding gap has made health service delivery largely dependent on out-of-pocket expenditure, thus subjecting the poor to medical impoverishment (Prinja et al., 2012). In relation to social sector expenditure within India, there exists a huge variation among states, making Odisha stand out as a noteworthy example of fiscal innovation. At the state level, states play a critical role in shaping the health outcomes because health is a state matter in the Indian Constitution. Odisha is one of the more heterogeneous states of India and thus provides a good case study to understand the government spending on healthcare. Although there have been remarkable improvements in Odisha in poverty alleviation and economic growth but still struggles with several health issues.Odisha had been classified as a laggard state owing to high levels of infant mortality rates and high levels of poverty. Odisha's expenditure approach centres around the concept of physical capital through Mukhya Mantri

Swasthya Seva Mission and the various insurance schemes. Although the spending is at an all-time high, the conversion from expenditure to outcome suffers due to certain structural impediments. The quality of primary care in poor states is lower compared to high-budgetary states (Das & Hammer, 2014; Panda & Thakur, 2016). Odisha witnesses a sharp urban-rural divide, as while coastal areas boast superior health statistics, the KBK zone in the state continues to lag due to infrastructural gaps and understaffing (Mishra S, 2020). Public expenditure on health is another important aspect for developing countries, where the market-based approach of healthcare provision leads to inequality in access and financial burden. The initial research on health financing highlights the importance of public expenditure on health as an indicator of better health status, lower mortality rate, and higher human capital development. The theoretical framework of Musgrave (1959) and Grossman (1972) explains how higher public spending corrects the market failures and treats health as capital formation for economic growth. The Indian experience has seen several studies on public expenditure on health trends and changing patterns. For Instance, Sharma (2018) indicates that India's public health expenditure is obstinately low, resulting in a heavy dependence on private healthcare. The inadequate public expenditure causes higher out-of-pocket expenditure, making healthcare costly for many people. Analysis at the state level highlights significant disparities between states in terms of health expenditures and outcomes. The states that have a low Gross Domestic Product may struggle with poor health infrastructure, inadequate financing for healthcare, and a shortage of trained healthcare workers. As suggested by Duggal (2008), fiscal capacity and political priorities are instrumental in determining the amount of money devoted to health-related programs in states.

There have been noticeable improvements in the development of the public healthcare sector in Odisha as part of interventions within the framework of the National Health Mission. Improved health indicators for women and children have been achieved owing to better allocation of funds to health initiatives. Tribal and remote areas of Odisha still lack proper health infrastructure despite various financial allocations. Several researchers have studied the nature of expenditure incurred on public healthcare and their implications. Various literature shows that there has been an imbalance in the allocation of resources in terms of healthcare expenditure in favour of secondary and tertiary healthcare rather than primary and preventive healthcare facilities. Insufficient investment in primary healthcare undermines the healthcare system and increases the cost. With respect to Odisha, one major problem highlighted in the literature is the lack of emphasis placed on the prevention and management of both communicable and non-communicable health issues. According to Garg and Karan (2009), high out-of-pocket expenditure causes poverty and income inequality. Several studies specifically relating to Odisha show that the burden of out-of-pocket expenditure is higher among households residing in villages and tribes due to poor access to public healthcare facilities. According to Das and Guha (2024), the greater public health expenditure is linked to better healthcare infrastructure development and more health workers, whereas lower expenditure negatively impacts the efficiency of health systems. Although there has been increasing academic attention paid to health expenditure in India and Odisha, some issues persist. The majority of studies have either concentrated on national trends in expenditure or the impact of health expenditure on particular health outcomes, but very little work has considered recent trends in health expenditure at the state level and how they affect policies. Similarly, not much has been done to analyse health expenditure in relation to various challenges, such as out-of-pocket expenditure, inequalities across regions, and insufficient allocation of resources. This paper attempts to analyse the trends and changing patterns of public healthcare expenditure in Odisha, identify the major challenges posed by health financing issues, and highlight some policy implications for improving the public health situation in Odisha.

METHODOLOGY

To analyse the impact of public interventions in improving health outcomes, this study adopts a quantitative research technique utilizing the annual time-series data for the period 1991 to 2023. The primary dependent variable is the Infant Mortality Rate, which is used as a proxy for the quality of human capital and efficiency of the state's healthcare delivery system. The independent variables include per capita public health expenditure with aggregate spending on Medical and Public Health, Family Welfare, and Water Supply and Sanitation, alongside the per capita Net State Domestic Product representing the economic capacity of the state. The study employs the Autoregressive Distributed Lag Bounds Testing approach for cointegration to capture both the short-run fluctuation and long-run equilibrium relationships between health outcomes and their determinants. The econometric equation is specified as follows:

$$lnIMR_t = \beta_0 + \beta_1\, lnPHE_t + \beta_2\, lnPCNSDP_t + \varepsilon_t$$

RESULTS AND DISCUSSION

Public healthcare expenditure is critically important for good health, which enhances labour productivity. It indirectly helps the country to grow further and further in social, economically as well as industrially. After the economic reforms, healthcare expenditure has significantly increased in Odisha. Health outcomes are mostly affected by the pattern of allocation in the health sector. There are differences in allocation on various health components, and such allocation has created a different impact on the health outcomes of the country. In order to examine the trend and pattern of public healthcare expenditure, the current paper divides the public health expenditure into three components: Medical and Public Health, Family Welfare, and Water Supply and Sanitation. Table 2 represents the state share of all three components as a proportion of Gross State Domestic product. All three components show an upward pattern from 1991 to 2023. In the case of Medical and public health, the share has stood at 1.23% in 1991, which has now increased to 1.79 in 2023. Similarly, family welfare, and water supply and sanitation also increase over the years. This part presents the empirical findings from the ARDL model, beginning with descriptive statistics and unit root tests, followed by the ARDL bounds test results, long-run and short-run coefficient estimates, and diagnostic tests. Table 3 presents the summary statistics for all variables. Table 3. shows the trends for Infant Mortality Rate, Public Health Expenditure and Per Capita Net State Domestic Product in Odisha from 1991 to 2023. The data shows that PCNSDP in Odisha has the highest average value (10.49), while public health expenditure

Table 1 shows a summary of the variables and their sources

Table 1. Data set

Variables	Description	Source
IMR	Infant Mortality Rate (per 1,000 live births)	Sample Registration System
PHE	Public Health Expenditure	State Finance: A Study of Budget, Reserve Bank of India
PCNSDP	Per Capita Net State Domestic Product	Ministry of Statistics and Programme Implementation

Table 2. Category-wise Health Expenditure of Odisha (In Per Capita Terms)

YEAR	MPH	FW	WS & S	MPH as % of GSDP	FW as % of GSDP	WS & S as % of GSDP
1991	214.23	0.00	99.73	1.23	0.00	0.57
1992	197.22	0.00	117.39	1.16	0.00	0.69
1993	197.11	0.00	99.55	1.04	0.00	0.52
1994	216.57	0.00	96.35	1.10	0.00	0.49
1995	153.58	46.15	100.23	0.75	0.23	0.49
1996	161.49	43.56	108.12	0.84	0.23	0.56
1997	163.20	41.01	126.13	0.76	0.19	0.59
1998	196.12	50.67	154.81	0.91	0.23	0.72
1999	205.84	43.90	140.89	0.83	0.18	0.57
2000	213.45	42.32	123.41	0.88	0.18	0.51
2001	210.86	34.23	137.05	0.83	0.13	0.54
2002	213.83	36.57	125.19	0.85	0.15	0.50
2003	200.60	32.89	120.57	0.70	0.12	0.42
2004	240.35	40.43	122.61	0.69	0.12	0.35
2005	166.86	31.66	162.98	0.46	0.09	0.45
2006	203.22	38.08	152.70	0.50	0.09	0.38
2007	218.26	38.06	272.89	0.49	0.09	0.61
2008	259.99	38.82	313.46	0.55	0.08	0.66
2009	304.24	48.28	204.94	0.62	0.10	0.42
2010	282.23	56.01	152.95	0.54	0.11	0.29
2011	286.20	48.01	159.71	0.50	0.08	0.28
2012	350.91	48.38	175.51	0.59	0.08	0.30
2013	384.10	39.29	277.55	0.60	0.06	0.43
2014	603.05	53.76	327.01	0.93	0.08	0.50
2015	713.71	33.71	178.01	1.07	0.05	0.27
2016	856.27	63.31	628.26	1.12	0.08	0.82
2017	843.60	64.01	614.65	1.04	0.08	0.76
2018	919.21	66.88	881.14	1.07	0.08	1.02
2019	945.49	66.48	1161.68	1.08	0.08	1.32
2020	1178.51	66.62	3932.13	1.38	0.08	4.60
2021	1404.45	73.72	990.95	1.42	0.07	1.00
2022	1596.88	91.05	793.19	1.53	0.09	0.76
2023	2010.54	80.52	723.41	1.79	0.07	0.65

Source: Author's Compilation from Reserve Bank of India Handbook Statistics on State Government.

Table 3. Descriptive Statistics for Odisha, 1991-2023

Statistics	Infant Mortality Rate	Public Health Expenditure	Per Capita Net State Domestic Product
Mean	4.181	6.345	10.496
Median	4.262	5.995	10.549
Maximum	4.820	8.551	11.447
Minimum	3.401	4.527	9.621
Std. Dev.	0.418	0.903	0.604
Skewness	-0.309	0.775	0.037
Kurtosis	1.818	3.157	1.571
Jarque-Bera	2.446	3.340	2.813
Prob.	0.294	0.188	0.244

Table 4 represents the results of the Augmented Dickey-Fuller (ADF) test

Table 4. Unit Root Test

Variables	Level	Differences
IMR	1.693(0.99)	4.593*(0.00)
PHE	1.638(0.45)	6.124*(0.00)
PCNSDP	0.155(0.90)	7.336*(0.00)

*Indicates significance at the 1% level

Table 5. VAR Lag Order Selection Criteria for Odisha

State	Lag	Log L	LR	FPE	AIC	SC	HQ
Odisha	0	17.3219	NA	0.0007	1.3110	1.4498	1.3563
	1	92.5442	191.3798*	1.12e-06*	5.1964*	4.6413*	5.0154*
	2	97.7185	8.0119	1.46e-06	-4.9495	-3.9781	-4.6329

Table 6. ARDL Bound Test for Cointegration

State	F-Statistic	I (0) Bound	I (1) Bound	Outcome
Odisha	19.01	3.1	3.87	Cointegration exists

Note: critical values are based on case 2 at 5% significance level.

Table 7. ARDL Long-term Estimation

Variables	Coefficient	Std. Error	t-statistic	Probability
LnPHE	0.0222	0.0951	0.2341	0.8167
LnPCNSDP	-0.8760	0.2502	-3.5011	0.0016**
C	12.6655	1.7534	7.2233	0.0000**

Table 8. Short-term Coefficient and Error Correction Term

Parameter	Coefficient	Std. Error	t-statistic	Prob.
Δ(ln_PHE)	0.0509	0.0614	0.8292	0.4142
ECT (-1)	-0.0829	0.0090	-9.1934	0.0000*

Table 9. Diagnostic Test

Test	Odisha	Result
Serial Correlation (Breusch-Godfrey LM)	0.805(0.668)	No serial correlation
Heteroscedasticity (ARCH Test)	0.060(0.806)	No heteroscedasticity
Normality Test (Jarque-Bera Test)	0.742(0.689)	Residuals Normal
Stability Test (CUSUM, CUSUMSQ)	-	Stable at 5% significance

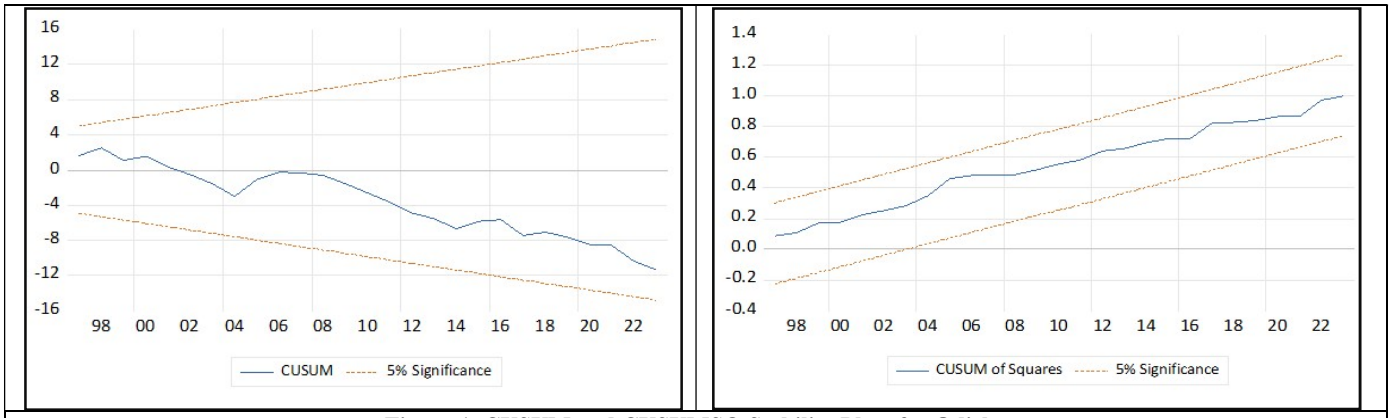

Figure 1. CUSUM and CUSUMSQ Stability Plots for Odisha

shows a significant fluctuation over the years, as indicated by its high standard deviation (0.90). Public health expenditure and PCNSDP are positively skewed, indicating an upward growth trend over time, while IMR is negatively skewed. The Jarque-Bera test results are greater than 0.05, which confirms that the data is normally distributed. This normality is important for the ARDL bound test. Unit Root Test: Before proceeding with the ARDL bounds test, it is mandatory to verify the stationarity of the time series data. Table 4 represents the results of the Augmented Dickey-Fuller (ADF) test. Table 4 shows the unit root test for the three variables. At the Level stage, all variables have p-values significantly higher than 0.05, meaning they are non-stationary and contain a unit root. After taking the First differences, the p-values for all the variables drop to 0.00, which is less than 0.05. This indicates that the data becomes stationary at the first difference.

Lag Length Selection: The accuracy of the ARDL model is sensitive to the lag value. Based on the Akaike Information Criterion (AIC), the optimal lag lengths for the variables were determined. The lower AIC value suggests that the model is well-specified and free from the risks of over-parameterisation. Finding the optimal lag duration is crucial to ensuring that the model is free from serial correlation before moving on to the ARDL Bounds test. Based on a maximum lag of two, Table 5 displays the outcomes of the lag selection criterion for Odisha. Five important metrics are used to make the decision. All five criteria, including AIC (5.19) and SC (4.64), agree that Lag 1 is the best lag for the state of Odisha.

ARDL Bounds Test: Once the lag structure was finalised, the Bounds F-test was performed to examine the existence of a long-run equilibrium relationship between the variables. To check for a long-run equilibrium relationship between lnIMR, lnPHE, and lnPCNSDP, the Bounds F-statistic was computed. The Table 6 calculated F-statistic for the state exceeds the upper critical bound at the 5% significance level. This confirms the presence of a stable long-run cointegration between the variables. The variables do not drift apart in the long run but move together towards a steady-state equilibrium. This provides strong empirical evidence of a highly significant long-run cointegration among the variables for the state. There are notable differences in the ways that fiscal and economic factors affect the infant mortality rate (IMR) in Odisha, according to the long-run estimation findings shown in Table 7. The findings show a strong negative correlation between infant mortality and economic growth (lnPCNSDP) for the state of Odisha. In particular, the lnPCNSDP coefficient is -

0.8760 with a p-value of 0.0016, indicating statistical significance at the 1% level. This suggests that economic prosperity is successfully translating into improved healthcare access and nutritional outcomes because a 1% increase in per capita income in Odisha results in a significant 0.87% drop in IMR over time. Despite having a positive sign (0.0222), the impact of Public Health Expenditure (lnPHE) in Odisha is statistically negligible (p=0.8167), suggesting that income growth now has a greater influence on long-term mortality reduction than direct fiscal investment. The high likelihood values indicate a modest long-term influence during the research period, despite the negative signals suggesting that both higher spending and income growth have the potential to lower infant mortality. In Table 8, the Error Correction Term ECT (-1) for the state of Odisha is -0.0829, which is statistically significant at the 1% level (p=0.00). A steady long-term connection is confirmed by the ECT's negative sign and importance. In particular, the coefficient of -0.0829 suggests that the annual correction of the departure from the long-run equilibrium is about 8.29%. The short-term impact of health expenditure (Δln_PHE) is positive (0.0509) but statistically insignificant, indicating that the advantages of fiscal investment in Odisha become increasingly apparent over time rather than right away.

Diagnostics and Structural Stability: To validate the statistical reliability and robustness of the ARDL model, a series of diagnostic tests was performed for Odisha. The study employs the Breusch-Godfrey Serial Correlation LM test to check for the presence of autocorrelation in the residuals, ARCH test for heteroscedasticity, Jarque-Bera test is utilised to verify the normality of the model. The Breusch-Godfrey Serial Correlation LM Test results in p-values of 0.668 for Odisha in Table 9, suggesting that there are no autocorrelation problems with the residuals. The variance of the error terms remains constant across time, as shown by the ARCH test for heteroscedasticity, which yields p-values much higher than the 0.05 threshold (0.806). Additionally, the Jarque-Bera test verifies that the residuals have a normal distribution because the null hypothesis of normality is not rejected by the p-values (0.689). The CUSUM and CUSUMSQ tests are used to confirm the structural stability of the predicted parameters. The model is stable for both states at the 5% significance level, as seen in the table. This indicates that during the research period (1991–2023), neither structural breaks nor policy shocks had an impact on the long-run or short-run coefficients.

DISCUSSION AND CONCLUSION

The results derived from the ARDL model offer a profound understanding of the health-expenditure-outcome nexus in Odisha. Looking at the data from 1991 to 2023, it becomes clear that there is a long-run relationship between the expenditure and outcomes of both states. The most important finding of this study is the negative and statistically significant long-run impact of public health expenditure on the infant mortality rate in the states. These results support the posits that state-led fiscal interventions are the most important instruments for improving public health in developing nations. In Odisha, the coefficients suggest that every 1 per cent increase in health spending leads to a decline in the mortality rate. This implies that Odisha has managed to achieve a higher return on investment for its health expenditure, aligning with the success stories of other performing states in India. The error correction term for Odisha is significantly high. This indicates a higher speed of adjustment means that Odisha's health administration is more advanced in correcting the short-run fiscal policy of the government. This agility can be attributed to Odisha's aggressive decentralised health planning under the National Health Mission and its focus on the 5T governance model (Teamwork, Technology, Timeline, Transparency, and Transformation). The study's conclusions provide Eastern Indian policymakers, especially in Odisha, with a crucial road map. The empirical relationship between public health spending and lower mortality shows that the administrative delivery system is the driver of change, even though financial investment is the engine. Odisha's extensive network of frontline health professionals is significantly responsible for the effectiveness of health programs. ASHA and ANM employees must be empowered and given incentives for the states. For the care of infants and mothers, these employees serve as the main point of contact. To manage high-risk pregnancies at the village level, policy should prioritise performance-linked incentives and ongoing training initiatives. The states may drastically lower the infant mortality rate by increasing the vacancy rates of medical officers at Primary Health Centres (PHCs) and making sure that every PHC has labour rooms available 24x7. Economic growth alone does not guarantee better health unless it has proper physical infrastructure. This study suggests that health spending needs to include all-weather road connectivity so that patients in remote areas can reach a Referral Hospital within time. Additionally, Odisha's approach of using Technology to track real-time hospital attendance and medicine stock should be copied.

Long-term research indicates that preventive expenditure has a superior return on investment, even though curative healthcare is crucial. The expansion of Special Newborn Care Units (SNCUs) at the subdivisional level should be a top priority for both states. Social security can enhance nutritional results, as demonstrated by Odisha's Mamata program, a conditional cash transfer for expectant mothers. Decentralized health planning is necessary due to the differences between Odisha's health production functions. The freedom to distribute its health budget according to its unique illness load should belong to each district. For example, alternative healthcare delivery approaches (such as mobile medical units) are needed in districts with more tribal populations in Odisha. The states can guarantee that every rupee spent on health care is customised to the local reality by enabling District Health Societies (DHS) to make data-driven choices. The most important conclusion of this long-term study is that national health requirements under a heterogeneous federal system like India are only as effective as the administrative will and institutional flexibility of the various states. This study reveals a significant efficiency gap that conventional economic models frequently ignore by tracking the budgetary and health trajectories of Odisha from 1991 to 2023. Odisha has effectively separated its health results from its historical legacy of poverty, according to empirical data provided by our ARDL methodology. Odisha's strong Error Correction Term (ECT) attests to the existence of a solid healthcare delivery system that can withstand financial shocks and convert budgetary allotments into grassroots realities significantly higher. In the conclusion, this study conveys a clear message to the international academic community and the designers of the Sustainable Development Goals (SDG-3).

The analytical focus needs to change from national averages to sub-national efficiencies to reach significant health objectives. Our empirical model's stability, shown by the CUSUM and CUSUMSQ tests, guarantees that these results reflect long-term structural truths rather than being fleeting. This research is more than simply an economic exercise; it is an empirical demonstration that thousands of baby lives may be saved when institutional agility and persistent fiscal commitment are combined. To make sure that no state is left behind in India's quest for universal health care, future studies should keep examining these regional differences.

REFERENCES

Barro, R. J. (1996). Determinants of Economic Growth: A Cross-Country Empirical Study.*NBER Working Paper* No. 5698. https://doi.org/10.3386/w5698

Berman, P., Ahuja, R., & Bhandari, L. (2010). The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings.*Economic and Political Weekly*, 45(16), 65–71.

Bloom, D. E., & Canning, D. (2000). The Health and Wealth of Nations.*Science,* 287(5456), 1207–1209. https://doi.org/10.1126/science.287.5456.1207

Charu C Garg, Anup K Karan. (2009). Reducing out-of-pocket expenditures to reduce poverty: a disaggregated analysis at rural-urban and state level in India. *Health Policy and Planning*, 24(2), 116–128, https://doi.org/10.1093/heapol/czn046

Das J, Hammer J. (2014). Quality of primary care in low-income countries: Facts and economics. *Annual Review of Economics*, 6, 525–553.

Das, T., & Guha, P. (2024). The puzzle of public health expenditure and healthcare infrastructure in India: An empirical investigation.*Regional Science Policy & Practice*. https://doi.org/10.1111/rsp3.12710

Duggal, R. (2008). Health planning in India.

Grossman, M. (1972). On the Concept of Health Capital and the Demand for Health. *Journal of Political Economy,* 80(2), 223–255.

Ministry of Health and Family Welfare (MoH&FW). (2017). *National Health Policy 2017.* Government of India.

Musgrave, R. A. (1959). The Theory of Public Finance: A Study in Public Economy. *McGraw-Hill.*

Panda, B., & Thakur, H. P. (2016). Decentralization and health system performance - a focused review of dimensions, difficulties, and derivatives in India. *BMC Health Services Research, 16*(6), 561. https://doi.org/10.1186/s12913-016-1784-9

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of Applied Econometrics*, *16*(3), 289–326.

Prinja S, Bahuguna P, Pinto AD, Sharma A, Bharaj G, et al. (2012). The Cost of Universal Health Care in India: A Model-Based Estimate. *PLOS ONE*, 7(1): e30362. https://doi.org/10.1371/journal.pone.0030362

Sanjay Mishra. (*2020).* Regional Disparities in Odisha – A Study of the Undivided "KBK" Districts. *Res. J. Humanities and Social Sciences. 11(4):261-266. doi: 10.5958/2321-5828.2020.00042.X*

Sharma R. (2018). Health and economic growth: Evidence from dynamic panel data of 143 years. *PloS one, 13(10), e0204940. https://doi.org/10.1371/journal.pone.0204940*

World Health Organization (WHO). (2024). Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the South-East Asia Region: 2024 update.*WHO Regional Office for South-East Asia.*

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