

Public Expenditure on Health at State Level in India: Deciphering the Regional Divides and Dynamics

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Abstract: The size of public expenditure on health is very low in India compared to many other countries of the world. The size of public expenditure also vary between states in India. India has witnessed economic reforms in 1991 and the various states have chosen varying tracks of development strategies since then. The health expenditure of state governments might have moved in varying direction during the period since 1991 accruing to these differences in development strategies and various other social, economic, political and demographic diversities across states. The existing literature does not provide a clear cut picture on the thirty years long trends and patterns in public expenditure on health at the state level in India since 1991. Given this context, this paper attempts to analyse the trends and patterns in public expenditure on health at state level in India since 1991. The regional divides and dynamics in health spending size of the state governments are analysed in an in-depth manner through this paper. The analysis finds the diverging variation in the size of public spending on health across states over the years since 1991. The north-south divide is clear in the size and trends of public spending on health in India while the income divide is not much evident. The size and trends of health spending also vary between different development typology categories of states.

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1. Introduction

The intrinsic and instrumental role of health in the economic development is very much theoretically argued and empirically proved. The human capital approach views health as a component of human capital and as a driver of economic growth (Aghion et al., 1998). The human development approach view health as a means to expand human capabilities and hence a means to expand people's choices and freedom and reduce inequalities (Sen, 1989; Sen, 2001; Nussbaum, 2003; Anand, 2005). However, the varying countries are giving varying prioritisation for health in their state budgets and development strategies (WHO 2021). The size of public spending on health is

very low in India and India is giving a very low level of prioritisation for health in its government budgets in general (Hooda 2015). India is a union of states and health is state subject in India and hence the size of state spending on health can vary between states in India. How much does the size of public expenditure on health vary between states in India is an empirical question.

There has been rapid shifts, changes and transitions in the country's economic, demographic and social spheres since the economic reforms of 1991. The various states have undergone with varying levels of economic, demographic and social changes since the reforms of 1991. Various states have chosen varying development tracks since then adjusting, reforming, adapting or resisting with the national policy trends and the social, economic and environmental changes which they met. Given these economic, political, social, demographic and policy diversities and dynamics at the state level in India, what have happened to the size of state spending on healthcare at the state level during this period is also an interesting research question.

The existing studies which have analysed the state level trends and variations in public spending on health in India (Prabhu and Somnath, 1993; Tulsidhar, 1993; Reddy and Selvaraju, 1994; Duggal, 1995a; Duggal, 1995b; Deolalikar and Vashishtha, 1996; Prabhu, 1996; Kadekodi and Gulkarni, 2002; Dev and Mooij, 2002; Kaur and Misra, 2003; Gayithri, 2005; Prateebha, 2010) are confined to certain shorter periods and do not give a clear long-term thirty years up to date picture since 1991. Those studies also do not provide any deeper understanding of the extent of inter-state variations in the size of public spending on health and the regional divides and dynamics in the size of public spending on health across various economic, geographical and development typology categorisations of states.

Catering to these gaps in the empirical literature, this chapter attempts to analyse the size, trends and patterns of public spending on health at the national and state levels (specific to 15 select major states) in India during the period since 1991. The rest of the chapter is organised as follows. The second section explains the methods of analysis and data sources. The third section gives a broad picture of the trends and patterns in the size of public expenditure on health across major states in India. The fourth section analyses the trends and patterns in the size of public expenditure on health across income categories of states. The fifth section analyses the trends and patterns in the size of public expenditure on health across north-south division of states in India. The sixth section analyses the trends and patterns in the size of public expenditure on health across development typology categories of states. The seventh section analyses the effect of Covid-19 pandemic on the size of public spending on health in India and the eighth section concludes the findings of the study.

2. Methodology

The study is intent to analyse the trends and patterns in the size of public expenditure on health at the state level in India over the years. This is a descriptive analysis using various statistical tools. The size of public expenditure on health (PEH) is measured in terms of per capita Rs. in 2011-12 constant prices, as a percentage share of Gross Domestic product (GSDP), as a percentage share of Total Public Expenditure (TPE) and as a share of Current Health Expenditure (CHE). The data on public expenditure on health and TPE are sourced from the Comptroller and Auditor General of India (CAG) reports and budget documents of various states and the union government for various years. The mid-year population is collected from the Office of the Census Commissioner. The data on GDP and GSDP are collected from National Accounts Statistics (NAS). The study have used Coefficient of Variation (CV) to measure the extent of variation between the states and Compound Annual Growth Rates (CAGR) to measure the extent of change in the size of state spending on health over a period of time. The monetary figures expressed throughout this chapter are expressed in 2011-12 constant prices if not otherwise specified.

The time frame of analysis is the period since the financial year of 1991-92. The year 1991 was a critical political and economic juncture in Indian economy characterised by the introduction of the structural adjustment programme (SAP). The analysis on trends and patterns of public expenditure on health is carried out till 2020-21 since the actual figure of public spending for all the states were not available for the years after 2020-21. The budget estimates and actual spending vary significantly in various states and hence budget estimates are not comparable with actual expenditures across years.

The analysis in this chapter is confined to fifteen major states of India because of data-availability and comparability issues. These states are selected by population criterion (those states having the mid-year population greater than one Crore in 1991). The states which are born after 1991 are combined with their parent states for comparability purpose. The states of Andhra Pradesh (Andhra Pradesh and Telengana), Bihar (Bihar and Jharkhand), Madhya Pardesh (Madhya Pradesh and Chattisgarh), Uttar Pradesh (Uttar Pradesh and Uttarakhand) are combined states throughout this study if not otherwise specified.

The states are grouped into various categories for the meaningful comparison of the size and tends in public expenditure on healthcare. The states are classified into three income categories based on the per capita NSDP figure in 2020-21. The top ranked five states are categorised as high income states, the middle ranked five states are categorised as medium income states and the bottom ranked five states are categorised as low income states.

The four states Andhra Pradesh, Karnataka, Tamil Nadu and Kerala are categorised as south Indian states and the four states Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan are categorised as North Indian states. This classification is not purely based on geographical latitudes or exactly same as the administrative classification of states for regional planning. This classification is based on more demographic, geo-cultural and geo-social features of the states. The rest of the states are ignored in this classification.

The states are also categorised into three based on their development typology. This is based on their thirty years (1991-92 to 2020-21) average size of per capita public expenditure on health. Those states with thirty years average size of per capita public expenditure on health above Rs.450 (2011-12 constant prices) are grouped as proactive states. Those states with thirty year average size of per capita public expenditure on health lying between Rs.350 to Rs.450 (2011-12 constant prices) are grouped as moderate expenditure states. Those states with thirty year average size of per capita public expenditure on health below Rs.350 (2011-12 constant prices) are categorised as Limited Expenditure states.

3. Overall Trends in Public Spending on Health across Major States in India

India has large social, demographic, cultural, geographical, economic and political diversity at the sub-national level in India. This diversity can be observed in terms of state spending on health as well. The size of public expenditure on healthcare is not even across states in India. There are huge variation in its size across states across various years. Kerala is top and Uttar Pradesh is at the bottom in the per capita public expenditure on health in 2020-21 (in 2011-12 constant prices) in India among the 15 states under the study (see Table No.1). The per capita public expenditure on health in Kerala is Rs.1499 in 2020-21 in 2011-12 constant prices which is many fold greater than that of UP in 2021. The state like Kerala, Andhra Pradesh, Tamil Nadu, Haryana, Maharashtra and Odisha have higher levels of per capita public expenditure on healthcare (greater than Rs.1000 in 2011-12 prices) in 2020-21. The states like Bihar and UP are having per capita public expenditure lesser than Rs.500 in 2021.

The share of public expenditure in the Gross State Domestic Product (GSDP) of the various states are also vary between states in 2020-21. Some states are spending more than one percent of their GSDP on healthcare while others are less than one percent of their GSDP. The states which have spent more than one percent of GSDP in 2020-21 in 2011-12 prices are Assam, Kerala, Madhya Pradesh, Maharashtra, Odisha, and Tamil Nadu. Kerala was top in terms of the share of public expenditure on health in the GSDP in 2020-21. Kerala spent 1.33 percent of its GSDP on health. The state

Table 1: Size of Public Spending on Health at State Level in India

States	PEH in current prices (in crore Rs.)	PEH in 2011-12 constant prices (in crore Rs.)	Per capita PEH in 2011-12 constant prices (in Rs.)	PEH as share of GSDP	PEH as share of TPE	30 average size of per capita PEH in rs. (2011-12 prices)
Andhra Pradesh	10141	5847	1021	0.87	2.60	478
Assam	6542	3772	970	1.65	3.08	406
Bihar	10645	6137	442	0.57	2.72	175
Gujarat	12805	7382	884	0.59	3.45	428
Haryana	6002	3460	1035	0.65	2.73	439
Karnataka	11861	6838	790	0.60	2.88	401
Kerala	11824	6817	1499	1.33	4.44	683
Madhya Pradesh	11882	6850	626	1.21	3.49	304
Maharashtra	18809	10844	1145	1.05	2.50	394
Odisha	9411	5426	1013	1.42	3.62	401
Punjab	4132	2382	743	0.95	2.01	500
Rajasthan	10675	6154	646	0.93	2.73	347
Tamil Nadu	16533	9532	1145	1.05	3.17	522
Uttar Pradesh	14517	8369	357	0.78	1.66	215
West Bengal	14564	8397	658	0.94	3.66	387
All States	224711	129549	794	0.95	3.08	379

Source: Author's computation from budget documents of various states

which have very lower share of state domestic product as public spending on health in 2021 are Bihar, Uttar Pradesh, Madhya Pradesh, Karnataka, Gujarat and Haryana. The economically advanced countries are observed to have lesser share of their GSDP on healthcare in general.

The budgetary prioritisation for healthcare also vary between various states. The various states have allocated 2 to 5 percent of their total public expenditure for health. The state which have given larger prioritisation for health in 2020-21 were Kerala, Odisha, Assam and Andhra Pradesh. Their health spending share in total state budgets is greater than three percent in 2020-21. The share of health budgets in state budgets was lesser than three percent in states like UP, Bihar, MP, Karnataka and Haryana in 2020-21.

The size of public expenditure analysed above was for the year 2020-21. The year 2020-21 was severely hit by the Covid-19 pandemic. The size of public expenditure on health might have behaved differently in various states in a health crisis situation. This does not give a clear understanding of the variation in the size of public expenditure on health across states in India. A thirty year average size of per capita public expenditure

on health is calculated for each 15 states for better understanding the inter-state variation in the size of per capita public expenditure on health. This masks the short term fluctuations in the health spending statistic.

The 30 year (1991-92 to 2020-21) average size of per capita public expenditure on health in India was Rs.379 (in 2011-12 prices). There is a huge inter-state variation in this figure. The states like Kerala, Tamil Nadu and Andhra Pradesh have larger average size during this period while the states like UP, MP and Bihar have very small average size during this period. The 30 year average size of per capita public expenditure on healthcare in Kerala is Rs.683 in 2011-12 prices and that of UP and Bihar is Rs.284. The state which have 30 year average size of per capita public spending on health greater than Rs.500 (in 2011-12 prices) are Kerala, Tamil Nadu and Punjab. The States having 30 year average size lesser than Rs.300 are UP and Bihar. The per capita size in 2020-21 in Punjab is not so high, but Punjab has a higher 30 year average per capita public expenditure on health.

The size of per capita public expenditure on health is observed to be rising since 1991 in various states of India. However, it can be noticed that the rise in per capita public expenditure on health was not at uniform rate across states in India (see Figure No.1). States are diverging in the per capita size of public spending on health over the years. The graphical trends does not provide any patterns of convergence between the states since 1991. This imply that the inter-state variation the size of public spending on health is constantly increasing in India since economic reforms.

There can be certain geographical or economic patterns across states in the above said size of public expenditure on health in India. A categorisation of states by their economic, geographic, cultural or policy types can help better understanding of the regional divides and dynamics in states spending on health in the post-reform period in India. We are attempting to decipher the regional divides and dynamics in the size of state spending on healthcare in the case of 15 select major states of India through the following analysis. The analysis is carried across three categorisation of states. These include the income category of states, the North-South geo-cultural divides, and the development typology grouping of states.

4. Trends in Public Spending on Healthcare across Income Categories of States

The income divides in public spending on health is not much clear across states in India in 2020-21. The size of public spending on health in low income states are found to be very low compared to the moderate income and high income states (see Table No.2). When high income countries are spending higher amount on health on average

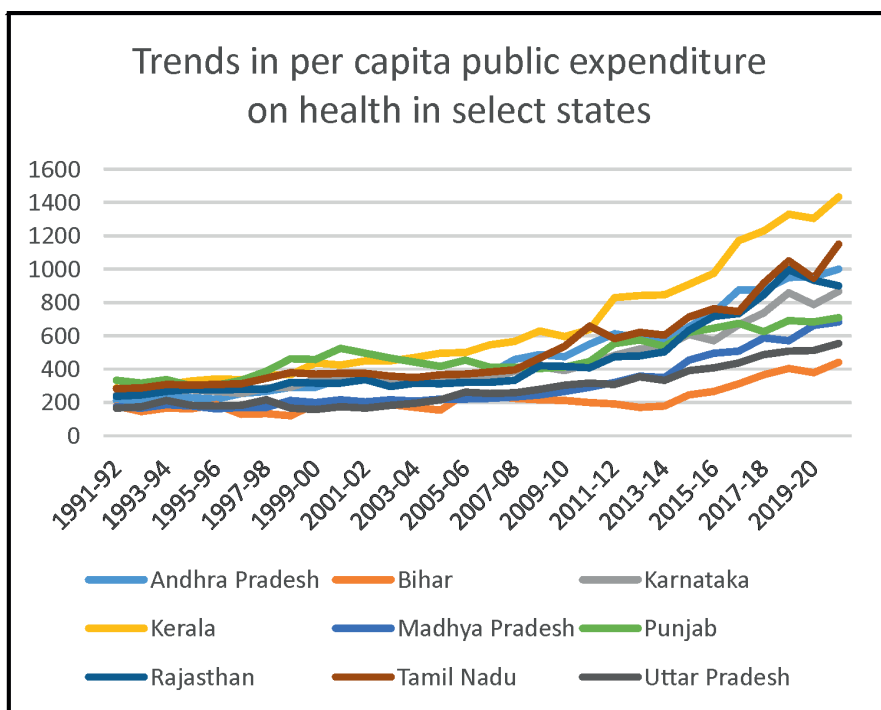


Figure 1: Trends in public spending on health in select states of India

Source: Author's illustration based on budget documents of various states

and the lower income countries are spending lower size on health across the world, the high income states are not the high spending states in health and the lower income states are not the lower expenditure states in health in India. The per capita public expenditure on health in lower income state like UP and Bihar was below Rs.500 (in 2011-12 prices) in 2020-21 while that in lower income states like Assam and Odisha was greater than Rs.900. The per capita public expenditure on health in 2020-21 in 2011-12 prices in higher income states like was above Rs.1100 while that in states like Gujarat and Karnataka was below Rs.900.

The medium income group of states is showing huge variation in the size of public expenditure on health. The Kerala being a medium income country spent Rs.1499 (in 2011-12 prices) in 2020-21 while the UP of the state income category have spent only Rs.384 per capita on healthcare. There was a huge coefficient of variation of 48.41 percent among the medium income states and of 41.41percent among lower income states while the coefficient of variation among the higher income states was 14.22 percent in 2020-21. The overall coefficient of variation in per capita public expenditure on health in 2020-21 across the 15 major states of India was 38.65 percent

Table 2: Size of Public Spending on Health Across Income Categories of States

<i>State groups</i>	<i>states</i>	<i>Per capita NSDP in 2021 (Rs., 2011-12 prices)</i>	<i>Per capita PEH in 2011-12 constant prices (in Rs.)</i>	<i>PEH as share of GSDP</i>	<i>CV in per capita PEH in 2020-21 across states</i>
High income states	Haryana	165617	1035	0.65	14.22
	Gujarat	160321	884	0.59	
	Karnataka	154123	790	0.60	
	Tamil Nadu	143528	1145	1.05	
	Maharashtra	133356	1145	1.05	
Medium income states	Kerala	132878	1499	1.33	48.41
	Andhra Pradesh	128674	999	1.08	
	Punjab	112119	743	0.95	
	Uttar Pradesh	88781	357	0.60	
	Rajasthan	74009	646	0.93	
Lower income states	West Bengal	72202	658	0.94	41.41
	Odisha	71622	1013	1.42	
	MP	65285	626	0.74	
	Assam	57227	970	1.65	
	Bihar	39746	442	0.62	
15 Major states		98745	834	1.14	38.65
All states			794	0.98	39.47

Source: Author's computation from budget documents of various states

while that across all states in India was 39.47 percent. The select fifteen states of India are reflecting the similar variation as the all Indian state.

A clear pattern is also not evident in terms of share of public expenditure on health as a share of GSDP across income category of states (see Table No.3). There are states like Gujarat which spent only 0.59 percent of its GSDP on healthcare in 2020-21 and Tamil Nadu which spent 1.05 percent of its GSDP on healthcare in 2020-21 among the higher income states. The states of Assam and Odisha which belong to lower income category have spent more than 1.4 percent of their GSDP on healthcare during the pandemic peak year of 2020-21 while the states like MP and Bihar have spent lower than 0.75 percent of their GSDP. It imply that the size of health spending on health is not associated with the income level of the states in 2020-21. The states are spending on health irrespective of their income status. The higher income states are nether the higher expenditure states nor the lower expenditure states in health in 2020-21 in India. Same is the case with the lower income states.

Table 3: Growth of Public Spending on Health Across Income Categories of States

<i>State groups</i>	<i>States</i>	<i>1991-92</i>	<i>2001-02</i>	<i>2011-12</i>	<i>2020-21</i>	<i>CAGR (1991-92 to 2020- 21)</i>
High income states	Haryana	214	290	469	1035	5.33
	Gujarat	255	276	436	884	4.19
	Karnataka	244	276	481	790	3.95
	Tamil Nadu	283	373	583	1145	4.72
	Maharashtra	248	360	442	1145	5.18
Medium income states	Kerala	285	451	830	1499	5.63
	Andhra Pradesh	210	340	611	999	5.29
	Punjab	332	496	555	743	2.69
	Uttar Pradesh	167	167	306	357	2.54
	Rajasthan	236	335	473	646	3.39
Lower income states	West Bengal	248	360	442	1145	5.18
	Odisha	184	225	314	1013	5.79
	Madhya Pradesh	172	202	318	626	4.36
	Assam	235	254	465	970	4.79
	Bihar	177	192	190	442	3.06
15 Major states		226	291	426	834	4.40
All states		214	282	410	794	4.43

Source: Author's computation from budget documents of various states

The size of per capita public expenditure in high income states are observed to be raised at a greater pace than others since 1991. The per capita size of public expenditure on health in the higher income states like Haryana and Maharashtra have increased at a CAGR greater than five percent during the three decades. There are also states among lower income and medium income categories of states like Odisha, West Bengal, Kerala and Andhra Pradesh which have witnessed the rise in per capita public expenditure on health in 2011-12 prices at CAGR of greater than five percent. The states which have showed lower rates of growth in per capita public expenditure on health during the last three decades are distributed among the medium and lower income category of states. Karnataka was only an exception among the high income states which failed achieve a CAGR of above four percent in per capita public expenditure on health during this period.

Though Punjab has reported to have a higher 30 year average per capita size of public expenditure on health, its 30 year CAGR is found to be low. The healthcare

spending of the Punjab is found to be stagnating in the recent years. The Odisha, Assam and Rajasthan are three states which had historically low levels of per capita public expenditure on health, but found to be improving their spending levels in the recent years. The per capita public expenditure on health in Assam in 1991-92 was Rs.235 (in 2011-12 prices) and was increased to Rs.970 in 2020-21 at a CAGR of 4.79 percent. The per capita public expenditure on health in Odisha in 1991-92 was Rs.184 (in 2011-12 prices) and was increased to Rs.1013 in 2020-21 at a CAGR of 5.79 percent. The per capita public expenditure on health in Punjab in 1991-92 was Rs.332 (in 2011-12 prices) and which was increased only to Rs.743 in 2020-21 at a CAGR of 2.699 percent. The state of Odisha have shown greatest improvement during this period (CAGR of 5.79 percent) while Uttar Pradesh have done the worst improvement (CAGR of 1.77 percent)

5. The North-South Divide in Public Spending on Health in India

The geographical divides are more evident across major states of India in the size of per capita public spending on health in India. The North Indian states like UP, Bihar, MP and Rajasthan are spending comparatively lower than that by the South Indian states like Kerala, Tamil Nadu, Andhra Pradesh and Karnataka (see Table No.4). The per capita public expenditure on health in UP in 2020-21 in 2011-12 prices was Rs.357. This was less than one third of that was in Kerala during the same period. The size of per capita public expenditure on health in southern states was higher than Rs.750 in 2020-21 while that in Northern states was less than Rs.750. The size in two top spending south Indian states was the higher than Rs.1100 in 2020-21 while that in two the least spending North Indian states was less than Rs.500. The highest spending two states among the 15 states are form the south India while the lowest spending two states are form North India.

The per capita size of public expenditure in all north Indian states together was Rs.597 in 2020-21 while that was Rs.1067 in four south Indian states all together (in 2011-12 prices). The per capita size of public expenditure on health in south was almost double of that in north Indian states in 2020-21 (see Figure No. 2). The share of government spending on health in GSDP was greater than one percent in south Indian states except Karnataka in 2020-21 while that was lesser than one percent in North Indian states. The share of health spending in total government budgets was also greater than three percent in south Indian states except Karnataka while that was less than three percent in North Indian state. There exist a clear gap between the southern and northern states of India not only in terms of the size of public expenditure, but also in terms of budgetary prioritisation for health.

Table 4: Size of Public Expenditure on Health Across North-south Divisions in India

<i>State groups</i>	<i>States</i>	<i>Per capita PEH in 2020-21 in 2011-12 prices (in Rs.)</i>	<i>PEH as share of GSDP in 2020-21</i>	<i>PEH as share of TPE in 2020-21</i>	<i>30 average size of per capita PEH in Rs. (2011-12 prices)</i>	<i>CV in 30 years average per capita PEH within the states group</i>
North Indian states	Rajasthan	646	0.93	2.73	347	15.97
	Madhya Pradesh	626	0.74	2.56	304	
	Uttar Pradesh	357	0.60	2.21	284	
	Bihar	442	0.62	2.74	219	
South Indian states	Kerala	1499	1.33	4.44	683	14.73
	Tamil Nadu	1145	1.05	3.17	522	
	Karnataka	790	0.60	2.88	412	
	AP	999	1.08	3.57	480	

Source: Author's computation from budget documents of various states

The thirty year average size in per capita public expenditure on health also shows a clear divide between the North Indian and South Indian states of India. All four southern states have 30 year average size of per capita public expenditure on health (in 2011-12 prices) greater than Rs.400 while that of all four northern states are below Rs.400. The thirty year average size in per capita public expenditure is less than Rs.300 in the states of UP and Bihar while that was higher than Rs.500 in Kerala and Tamil Nadu. The coefficient of variation among the southern states and among the northern

Table 5: Trends in Public Spending on Health Across North-south Divisions in India

<i>State groups</i>	<i>states</i>	<i>1991-92</i>	<i>2001-02</i>	<i>2011-12</i>	<i>2020-21</i>	<i>CAGR (1991-92 to 2020-21)</i>
North Indian states	Rajasthan	236	335	473	646	3.39
	Madhya Pradesh	172	202	318	626	4.36
	Uttar Pradesh	167	167	306	357	2.54
	Bihar	177	192	190	442	3.06
South Indian states	Kerala	285	451	830	1499	5.63
	Tamil Nadu	283	373	583	1145	4.72
	Karnataka	244	276	481	790	3.95
	Andhra Pradesh	210	340	611	999	5.29

Source: Author's computation from budget documents of various states

states are around 15 percent which is far lesser than the coefficient of variation among 15 major states and all states in India. This indicates a comparatively a more clear geographical pattern.

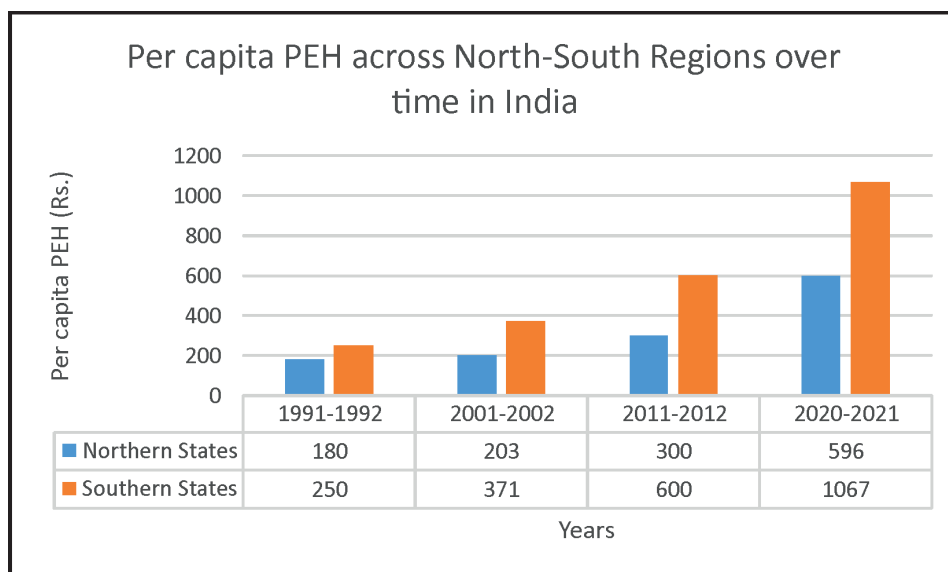


Figure 2: Size of public spending on health across north-south divisions over time

Source: Author's based on budget documents of various states

The north-south divide in the size of public spending on health is found to be diverging during the period since 1991. The size of per capita public expenditure on health has increased at a higher CAGR in southern states compared to northern states during this period (see Table No.5). The size of per capita public expenditure on health has increased at a CAGR greater than 4.5 percent in all the southern states except Karnataka. The size of public spending on health has increased only by a CAGR lesser than 3.5 percent in the southern states. This indicates a diverging north-south divide in the size of per capita public expenditure on health in India.

The average per capita public expenditure on health in all the four north Indian states together was Rs.180 in 1991-92 and it was increased to only Rs.596 in 2020-21 (in 2011-12 prices) (see Figure 2). The per capita public spending on health in all the southern states together in 1991-92 was Rs.250 and which has increased to Rs.1067 in 2020-21 (2011-12 prices). The difference in the average size in the northern states and southern states was comparatively less and this difference has increased in 2020-21. This indicates the no convergence in the size of public spending on health between the north and south geo-cultural regions in India.

6. Trends in Public Spending on Healthcare across Development Typology of States

The size of public expenditure on health can be development strategy choice of the state. The states are spending on health irrespective of their economic position. This imply the size of state spending on health is a reflection of their priority for the health sector in their development strategy choices. Hence, the states can be classified into three development typologies based on the size of public spending on health in India.

Table 6: Size of Public Expenditure on Health Across Development Typology of States

<i>State groups</i>	<i>States</i>	<i>Per capita PEH in 2020-21 in 2011-12 prices (in Rs.)</i>	<i>PEH as share of GSDP in 2020-21</i>	<i>PEH as share of total public expenditure in 2020-21</i>	<i>30 average size of per capita PEH in Rs. (2011-12 prices)</i>	<i>CV in 30 years average per capita PEH</i>
Proactive states	Kerala	1499	1.33	4.44	683	14.74
	Tamil Nadu	1145	1.05	3.17	522	
	Punjab	743	0.95	2.01	500	
	Andhra Pradesh	999	1.08	3.57	480	
Moderate expenditure states	Haryana	1035	0.65	2.73	449	4.78
	Gujarat	884	0.59	3.45	428	
	Karnataka	790	0.60	2.88	412	
	Assam	970	1.65	3.08	406	
	Odisha	1013	1.42	3.62	401	
	Maharashtra	745	0.57	2.50	394	
	West Bengal	658	0.94	3.66	387	
Limited expenditure states	Rajasthan	646	0.93	2.73	347	15.97
	Madhya Pradesh	626	0.74	2.56	304	
	Uttar Pradesh	357	0.60	2.21	284	
	Bihar	442	0.62	2.74	219	
15 Major states		802	0.97		396	35.39
All states		794	0.95	3.08	379	32.36

Source: Author's computation from budget documents of various states

The states are categorised as proactive states, moderate expenditure states and limited expenditure states based on their 30 year average size of per capita public

expenditure on health. The states with 30 year average per capita public expenditure on health greater than Rs.450 (in 2011-12 prices) is classified as proactive states. The states with 30 year average per capita public expenditure on health falling between Rs.350 and Rs.450 (in 2011-12 prices) is classified as moderate expenditure states and those with less than Rs.350 are classified as limited expenditure states.

Among the 15 states of India, the four states fall under the category of proactive states. These include Kerala, Tamil Nadu, Punjab and Andhra Pradesh. The eight states fall under moderate expenditure states. These include Haryana, Gujarat, Karnataka, Assam, Odisha, Maharashtra and West Bengal. The limited Expenditure states are Rajasthan, Madhya Pradesh, Uttar Pradesh and Bihar.

The share of public expenditure on health in the GSDP of states was greater than one percent in all proactive states except Punjab in 2020-21 (see Table 6). This share was lesser than one percent in all limited expenditure states. The budgetary prioritisation for health was lesser than three percent of total public expenditure in limited expenditure states while this was greater than three percent in proactive states except Punjab. Punjab was a state having a higher size of public spending on health historically, but its size is found to be reducing in the recent years. The coefficient of variation in the 30 year average size of per capita public expenditure on health among the proactive states was 14.24 percent while this was low (4.78 percent) among the moderate expenditure states and it was 35.39 percent across all major states of India.

The size of per capita public expenditure on health has grown at higher rate in proactive states compared to the limited expenditure states (see Table 7). The all proactive state except Punjab has shown a CAGR of per capita public expenditure on health greater than that of the all states average during the period since 1991-92 to 2020-21. This size is grown only at a CAGR lower than that for all states together in all limited expenditure states. The average per capita public expenditure on health in all proactive states together was Rs.261 in 1991-92 (2011-12 prices), which has increased to Rs.1076 in 2020-21 (see Figure No.3). This size was Rs.180 in limited expenditure states and it has increased to Rs.596 in 2020-21. This indicates the widening gap in the size of per capita public expenditure on health between the various development typology of states. The states are not deviating from their historical tracks of health prioritisation except a few like Odisha, Assam and Punjab.

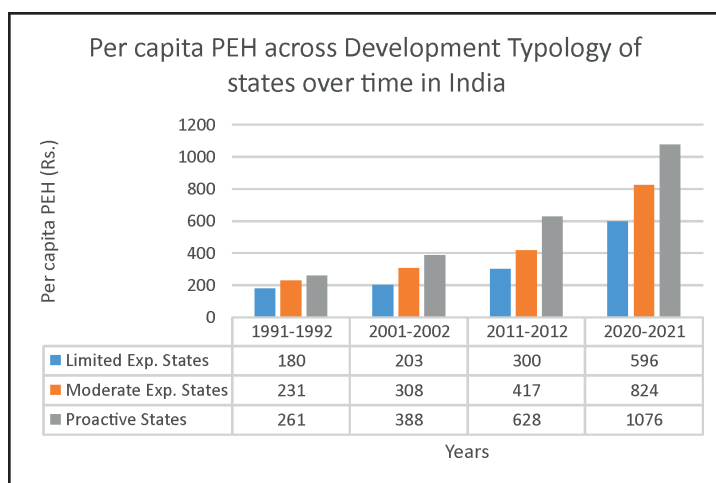
7. The Pandemic Effect on Public expenditure on Health at State Level in India

The Covid-19 pandemic has given a big push on the size of public expenditure on health at the national level in India. This was true at the state level as well. But the

Table 7: Trends in Public Spending on Health Across Development Typologies of States

State groups	States	1991-92	2001-02	2011-12	2020-21	CAGR (1991-92 to 2020-21)
Proactive states	Kerala	285	451	830	1499	5.63
	Tamil Nadu	283	373	583	1145	4.72
	Punjab	332	496	555	743	2.69
	Andhra Pradesh	210	340	611	999	5.29
Moderate expenditure states	Haryana	214	290	469	1035	5.33
	Gujarat	255	276	436	884	4.19
	Karnataka	244	276	481	790	3.95
	Assam	235	254	465	970	4.79
	Odisha	184	225	314	1013	5.79
	Maharashtra	248	360	442	1145	5.18
	West Bengal	248	360	442	1145	5.18
Limited expenditure states	Rajasthan	236	335	473	646	3.39
	Madhya Pradesh	172	202	318	626	4.36
	Uttar Pradesh	167	167	306	357	2.54
	Bihar	177	192	190	442	3.06
15 Major states		226	291	426	834	4.40
All states		214	282	410	794	4.43

Source: Author's computation from budget documents of various states

**Figure 3: Size of public spending across development typology of states over the years**

Source: Author's based on budget documents of various states

degree of change in the size of public spending on healthcare vary between states (see Table No.8). The size of per capita public expenditure on health in 2011-12 constant price have increased at CAGR greater than 15 percent during 2019-20 to 2021-22 in states like Bihar, Kerala and Odisha. The per capita size of public expenditure on health increased significantly during the Covid-19 period in Gujarat, MP, Maharashtra and Tamil Nadu. The effect of pandemic on the health spending levels of Punjab, Rajasthan, UP and West Bengal was limited. When the size of per capita spending on health was rising at a CAGR of 4.43 percent across all states during the pre-pandemic years, it rose by 12 percent during the pandemic years.

The pandemic effect on public expenditure on health at the states level was also a transitory phenomenon. The CAGR at the post pandemic period (2019-20 to 2023-24 (BE)) fallen back to the initial levels of 4.16 percent. The post-pandemic levels of CAGR was lesser than the pre-pandemic levels of CAGR in many states of India. Thus the pandemic boost in the state spending on health did not last for long and the states have fallen back to their historic tracks of state spending on health after the pandemic.

Table 8: Size of Public Spending on Health During Pandemic Years at the State Level

States*	2017-18	2019-20	2021-22	2023-24 (BE)	CAGR during 2017-18 to 2019- 20 (%)	CAGR during 2019-20 to 2021- 22 (%)	CAGR during 2019-20 to 2023- 24 (%)
Andhra Pradesh	876	956	1093	1041	4.45	6.94	2.15
Assam	857	876	1025	1032	1.05	8.19	4.19
Bihar	366	379	531	424	1.75	18.34	2.84
Gujarat	724	849	1089	997	8.28	13.24	4.10
Haryana	760	975	1176	1141	13.27	9.84	4.02
Karnataka	738	786	1097	928	3.24	18.12	4.22
Kerala	1230	1305	1905	1553	3.01	20.81	4.44
Madhya Pradesh	589	663	836	763	6.12	12.30	3.57
Maharashtra	662	689	901	776	2.06	14.33	3.01
Odisha	641	784	1099	925	10.54	18.43	4.24
Punjab	625	647	699	707	1.78	3.93	2.24
Rajasthan	847	934	1037	1096	5.03	5.37	4.08
Tamil Nadu	917	946	1242	1085	1.57	14.63	3.50
Uttar Pradesh	485	511	533	559	2.67	2.05	2.25
West Bengal	516	599	631	601	7.72	2.64	0.08
All states	673	734	932	864	4.43	12.68	4.16

*States mentioned here are individual states, not the combine states

Source: Author's computation from budget documents of various states

8. Conclusion

The size of public expenditure on health is not even across states in India. There are huge variation in its size across states over various years. Kerala is top and Uttar Pradesh is at the bottom in the per capita public expenditure on health in 2020-21 (in 2011-12 constant prices) in India among the 15 major states. The per capita public expenditure on health in Kerala was many fold greater than that in UP in 2021. The shares of PEH in GSDP and the TPE also vary between states in India in 2020-21. The 30 year (1991-92 to 2020-21) average size of per capita public expenditure on health in India was Rs.379 (in 2011-12 prices). There is a huge inter-state variation in this figure as well. The states like Kerala, Tamil Nadu and Andhra Pradesh possess larger average size during this period while the states like UP, MP and Bihar possess very small average size during this period. The coefficients of variation in the size of public expenditure on health across all the states and across the 15 major states are greater than 35 percent which imply larger extent of variation across states in India.

The size of per capita public expenditure on health is observed to be rising since 1991 in various states of India. However, it can be noticed that the rise in per capita public expenditure on health was not at uniform rate across states in India. States are diverging in the per capita size of public spending on health over the years. The size of public spending as share of GSDP and total public expenditure of the states was stagnant for long time in most of the states since 1991. Most of the states are following their historic tracks of state prioritisation for health. However, some states like Odisha, Assam and Rajasthan has started prioritising health sector and improve the size of public expenditure on health in the recent years. Though Punjab has historically prioritised health, their size of health spending is observed to reducing in the recent years.

The income divides in public spending on health is not much clear across states in India in 2020-21. The size of public spending on health in low income states are found to be very low compared to the moderate income and high income states. A clear pattern is also not evident in terms of share of public expenditure on health as a share of GSDP across income category of states. The higher income states are neither the higher expenditure states nor the lower expenditure states in health in 2020-21 in India. Same is the case with the lower income states. The size of per capita public expenditure in high income states are observed to be raised at a greater pace than others since 1991.

The geographical divides are more evident across major states of India in the size of per capita public spending on health in India. The North Indian states like UP, Bihar, MP and Rajasthan are spending comparatively lower than that by the South Indian states like Kerala, Tamil Nadu, Andhra Pradesh and Karnataka. The per capita size

of public expenditure on health in south was almost double of that in north Indian states in 2020-21. There exist a clear gap between the south Indian and north Indian states of India not only in terms of the size of public expenditure, but also in terms of budgetary prioritisation for health. The thirty year average size in per capita public expenditure on health also shows a clear divide between the Northern and Southern states of India. The north-south divide in the size of public spending on health is found to be diverging during the period since 1991. The size of per capita public expenditure on health has increased at a higher CAGR in south Indian states compared to north Indian states during this period.

There is a huge variation in the size of public expenditure on health across various development typologies of states. The size of per capita public expenditure on health has grown at higher rate in proactive states compared to the limited expenditure states. The all proactive state except Punjab has shown a CAGR of per capita public expenditure on health greater than that of the all states together during the period since 1991-92 to 2020-21. This size is grown only at a CAGR lower than that for all states together in all limited expenditure states. This indicates the widening gap in the size of per capita public expenditure on health between the various development typologies of states. The states are not deviating from their historical tracks of health prioritisation except a few like Odisha, Assam and Punjab.

The Covid-19 pandemic has given a push on the size of public expenditure on health at the state level. But the degree of change in the size of public spending on healthcare vary between states. The pandemic effect was more in states like Kerala, Assam, Odisha, etc. while the pandemic effect was not much in states like UP and Gujarat. The pandemic effect on public expenditure on health at the states level was also a transitory phenomenon. The CAGR at the post pandemic period fallen back to the pre-pandemic levels. Thus the pandemic boost in the state spending on health did not last for long and the states have fallen back to their historic tracks of state spending on health after the pandemic.

References

- Aghion, P., Howitt, P., Brant-Collett, M., & García-Peñalosa, C. (1998). Endogenous growth theory. MIT press.
- Anand, Paul (2005). Capabilities and Health. *Journal of Medical Ethics*, Vol.31 (5), 299-303.
- Bhat, Ramesh and Noshanth Jain (2006). Analysis of Public and Private Healthcare Expenditure. *Economic and Political Weekly*, Vol. 41(1): 57-68.
- Deolalikar, Anil B. and Prem Vashishtha (1996). The health and medical sector in India: Potential reforms and problem. IRIS-India Working Paper, No.9.

- Dev, S. M., & Mooij, J. (2002). Social sector expenditures in the 1990s: Analysis of central and state budgets. *Economic and Political Weekly*, 853-866.
- Dev, M., & Mooij, J. (2004). Patterns of Social Sector Expenditures: Pre-and Post-Reform Period, in: R. Radhakrishna (ed.) *India Development Report 2004*, London: Oxford University Press.
- Duggal, R. (1995a). Health Expenditure across States- Part 1. *Economic and Political Weekly*, Vol. 30(14): 834-844.
- Duggal, R. (1995b). Health Expenditure across States- Part 2. *Economic and Political Weekly*, Vol. 30(15): 901-908.
- Gayithri, K. (2005). Government Financing of Social Sector during the Reform Phase: Some Insights from the Southern States. In G. K. Karanth Ed. *Dimensions of Social Development: Status, Challenges and Prospects*. Social and Economic Change Monograph, ISEC Bengaluru.
- Hooda, S. K. (2015). Government spending on health in India: some hopes and fears of policy changes. *Journal of Health Management*, 17(4), 458-486.
- Joshi, S. (2006). Impact of economic reforms on social sector expenditure in India. *Economic and Political Weekly*, 358-365.
- Kadekodi, Gopal K. and Keerti Kulkarni (2002). Status of Health and Medical Care in India: A Macro Perspective. CMDR Monograph Series No. 38, Dharwad: Centre for Multidisciplinary Research.
- Kaur, Balbir and Sangita Misra (2003). Social Sector Expenditure and Attainments: An Analysis of Indian State. Reserve Bank of India Occasional Papers, 24(1&2):105-143.
- Nussbaum, Martha (2003). Capabilities as Fundamental Entitlements: Sen and Social Justice. *Feminist Economics*, Vol.9 (2-3), 33-59.
- Prabhu, K. S. (2001). Economic reform and social sector development: A study of two Indian states. (*No Title*).
- Prabhu, Seeta K. (1996). The impact of structural adjustment on social sector expenditure: Evidence from Indian States. In *Economic Reform and Poverty Alleviation in India*, New Delhi: Sage Publications.
- Prabhu, Seeta K. (1999). Structural Adjustment and the Health Sector in India. In Mohan Rao (eds.) *Disinvesting in Health*, New Delhi: Sage Publications.
- Prabhu, Seeta K. and Somnath Chatterjee (1993). Social Sector Expenditures and Human Development: A Study of Indian States. Development Research Group-Study 6, Department of Economic Analysis and Policy, Mumbai: Reserve Bank of India.
- Pratheeba, J. (2010). Fiscal Reforms and Government Financing of Healthcare in India, Unpublished PhD Thesis submitted to University of Mysore, Mysore.

- Reddy K.N. and Selvaraju V. (1994). Health care expenditure of Government of India: 1974-75 to 1990-91. New Delhi: Seven Hills Publications.
- Sen, Amartya Kumar (1989). Development as Capability Expansion. *Journal of Development Planning*, Vol.19 (1), 41-58.
- Sen, Amartya Kumar (2001). *Development as Freedom*. New York: Oxford University Press.
- WHO (2021). Global Expenditure on Health: Public Spending on Rise?. Geneva: World Health Organisation.