

Healthcare Budget and Infrastructure of the States to Combat COVID-19

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Abstract: There is no denying the fact that the Health impacts economic growth in several ways. Furthermore, there is direct positive correlation between the government budget for health and the well-being of the citizens. The ability of the government to fight upon the prevailing COVID-19 pandemic would very much depend upon the prevailing infrastructure, preparedness to tackle the challenge, and the budgetary resources. There are number of empirical investigations which conclusively indicate that the investment in health is not only desirable but also an essential priority for most societies. Germany, USA, France, UK and Canada were the countries, which relatively earmarked higher sums of public funds for the Health sector. Whereas in contrast, Bangladesh, Pakistan, India and Indonesia gave relatively lesser allocation to the requirements of Health support. This paper attempts to undertake a multidimensional analysis of the budgetary allocation for health, and the comparable indicators for the six Indian states, i.e., Bihar, Chhattisgarh, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh. It was seen that while Rajasthan had the distinction of allocating the highest proportion of its total budget funds for healthcare, comparatively Punjab had done the least. There was a dire need for Chhattisgarh and Bihar to build hospitals in proportion to their population. The physical spread (distance) of the hospital was a cause of concern for Bihar. Adequate number of beds in hospitals in proportion to the state population was again a cause of serious concern for Bihar. The states of Bihar, Chhattisgarh and Rajasthan did not have even one hospital in each of their districts. Uttar Pradesh had the distinction of having the maximum number of seats in medical colleges; however, when compared to the quantum of its population, more medical seats were required in the state. It appeared that Madhya Pradesh was the most tenuous state, amongst the six analyzed, on effective utilization of Health budget for related medical infrastructure. To conclude, the allocation of the requisite government budget for health and its pragmatic usage is the key to the preparedness to face any medical pandemic.

Keywords: Healthcare budget, Infrastructure, COVID-19.

1. Introduction

A. Health

Good health does not merely indicate the absence of illnesses. It entails the ability of people to be physically independent, mentally happy, economically productive, socially active, more vibrant and energetic, have a more positive outlook on life, and the ability to combat diseases. Thus, it enables the people to be an asset to the community,

and the world. In monetary terms, health impacts economic growth in several ways. For example, good health - reduces production losses due to the illness, increases productivity, lowers absenteeism rates and improves learning amongst the school children. Finally, it enables the different use of financial resources that might usually be destined for the treatment of ill health. Healthy people are more vibrant, energetic, and have a more positive outlook on life.

According to the 2018 global Multidimensional Poverty Index (MPI), released by the United Nations Development Programme (UNDP), while there has been an improvement in poverty rates in India in the last ten years, progress in health outcomes in the country seems to be lagging. In Asia, India has the second-highest stunting rate followed by Pakistan. Child mortality in India, is one of the many other health indicators, which was a cause of concern.

It was further sad to see that many of the mortalities in the country occurred due to preventable causes. Furthermore, the magnitude of the same illness varied from state to state, thus implying much of the illness in India is attributed to a lack of appropriate infrastructure and outreach of health services to the public. Despite this, the allocation of Health expenditure in India is far behind the UN stipulations.

Quite recently, the contribution of health in the generation of economic growth has been emphasized. Good health plays a substantial role in economic growth. A long-term study for England carried out by Robert Fogel, a Nobel Prize winner in Economics, clearly demonstrates this. Studies on the role that health plays in growth from more than a century of history in currently developed countries confirm this as well [1].

The year 2020 AD would probably go down in the history of Humanity as one of the turning points in the evolution of humankind. COVID-19 changed the narrative towards preparedness for health. The COVID-19 pandemic requires adequate public funding to ensure a comprehensive response. All the nations across the globe are taking whatever measures possible within their given means of financial resources. Reprioritizing public spending toward bolstering the existing Health system requires a great deal of vision, planning, calculations, projections, etc. Every nation is deeply engaged in the "Emergency plan for Health crisis". WHO has strongly

advocated to countries to engage as early as possible in the budgetary process to secure a rapid response from domestic sources, while they (WHO) also streamline external sources toward that goal.¹ Hindustan Times, on 22nd, March 2020 observed that “In India, the coronavirus pandemic is unfolding in the context of a broken health system. India’s Health failures are well known — our health infrastructure is weak and under-resourced, health facilities are poor, and quality of care is abysmal. In 2018-19, only 59 per cent of the total National Health Mission budget for the year was spent. At the hospital level, spending is even lower — only 38 per cent of the funds made available for hospital up-gradation were spent.” India, in terms of government budget for Health was just not prepared to tackle CORONA-19 menace.

B. Global Health Spending

Report published by WHO in 2019 ‘Global Health spending: A World in transition’ very comprehensively brings out some fascinating facts about the trend of expenditure across various countries in the world.

“The Health sector continues to expand faster than the economy. Between 2000 and 2017, global health spending in real terms grew by 3.9 per cent a year while the economy grew 3.0 per cent a year. Across low-income countries, the average Health spending was only US\$ 41 a person in 2017, compared with US\$ 2,937 in high-income countries – a difference of more than 70 times. High-income countries account for about 80 per cent of global spending, but the middle-income countries share increased from 13 per cent to 19 per cent of global spending between 2000 and 2017. Public spending represented about 60 per cent of global spending on Health and grew at 4.3 per cent a year between 2000 and 2017. This growth has been decelerating in recent years, from 4.9 per cent a year growth in 2000–2010 to 3.4 per cent in 2010–2017.” [2].

It could be seen from Table 1 that Germany, USA, France, UK and Canada were the countries, which relatively earmarked higher sums of public funds for health sector. In contrast, Bangladesh, Pakistan, India and Indonesia gave relatively lesser allocation to the requirements of the health segment. The extent

of difference in proportion to GDP allocations is startling, from as low as 0.4 per cent (Bangladesh) to as good as 9.4 per cent (Germany).

Table 1
Domestic Government Health Expenditure as % to GDP 2015

Bangladesh	0.4
Brazil	3.8
Canada	7.7
China	3.2
France	8.7
Germany	9.4
India	1.0
Indonesia	1.3
Italy	6.7
Pakistan	0.7
Russia	3.4
Saudi Arabia	4.2
Sri Lanka	1.6
UK	7.9
USA	8.5

Source: <https://apps.who.int/gho/portal/uhc-Health-expenditure-v3.jsp>

For India, the Comptroller and Auditor General of India (CAG) in its latest report, stated that “There is still a long way to go before the target of public Health expenditure is achieved and the central allocation for Health for 2019-20 was far short of the target,”. It reminded the government of the need to augment budgetary allocation on public Health.

2. Budgetary Allocation for Health Sector across Six States of India

A. Government Budget Allocation for Health Sector

In this analysis, an attempt was made to undertake a multidimensional analysis of six major Indian states regarding the budgetary allocation for Health by the respective states. The states had been chosen with similar socio-economic, agricultural practices, and geophysical characteristics. This analysis is confined to the budget allocated by the respective states for the Department of Health for the year 2019-20. Analysis is further restricted to only allopathic system of medical sciences. The various parameters/data/information for

Table 2
Basic Data of States

S.No.	Parameter	Bihar	Chhattisgarh	Madhya Pradesh	Punjab	Rajasthan	Uttar Pradesh	India
1	Population (in Lakh)	1042	255	733	278	689	2042	12105
2	Average Population per District (in Lakh)	27.42	9.44	14.66	13.24	20.88	28.36	18.71
3	Average Population per Block (in Lakh)	1.95	1.75	2.34	1.96	2.80	2.49	1.83
4	Area (Thousand Kms)	94.16	135.19	308.25	50.36	342.24	240.93	3287.47
5	Persons per Sq. Kilometre (in Number)	1106	189	236	236	200	829	382
6	Number of Districts (in Number)	38	27	50	21	33	72	647
7	Number of Blocks (in Number)	534	146	313	142	246	821	6606
8	Health Budget 2019 (Rs. Crore)	9,157	4,933	10,499	4,156	13,039	23,884	64,559
9	Govt. Hospitals (in Number)	1033	214	451	682	752	4635	23582
10	Beds in Hospitals (in Number)	12019	9412	28839	17933	31842	76260	710761
11	District Hospitals (in Number)	36	26	51	22	27	171	764
12	Govt. Doctors -Allopathic (in Number)	3146	1642	4366	3286	7964	1403	119656
13	Govt. Medical Colleges-Allopathic (in Number)	9	6	6	3	8	18	245

Table 3
Health Budget and Related Parameters

		(Amount in Rs. Crore)						
Parameter	Bihar	Chhattisgarh	Madhya Pradesh	Punjab	Rajasthan	Uttar Pradesh	India	
1	Average Proportion of Health Budget to Total Budget (in %) for last 3-4 years	4.61	5.37	4.1	2.7	6.09	4.84	
2	Average Annual Increment of Total Budget (in %) for last 3-4 years	9.82	9.76	10.7	5.08	7.81	10.09	
3	Average Annual Increment of Health Budget (in %) for last 3-4 years	14.86	17.38	24.34	0.95	8.78	15.26	
4	Amount for 1 lakh population	8.79	19.35	14.32	14.95	18.92	11.70	5.33
5	Amount for 1000 Sq. Kms	8.28	26.10	44.49	17.61	65.20	28.81	169.00
6	Amount per Hospital	8.86	23.05	23.28	6.09	17.34	5.15	2.74
7	Amount per Bed	0.76	0.52	0.36	0.23	0.41	0.31	0.09
8	Amount per District	240.97	182.70	209.98	197.90	395.12	331.72	99.78
9	Amount per Doctor (Allopathic)	2.91	3.00	2.40	1.26	1.64	17.02	0.54

Table 4
Outreach of Government Hospitals

		(In Number)						
Parameter	Bihar	Chhattisgarh	Madhya Pradesh	Punjab	Rajasthan	Uttar Pradesh	India	
1	Govt. Hospitals for 1 lakh population	0.99	0.84	0.62	2.45	1.09	2.27	1.95
2	Govt. Hospitals for 1000 Kms	10.97	1.58	1.46	2.21	2.20	19.24	7.17
3	Beds for 1 lakh population	11.53	36.91	39.34	64.51	46.21	37.35	58.72
4	Beds for 1000 Kms	1.28	0.70	0.94	0.58	0.93	3.17	2.16
5	Ratio of District Hospitals to Number of Districts	0.95	0.96	1.02	1.05	0.82	2.38	1.18
6	Average District Population per District Hospital	0.76	2.86	3.41	1.59	1.58	2.54	34.58

the states quoted in Tables 2 to 5 below have been culled out from the GOI website, i.e. 'data.gov.in'.

The Table 2 above, gives comprehensive data of those parameters for which comparative analysis has been undertaken in succeeding paragraphs. Let us now conduct some research to come out with some interesting comparable inferences.

Table 3 presents an overview of the Health budget of six Indian states with interrelated ratios. The first and foremost issue is the proportion of Health budget in the total budget of the state. The variation seen was from as low as 2.7 per cent in Punjab to 6.09 per cent in Rajasthan. If we compared the amount of Health budget per 1 lakh of population in the respective state, it was seen that Chhattisgarh appeared to have allocated the maximum amount for its population; and Bihar the least. Interestingly, the Union of India allocated only Rs. 5.33 crore per 1 lakh of population. This was obvious because 'Health' is a state subject, and GoI is only supplementing the efforts of the states on the issue. Please note that, while Health care is a State subject, contagious diseases are on the Concurrent List.

Let us now examine how the Health budget of the state was spread across the length and breadth (area) of the corresponding state. It was obvious to see that there was no correlation between the state health budget and the size of the state. The government(s) never thought of addressing the issue of health on account of distance (in terms of Kms) or expanse (in terms of Ha.). On the contrary, the outreach of medical infrastructure should be one of the critical factors in planning. The research revealed a huge variation from as low as Rs. 26.10 crore (Bihar) to as high as Rs. 65.20 crore (Rajasthan) per thousand kilometers.

Another aspect of comparison could be - distribution of state

Health budget for the number of districts in the state. It was seen that Rajasthan, Uttar Pradesh and Bihar had a relatively more allocation per district as compared to other states in the study.

Let us now estimate that how much the public Health budget was allocated to government hospitals (allopathic) in the state. It was seen that Madhya Pradesh and Chhattisgarh did have handsome amounts earmarked on this account, albeit the scenario for Uttar Pradesh and Punjab was relatively abysmal. The allocation per hospital was shockingly meager on the national scale. Taking the analysis further, if we project the total Health budget allocated 'per bed' in any given state, it was seen that Bihar has the maximum and Punjab the least allocations.

3. Outreach of Government Hospitals

While Punjab and Uttar Pradesh revealed the best indicators for 'the number of allopathic hospitals for 1 lakh of their population', on the other hand, Madhya Pradesh needs to do a lot on this account. While geographical distribution (spread) of hospitals was seen best in Uttar Pradesh and Bihar, the distance was a challenge for patients in Madhya Pradesh, Chhattisgarh, Rajasthan and Punjab. Again it was interesting to note that while in Uttar Pradesh there were on an average more than two hospitals in each district, the states of Rajasthan, Bihar and Chhattisgarh do not have even one government hospital in every district of their state. The pressure of population per district hospital was maximum in Madhya Pradesh, followed by Chhattisgarh. Evidently, these two states need to make concerted efforts for more hospitals at district levels.

A. Outreach of Government Medical Education

Table 5
 Status of Medical Education

		(In Number)						
	Parameter	Bihar	Chhattisgarh	Madhya Pradesh	Punjab	Rajasthan	Uttar Pradesh	India
1	Govt. Medical Colleges for 1 lakh population	0.01	0.02	0.01	0.01	0.01	0.01	0.02
2	Govt. Medical Colleges per 1000 Kms.	0.10	0.04	0.02	0.06	0.02	0.07	0.07
3	Medical Seats in Govt. Medical Colleges	950	650	1300	500	1950	2199	33472
4	Medical Seats for 1 lakh population	0.91	2.55	1.77	1.80	2.83	1.08	2.77

Table 6
 Relative score card of states on health budget allocation

	Parameter	Bihar	Chhattisgarh	Madhya Pradesh	Punjab	Rajasthan	Uttar Pradesh
1	Total Score	30	38	23	39	44	36
2	Rank	5	3	6	2	1	4

The status of medical education in the country is an open secret. The Supreme Court of India on 29th April, 2020 while giving its verdict on National Eligibility cum Entrance Test (NEET) stated that medical education had become a “saleable commodity” in the country. This study revealed that the status of Government Medical Colleges per lakh of population was all most similar across the states, with Chhattisgarh reflecting slightly better position. The physical spread (distance) of these colleges was seen best in Uttar Pradesh, followed by Punjab. Uttar Pradesh also had the distinction of having the maximum number of medical seats, though when compared to the quantum of its population, more medical colleges were required in UP.

B. Relative Score Card

Table 6 was compiled by taking in to account the ten various critical parameters as detailed in the preceding paragraphs. It could be concluded that Rajasthan is the best amongst the six states studied, and Madhya Pradesh was the most tenuous state in terms of quantum of State Health Budget and related parameters.

4. Conclusions

With reference to the six states analyzed, the following could be inferred from the research:

- All the states need to increase the proportion of the Health Budget urgently. On this account, while Rajasthan had the distinction of allocating the highest percentage of its funds for health care, Punjab had done the least. An alarming bell is sounding for Punjab to carry out budgetary re-allocation on priority.
- There is also the need for an incremental annual appreciation of the Health Budget. In other words, merely pegging the Health budget at a fixed proportion to the total budget will not suffice; there is a need to increase the allocations to the Health sector gradually. Here again, the state of Punjab needs to address this with due planning and resource re-allocation.
- There is a dire need for Chhattisgarh and Bihar to build hospitals in proportion to their population. The number of hospitals in the respective states may not be enough to attend to the needs of their people in cases of break out of any pandemic.

- The physical spread (distance) of the hospitals is a cause of concern for Bihar. In other words, patients have to travel maximum in Bihar to reach the nearest hospital. The state needs to keep this into consideration while opening of new hospitals.
- Adequate number of beds in a hospital in the proportion of the state population is an important yardstick to judge the preparedness of the government to take any foreseen challenge. Lack of required number of beds in the hospitals was a cause of serious concern for Bihar.
- After more than seven decades of independence, it was ironic to see that the states of Bihar, Chhattisgarh and Rajasthan do not have even one hospital in every district. It is thus crucial that while creating any new district, the availability of hospital should be taken into cognizance.
- The number of medical colleges in proportion to the population of the state was all most similar for all the six states. However, there was a significant disparity in the number of seats in these medical colleges. Numerically, the maximum medical seats were in Uttar Pradesh. Still, the number of seats in proportion to the population of the state was comparatively better in Rajasthan and Chhattisgarh. This parameter was definitely a cause of concern for Bihar.
- The state of Madhya Pradesh needs to do a lot with its Health budget and its effective utilization. A Task Force should be constituted to comprehend and address the challenges being faced in the Health sector for better budgeting and its use.

There are number of empirical investigations which conclusively indicate that the investment in Health is not only desirable but also an essential priority for most of the societies. However, our health systems face severe and complex challenges, and they vary from state to state. The effects of health on development are apparent. States with weak health and education conditions find it harder to achieve sustained growth. Indeed, economic evidence confirms that a 10 per cent improvement in life expectancy at birth is associated with a rise in economic growth of some 0.3-0.4 percentage points a year. Chatterjee and Jain [2] found that the more a state spends on the health sector, the lower will be the severity of any disease.

Hence, the allocation of the requisite government budget for Health, and its pragmatic utilization is the key to the success of an economically robust and vibrant nation.

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