*Invited Article***India's COVID-19 Pandemic Experience: Lessons and the Way Forward**Imrana Qadeer*¹

*Correspondence: imranaqadeer@gmail.com

The history of modern clinical medicine tells us how the practice of medicine evolved through the diagnosis of individuals: the cause of ill-health being first ascribed to the wrath of God, then graduating to natural forces, to specific agents, and eventually malfunctioning bodies. Similarly, therapeutic strategies evolved from prayers and magic; to products derived from herbs, plants, insects and animals; and finally, to surgery, drugs, radio therapy etc. In contrast, the history of public health is of understanding how human illnesses are related to the environment, identifying the key causal factors, and managing them through population level measures. The cases of cholera, cancer, scurvy, pellagra are only a few examples explored by John Snow, Richard Doll, Bradford Hill, James Lind and Gold Goldberger over the 18th and 19th centuries. Using large population level data, they identified the environmental, nutritional and economic and social determinants, often even before the actual causative agents were known (Buck et al., 2000). The development of statistics helped to selectively optimise clinical interventions and promoted prevention over cure. Thus, accurate data, understanding of the environment, and organised clinical interventions (including vaccination and immunisation) became crucial for the growth of public health. Gold Berger's work on cotton mill workers is an early example of how incomes are related to the incidence of the nutritional disease pellagra. The welfare movement in Britain and Europe gave birth to the welfare state that saw the links between health, poverty, insecurity, and welfare services.

¹ Prof. Imrana Qadeer was formerly associated with JNU, Centre for Women's Development Study (CWDS) and Centre for Social Development (CSD) as Professor and Visiting Professor

As the European nations accumulated wealth at the cost of their colonies, their own socio-economic determinants of work, wages and welfare could be tackled. Over the years, the demand for higher revenues shifted the focus of public health that was understood as organised promotive and preventive (including welfare), curative and rehabilitative care for large populations by collective efforts. It now prioritised the application of expert scientific and technical knowledge to prevent disease and promote health. The shift in emphasis played a critical role in shaping welfare services, as science and technology were carefully steered by the capitalist nations to promote the production of wealth on one hand and improvements in health on the other, while maintaining class differentials (Marmot, 2004). The West chose to opt for universal health care (UHC) by building basic health care services in partnership with the private sector, with the state playing a key role in strict monitoring, control of finances, and standardised and guided provisioning of basic services.

As the colonies won their freedoms, they often depended upon the colonisers as friends and mentors. Thus, in India, policy-makers assumed that the demographic gap could be tackled through technological interventions; and that these technologies could be transferred from very different contexts in the developed nations. Both assumptions were flawed - as the history of demographic shifts and public health shows. Common killers like malaria and tuberculosis refused to get eliminated or controlled through drugs alone because undernutrition and hunger were not tackled (Padmapriyadarsini et al., 2016; Zurbrigg, 2019). The costly hi-tech health care that became available in India by the 70's was accessible to the elites only, who also appropriated the welfare benefits provided by the state. Despite all the progress made in establishing India's multi-layered health services at the primary, secondary and tertiary levels, the technology transfer to India became an instrument for promoting the medical industry, the interests of capital and the needs of the elite. The rapid rise of tertiary care and hi-tech based hospitals in the private sector and the decline of basic health services in the public sector became the highlight of the 1990s Health Sector Reforms (HSR) that came with the Structural Adjustment Policies (Qadeer, 2019). This was despite almost 45 percent of diseases in the developing countries being declared as diseases of poverty by the WHO in 1992.

The HSR, starting from the state's withdrawal of financial investments in public sector health, leading to private investment in it, casualising manpower, introducing user fees, and finally promoting public-private partnerships (PPP) not only weakened and undermined the public sector services but also transformed the understanding of public health itself. From an integrated vision of health services with welfare, livelihoods, work and living wages, public health acquired the narrow perspective of 'application of technology for prevention, cure of and rehabilitation for epidemiologically significant diseases in the population'. Later, even this order got reversed with global health proponents, wanting to help the poor nations "in their life time", deciding to repackage neoliberal reforms such that poor countries could be cured of diseases for which the rich had the technology, irrespective of local priorities (Lancet Commission, 2013). The classical broad based political understanding of public health was thus replaced by a techno-centric market-oriented perspective of public health with neoliberalism guiding the vision of public health experts. This shift in theoretical understanding led to another undermining of public health wherein the public and private sectors were projected as one system just because both catered to health. The differences between the objectives of the two systems – one for profit out of services and the other for services alone – were ignored. A realisation of this difference by the West in the 1930s and 40s had led to the two sectors coming together for UHC, with the state setting the priorities, controlling finances, and closely monitoring the partnership in provisioning of basic medical care. In contrast, the Indian PPPs were clearly in favour of the private sector as against the public, giving them the freedom to make huge profits in the name of contributing to GDP, appropriate state resources, and most often not complying with agreed conditionalities. The public sector was left to shoulder the non-remunerative basic health services and the preventive health programmes.

Thus, twenty years into the 21st Century – after thirty years of pushing reforms – the representatives of the private sector could claim, "Over 70% of healthcare services in India are provided by the private sector. About 72 percent of residents of rural areas and 79 percent of residents of urban areas use private healthcare services. This trend can be explained by a number of factors, including the private sector's ability to be

responsive to population's needs and its ability to rapidly adopt new innovations and maximize their scale up" (Bhattacharya, 2020a). This claim was based on the fact that there were 1,185,242 private vs. 713,986 public hospitals; 59,262 private vs. 35,699 public ICU beds; 29,631 private vs. 17,850 public² ventilators. Despite this dominant infrastructure built with state support, the sector primarily generated private revenues by serving the well-off, but was unable to reduce out of pocket expenditure of inpatients, cover the poorest of the population, strengthen the public sector, or participate in providing public health services. The government, on the other hand, continued to hope to, "influence the operation and growth of the private health care sector" - through strategic purchasing by the Government" – "to ensure alignment with public health goals", thus enabling "private sector contribution to making health care systems more effective, efficient, rational, safe, affordable and ethical."³

India has, over the past fifty years, faced several epidemics, both local and widespread. These were of Cholera and Plague in 1970s and 1990, SARS in 2002, Dengue and Chikungunya in 2006. Deaths due Encephalitis in the very young in the city of Gorakhpur in 2017 reflected the sad state of its services; while the handling of Nipah virus out-break in Kerala in 2018 demonstrated what a well organised public sector can achieve. These epidemics also showed what happens when the monitoring systems are destroyed (as in Nipah and Plague). Most of the viral diseases like Encephalitis have been associated with the aggressive nature of agriculture, overuse of land, animal husbandry, and the nature of urbanisation (Mourya et al., 2019). India's denuded forests and water reserves, altered agricultural patterns with more and more cash crops and monoculture, and patterns of industrialisation that create more waste and fewer jobs, have only added to the problems of public health. Yet, the handling of these epidemics was primarily through medical interventions (except for the Avian flu where large scale culling of birds was done) and the underlying ecological shifts were rarely investigated. One shared feature however was that all these epidemics were primarily handled by the public sector health infrastructure, and the private sector was only peripheral with a small role. During the Plague epidemic this sector hit the news as several private

² [https://www.institutmontaigne.org/en/blog/private-healthcare-india-boons-and-banes#Private Healthcare in India: Boons and Banes](https://www.institutmontaigne.org/en/blog/private-healthcare-india-boons-and-banes#PrivateHealthcare%20in%20India%3A%20Boons%20and%20Banes), Jaffrelot Christophe and Vihang Jumble, accessed on 8.1.2021

³ https://www.nhp.gov.in/nhpfiles/national_health_policy_2017.pdf

providers were reported to have locked up and left Surat. During Dengue they made their profits by fourfold increase in the charges for diagnostic tests. All through India's changing ecology under SAP, that increased exploitation of natural resources and labour by the state and its private partners, the very basic health facilities for common diseases were neglected. It is in this context that we need to understand the future of the COVID-19 pandemic in India where the state again did its best to refurbish the private sector in the hope of getting its help. Still, despite being neglected, it was the public sector that carried the main burden of handling the epidemic.

COVID-19 AND ITS CONTROL IN INDIA

Caused by a new strain of coronavirus called SARS-CoV-2, the disease COVID-19 was characterised by its fast spread that blocked medical care institutions. Of all those affected, 15-20 per cent required hospitalisation and around 4-5 per cent of these required critical care. For the rest, the disease remained like any other ordinary viral fever except that they could transmit the virus to others. In the absence of a known drug or effective and safe vaccine to arrest its spread, the delays in arresting the spread in the initial phase, along with a preoccupation with the emerging dissent against citizenship issues and communal violence in the capital, the preparedness required for tracking, testing, tracing contacts and isolation remained insufficient. To hold back the spectre of deaths, as in Wuhan and Italy, the political leadership chose the model of total lockdown, unlike in China where only a restricted population was put under lockdown. There was a close coterie that took decisions without much consultation or administrative preparation (Bhattacharya, 2020b; Editorial, 2020). The added value for the government was a chance to further suppress the existing dissent; the pandemic became a cover for all. The expectation that time would be gained through the lockdown to prepare the infrastructure was belied. Consequently, the assumption that just a lockdown can break the chain of transmission and stop the virus was proven false. Secondly, despite official assertions, very few efforts were made to strengthen the secondary, tertiary and primary care institutions (Ghosh & Qadeer, 2020). The public sector health care system thus remained overburdened by the load of COVID-19 patients who could not afford private care.

The private sector first waited in the wings; then legally fought to get its profits ensured in diagnostic services with the help of ICMR officials. It proposed that it be given the responsibility of dealing with serious cases needing tertiary level care while the public sector provides the basic services of tracking, testing, tracing, isolation and monitoring etc. (Mathew, 2020). Few States did try to take over private hospitals but could not and later the policy of dedicating a proportion of private hospital beds to COVID-19 patients was imposed.

The impact of this sudden unplanned lockdown on the lives of the 92 million urban workers – self-employed, casual or regular wage earners is well known. They were forced to vacate the cities without warning or support, held at borders without basic amenities and, when the system could hold them no more, allowed to go to their respective States. Though no data is available on their test status; leaving from red zones, living in unhygienic crowded camps and trains, they probably got infected and carried the infection home. Their experience was made doubly worse by the humiliations heaped upon them by the police in the name of Epidemic Disease Act 1897. The destruction of the economy due to closure of production units made recovery difficult. The brunt was borne by the workers, as even those who remained had to depend on charity and hope in the absence of work. The vast extent of hunger and starvation due to lack of food among the poor would have worsened the already reported rise of undernutrition among children under five in the 5th round of National Family Health Survey (2019-2020). This data collected for 2019 probably reflects the impact of economic slowdown prior to the pandemic. Given the conditions of life in areas where the poor live – crowded, without basic amenities of water, sanitation and, decent housing, the much propagated personal protective methods were impossible to practice. The thoughtless management of public health through police only added to people's woes. Trust, the first and the foremost requirement of public health, where people's cooperation and participation is essential for success - was lost rather than gained.

THE POST LOCKDOWN PERIOD

When the lockdown was partially released from June 1, already 3,76,305 total cases had been reported that climbed to 5,66,840 by the time further concessions were allowed on July 1 (lockdown 2) (Babu, 2020). The cases continued to rise at a much

faster pace with the return of life to markets, work places, eateries, parks and restricted gatherings (where the limits of people were often flouted). India's seven day rolling average of confirmed daily cases went up after June 2020 to reach 92755 on September 19; and then came down to 16,072 (23% reduction) by 28th Dec. (Worldometer, 2020). Its COVID-19 load, thus, became the third highest after the US and Brazil and then became the second, overtaking Brazil before it fell again. The lockdown has been considered impractical and wasteful, both technically and administratively, as the public health system (primarily public sector) was unable to detect most infections and, by the time the lockdown was undone, community transmission was well established (Editorial, 2020; Bhattacharya, 2020a). Despite the unlocking, India's pace of rise in daily cases, the 7-day rolling average as well as daily deaths came down. The latter from 1149 on September 19 to 250 on December 28. The case fatality rate had started falling from 3.3% in mid-June to 2.7% in mid-July and then to 1.76% on 2nd September despite rising number of daily confirmed cases, and it came to 1.5% in October (ANI, 2020). This generated the hope of bending the curve though certain States still struggling with red zones such as Maharashtra, Karnataka, Tamil Nadu, Kerala, etc.

The pandemic months up to September were the worst when the state tried its best to get the private sector involved. Chhattisgarh, Rajasthan and Madhya Pradesh declared temporary takeover of private hospitals but were unable to continue due to their own inability to provide support and monitoring. Bengaluru, Mumbai, and Hyderabad city administrations tried action against private hospitals, obtaining refunds for patients overcharged, although refunds and rate caps were not always successful due to poor regulatory mechanisms. The approximate costs of 10 day's hospitalisation were at times reported as Rs 110,000 and ICU required an additional Rs 50,000 per day per bed (Ganguly, 2020; Thiagrajan, 2020). Added to this was the new Hospital Empanelment Module (HEM) Lite that provided temporary empanelment for COVID-19 treatment and hence expanded the services under the Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana. Under the AB PMJAY, as of 21.09.2020, over 1.26 Crore hospital admissions had been authorised since its inception. Out of these 5.13 lakh hospital admissions were authorized towards testing and treatment of COVID-19 (PIB, 2020). This amounts to less than 0.5 percent of the total 64,116,858 recovered cases till January

first week (as per the Worldometer)⁴. Further, the expert group of ICMR had suggested free testing for COVID-19 with state subsidy to private labs at reasonable rates. They acquired a court order to this effect but the private sector, with the help of ICMR officials, went back to court, pleading that deferment of remuneration in the previous court order hampered their services and got a favourable order with remuneration of Rs 5,000 a test, which was then contested by the experts. It was only in December 2020 that the Standing Committee on Home Affairs, Ministry of Health and Family Welfare mooted the need for a comprehensive Public Health Act with suitable legal provisions to keep checks and controls over private hospitals in times of a pandemic and to curb black marketing in drugs (Special Correspondent, 2020).

In contrast to this focus on the private sector, there was little support for public sector infrastructure. Other than the INR 170,000 crores that were allocated as a relief package for the migrants, only INR 15,000 crores were given for strengthening the health services (Ghosh & Qadeer, 2020a). This was far short of the financial inputs proposed by the National Policy 2017 - even for the basic minimum infrastructure needed – excluding the requirements of pandemic management. The rural infrastructure was left high and dry asking the personnel to not only do additional work with the scarce resources they had, but to draw upon the manpower from unaffected regions (leaving those regions vulnerable) and mobilise persons from sectors other than health as volunteers (GoI, 2020). An analysis of the relative utilisation of services prior to the pandemic shows that people in States with higher private bed utilisation often do it for lack of public hospitals or poor services provided there and not always due to choice (Ghosh & Qadeer, 2020b). A weak infrastructure was thus expected to bear the full burden of the pandemic, ignoring the non-COVID-19 morbidities and critical routine activities. This is reflected in the significant reduction of ante-natal and maternity care, immunisation, tuberculosis case registration and treatment etc. in the NRHM data till March (ibid). All these services are largely dependent upon public sector infrastructure and call for its strengthening. A US\$ 1 billion loan was granted by the World Bank to

⁴ <https://www.worldometers.info/coronavirus/country/india/> accessed 17.1.2021

be disbursed over 2020-2021⁵ and AIIB added another US\$ 0.5 billion by August⁶ for the same. How much of this actually came and how was it used is not in public knowledge though it has been announced that 11 million and 5.5 million doses of Covishield and Covaxin respectively will be purchased for a total of INR 3822.5 million⁷ (US\$ 52 million). The price rationality is not known, neither is the plan for the next set of priority groups. The share value of the companies producing these vaccines has gone up and there is a buzz in the vaccine market. Similarly, it is also estimated that the Personal Protective Equipment (PPE) market in India equals to an INR 70,000 million industry in the making⁸. How much profit the vaccines will make can be estimated from the fact that the producers are giving the initial doses to the government at a subsidised rate of INR 210 and 295 for one dose of Covishield and Covaxin but later the commercial rates will be above INR 1000 per dose. So, if the trial mode succeeds at the government's cost, the private profits are huge.

WERE ANY LESSONS LEARNT?

It appears that the lockdown did little to change the natural course of the disease which has followed a normal distribution curve with a peak over mid-September. Its transmission increased after the lockdown was lifted and its peak bent consistently beyond mid-September despite governance failures to strengthen public sector institutions and regulate and control the private institutions. It is expected then that the decline is because the vulnerable population is declining due to death, or a degree of protection has emerged due to herd immunity, or perhaps both human host and the virus are coming to terms with each other and, the role played by the services. The relative contribution of private and public remains to be quantified. Though the national data on COVID-19 has limitations, its concentration in urban areas and lower socio-economic regions is evident by the spread of the red zones and the spread to rural areas following the worker exodus remains to be quantified. The challenges for the future are

⁵ www.worldbank.org/en/news/press-release/2020/05/13/world-bank-covid-coronavirus-india-protect-poor# accessed on 14.12.2021

⁶ <https://pib.gov.in/PressReleasePage.aspx?PRID=1622145> accessed 24 dec 2020

⁷ <https://www.livemint.com/news/india/covid-vaccine-govt-orders-55-lakh-covaxin-doses-to-cost-rs-295-per-dose-says-report-11610380690467.html> accessed on 15.12.2021

⁸ <https://www.investindia.gov.in/siru/personal-protective-equipment-india-INR-7000-cr-industry-in-the-making> 24.12.

evident. They are: rebuilding the economy and creating jobs, not just pursuing GDP growth; ensuring food security to contain under-nutrition, which will help the body fight infections; strengthening public sector health infrastructure, its monitoring system and, welfare services, like water supply, sanitation, transport etc.; and strict regulation of the private sector, to not only accelerate the descent of the pandemic but also safeguard the future. As yet, the best the state has been able to achieve is to force the private hospitals to dedicate beds for COVID-19. But the hospitals have made massive profits through this kind of regulation. Instead of addressing these issues systematically, what we see is yet another dream of conquest through a safe, efficacious and accessible vaccine.

The Prime Minister himself announced that the vaccine would be soon available for all. This was later contradicted by his team members. Similarly, ICMR in an unexpected move, issued a letter pressurising that the vaccines must be ready before August 15th. The political intent to gain points became clear when, before the elections in Bihar, the BJP made India's costliest healthcare election promise, free 25 crore doses of the vaccine to 12.5 crore people, when Bharat Biotech's annual production capacity is only 15 crore doses (Lakshman Anand, 2020). Working under pressure the scientists did manage to make good progress; though Swaminathan, the WHO Deputy Director warned about pushing the pace and the need for due process. However, the haste with which two candidate vaccines have been given the go sign by the regulatory agency of India has given rise to apprehensions. Covishield has been tested only in UK and Brazil and therefore the permission is for 'restricted emergency use' yet its commercial use is eminent. Covishield has yet to complete its phase 3 trials and the permission for use is under 'trial mode'. Already there are reports of trials being conducted without informing people and obtaining their proper consent and that too among the gas affected people of Bhopal (DTE Staff, 2021). These approvals have come despite reservations expressed on various aspects by several eminent scientists such as Gagandeep Kang, Somya Swaminathan, Vineeta Bal and the researchers, scientists and physicians of the all-India Scientists Network (Prasad, 2021; Dubey & Punj, 2021; Jacob, 2021; Rao, 2021). The public debate has been vitiated by politicians' remarks on critics whom they consider incapable of appreciating the progress of Indian science and vaccines made in

India - both these are misplaced notions of nationalism. What is not highlighted however is, that the distinction between the two foreign and Indian vaccines is irrelevant as Bharat Biotech's vaccine programme has been hugely funded and guided by the international pharma lobby that has been pushing isolated technological interventions for disease control (Greatgameindia, 2021) instead of a public health approach, while the funding of other public institutions has shrunk. International finance has therefore played a major role in changing public health in India (Qadeer & Baru, 2016) and integrating it into the medical industrial complex under the garb of philanthropic capitalism.

A safe, efficacious, and accessible vaccine would have been welcome, even when the pandemic in India seems to be on its descending limb, as it enhances that process, but inadequately tested vaccines given to populations who do not have an emergency need, and are being treated as an experimental population, is unjustified and unethical. Taking the consent of the recipient and not holding the vaccine company liable in case of adverse reaction is a reflection of this. Moreover, this political haste has undermined the credibility of scientists involved, the scientific process and further damages the trust among the aware population. Several issues that are yet to be sorted regarding the vaccines have been underplayed. How valid are short track trials which are not able to register adequate numbers of volunteers and use sick populations like the Bhopal gas affected where adverse effects can be passed over to the previous illnesses? Do the vaccines prevent infection and promote herd immunity or only stop disease progression? Is it uniformly effective in all ages or more in the younger group? Are its adjuvants a risk? Is antibody dependent enhancement of reactions a risk? What is the period of its benefit and how many doses does it require? If its effectiveness is only 60 to 80 per cent and 94 per cent of the infected population recovers from disease as of now then, what is its utility? Are the reported prices justified? Is the clearing of commercial use of vaccines for only restricted emergency use valid? What is the implication of using it on an undernourished population? The existing cold chain for storage does not have adequate capacity in some States even for the present routine vaccination programme for the under-five age group; not only routine immunisation in these States will be adversely affected but perhaps even the present capacity may

become inadequate with the added burden of carrying vaccines for COVID-19. Above all, what is the priority - commercial sale or, providing it to the poor if the vaccine is finally ratified by the Phase three trials in India? Yet again business seems to be getting the upper hand over health care.

These questions are raised not to reject the vaccines but to point out how careful the state needs to be when it assumes responsibility of imposing yet another isolated, single protection strategy as a vertical programme. With preparedness at a low ebb, the existing Universal Immunisation Programme can barely take this additional burden of monitoring adverse effects, conducting surveillance for efficacy, and providing a cold chain for storage and transportation with an army of trained providers. It is not surprising then that a large proportion of the World Bank and AIIB loan money is being invested into production, purchase and distribution of vaccines. Unlike all other civilised countries, India offers no legal protection to volunteers of Covaxin trial with adverse reactions during the trial period. The field workers are overstretched and the private sector participates only when compelled to or when the vaccine acquires high monetary value as it did with the diagnostic tests.

CONCLUSION

Shifting away from the public health approach since the mid-eighties, India has increased its dependence on technology, foreign consultants, international financial institutions and has, despite all pronouncements of inclusive development and '*sabka haath sabka saath*' (holding every hand and taking every one along) has taken a direction that leaves the majority behind. This pandemic has made it clear that this direction favours only some and we need to strive to rediscover a public health approach that places human beings centre stage and demands that profits are redefined to include the value of lives and human welfare. While generation of wealth is critical, its distribution cannot continue to shrink and its creation cannot be at the cost of human lives. The increasing power of the pro-technology lobby that uses what is available for profits dominates the global health movement that manipulates technology, organisations, professionals and personnel, and above all ideas, within the developing world. Unless it is understood that the scope of prevention does not limit itself to vaccines but extends to all welfare including health services, assures means of

livelihood and living wages; the global forces seeking profits will continue to push new single technologies that suck countries into the vortex of denial of needs of the majority. Secondly, the importance of Comprehensive Primary Health Care where secondary and tertiary care supports primary level care that intersects with welfare inputs needs to be grasped. The challenge then is to strengthen public institutions of health care at all levels including tertiary level institutions. Thirdly, regulation is essential for both public and private sectors. Laxity in regulating the private sector only widens the difference between public and private sector objectives. Regulatory mechanisms have to be effective and genuine not only for COVID-19 care and temporarily, but for all services and for the future. The health and nutrition monitoring systems and data generation need to be revived, made rigorous, and focused on health. The purpose should be to improve planning, the working of the system, feedback to grass root workers, and internal monitoring instead of projecting achievements and impressing donors or promoting business. In short, the future depends upon the choice of perspective, the details then follow. And we in India stand at that crossroads.

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