

**Public Health Infrastructure during COVID-19—Sharp focus**

Coronavirus disease-2019 (COVID-19) pandemic threw lives out of gear for all and sundry. With high rise in hospital admissions and jam-packed quarantine facilities, the ailing and not so ready healthcare infrastructure and human resources faltered. In India the second wave caused havoc with record number of infections and death rate due to the novel Corona virus infection. In most hospitals no vacant beds or ventilators were available from April to June 2021. Not only people but hospitals were ailing too. WHO warning of more pandemics in tow and COVID-19 catastrophe brought healthcare infrastructure and human resources in Sharp Focus. Public healthcare system needs renovation and sufficient budget to ensure maximum facility in normal times and also during a pandemic.

Let us have a look at the Human Resources first. At present the doctor patient ratio in India is 0.8 per 1000. In US it is 2.9 per 1000, China 1.4 per 1000 and Brazil 1.9:1000. Are we lagging behind – Yes, but by 2024 India may achieve the targeted doctor: population ratio of 1:1000 and probably 1.5:1000 by 2030? Now let us have a look at shortage of specialist doctors. Generalist: Specialist ratio in OCED (Organization for Economic Cooperation and Development) countries is 1:4, while in India it is only 3:1. There are only 3 lakh specialist doctors in India out of 11 lakh doctors. The specialist availability is only one fifth of the requirement and it may take 15–20 years to bridge this gap and have sufficient specialist and superspecialist doctors in the country. The postgraduate entrance exam -NEET PG is grueling and many IMGs vie for the much-coveted PG seat. Moreover, we have failed to create more PG seats and therefore lost opportunities<sup>1</sup>.

Indian Medical graduates (IMGs) are more focused on studying MCQs to clear NEET-PG throughout their graduate years then on acquiring skills. So, we get an Indian Medical Graduate with a lot of theory in his/her fingertips but very few skills to go and work in the field. It is a welcome change that Medical Council of India (MCI) and now superseded by National Medical Commission (NMC) have come forward with NEXT – exit exam after Final year MBBS which will also be an entry to specialist seats. In the interim doctors preparing for postgraduation entrance tests, final year medical students, hospital interns and BSc qualified nurses can be pressed into service in the fight against the record COVID-19 surge, and incentivizing them for days of service.

The change in India's public health expenditure (sum of central and state spending) from 2008–09 to 2019–20 has remained between 1.2% and 1.6% of GDP. US spends 8.5 % of its GDP on health expenditure, China 3.2%, Germany 9.4%. In India States and UTs have together spent 1.58 trillion Indian rupees in 2018 which is 1.28% of country's GDP on public health expenditure. Among BRICS Nations, India's public health spending as a share of GDP is the lowest. With Public health facilities inadequate, private hospitals have mushroomed, with good infrastructure, facilities and human resources but at the same time they have enhanced patient spending on healthcare. More than 50% of Country's healthcare infrastructure is made by Private health infrastructure and medical institutes.

Kurk et al (2018) highlighted that India ranked 179th out of 189 countries worldwide in prioritizing healthcare sector and this is similar to countries like Haiti and Sudan. Inequity in healthcare is more due to poor healthcare facilities than due to insufficient access. With time, distribution of public subsidy has tilted in favor of the poor. The poorest utilization of inpatient has improved from 12.7% to 18.5% and outpatient use from 15.6% to 18.3%<sup>2</sup>.

The healthcare budget in 2019–20 increased to 15% from last budget estimate. The focus was to convert district hospital into medical institutes, though 60% of the primary healthcare Centers (PHCs) in India have only one doctor while 5% have none. There is acute shortage of human resources in peripheral health institutes.

The government spending in 2020–21 on healthcare, had also seen out of budget spending because of the pandemic. The Budget Estimate (BE) for 2020–21 was 1.8% of the GDP. The increase in expenditure over the coming years need to be sustained to reach an expenditure of 3% of GDP in next few years hopefully. This enhanced expenditure also needs to be channelized properly to improve the healthcare infrastructure and human resources. Improved public healthcare will decrease out of pocket expenses of the patients. In the Global burden of disease study in 2016 on quality and access to healthcare, India ranked 145th out of 180 countries with highest level of out-of-pocket expenses in the world. Economic survey of India 2020–21 has a chapter dedicated to health in wake of economic slowdown due to the pandemic. In 2017 National Health Policy anticipated enhanced public spending on health from 1% GDP to 2.5%–3% of GDP<sup>3</sup>.

The second wave of COVID-19 pandemic caused emotional traumas and catastrophic burden of healthcare system. The sector had to face huge challenges in carrying out increased demands. Inadequate testing facilities with days of waiting period, infrastructure, hospital beds, oxygen support, medications were a few of the major challenges. India is worlds major vaccine producer a robust vaccination facility in place, yet vaccinating our huge population seems to be a daunting task with low supply at several places. Dearth of vaccines, public shying away from vaccination, tussle between center and states on responsibility of procurement is hindering the process. Now some clear-cut policies are surfacing with central government along with NITI Aayog India announcing free vaccination to all and sundry which is a welcome move.

The Union Budget of India announced in February 2021 has increased by only 1%. It is put forth that the total health budget this time has been clubbed as Health and Wellness budget which is stated to have increased to 137%. This is misleading though. The budget for Department of Health and Family Welfare has increased to 11%, Department of Health Research by 13%, Ministry of Ayush 14%- and one-time COVID vaccination allocation to Rs 35,000 crores.<sup>4</sup>

**Allocation of Budget for Dept. of Health and Family Welfare, Health Research, Ministry of Aayush and COVID vaccine**

<i>Budget Head</i>	<i>2020–21 (Budget Estimate) Crores</i>	<i>2021–2022 (Budget Estimate) Crores</i>	<i>Change (%)</i>
		<b>The budget was reflected under Health and Wellness</b>	
Department of Health and Family Welfare	65,012	71,729	+11%
Department of Health Research	2,100	2,663	+13%
Ministry of Aayush	2,122	2,970	+14%
COVID Vaccine	Not Applicable	35,000	One Time

With focus on Universal Healthcare by 2025, the government at present is trying to restructure both medical education and infrastructure. Ayushman Bharat and National Health Mission have already shown favorable outcome by providing the common man with alternative to exorbitant healthcare costs. The current COVID-19 pandemic further highlights the need of the government to invest in Public Health. India has large section of its population is poor and vulnerable, government spending on health is critical to reducing their financial burden. While the pandemic has brought great visibility to state of health infrastructure, the precarious situation of public health sector and need to increase government spending on public health has been advocated by multiple authorities for a long time. We are hoping to see better public health infrastructure and human resources and to ensure maximum facilities are available in public healthcare system not only during the pandemic but also during everyday care.

**References**

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