Healthcare Sector in India

A COMPREHENSIVE ANALYSIS

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Abstract

India's health sector is currently reeling under the triple burden of disease — the unfinished agenda with infectious diseases; the rise of noncommunicable diseases (NCDs) linked with lifestyle changes; and a wave of new drug-resistant pathogens causing epidemics, and pandemics. Household out-of-pocket expenditure (OOPE) in India was a whopping 67% of total health expenditure as of 2015. On the one hand, the country's health infrastructure is over-stretched and needs to be strengthened if it has to take on the challenges of the twenty-first century and help the country reap the benefits of its demographic dividend. On the other hand, India's healthcare industry is one of its fastest growing sectors – projected to reach $372 billion by 2022. Health equity in India is threatened by the low health status among the poor, female gender, rural inhabitants, tribal communities, scheduled castes (SC) and certain minority groups. This paper seeks to provide a comprehensive analysis of India's health systems and policy landscape, while exploring the challenges that lie ahead.

Introduction

World Health Organization (WHO) defines health as a "State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." While health is a dynamic condition that results from a body's extent of adjustment and adaptation to external changes and stresses, healthcare covers not just medical care but all aspects of preventive care as well. Healthcare is not limited to medical care financed by public expenditure, and includes incentives and disincentives for self-care and care paid for by private citizens to battle illnesses as well. As healthcare is widely recognised as a public good, its demand and supply cannot be left to be regulated by market forces alone (Srinivasan, 2004) .

A just healthcare system is a result of the fulfilment of four criteria – First, universal access to an adequate level of care without excessive burden. Second, fair distribution of financial costs for access and fair distribution of burden in rationing care and capacity and a constant

search for improvement to a more just system. Third, training healthcare practitioners for competence, empathy and accountability. Last, focussed care for vulnerable groups such as children, women, disabled and the aged (Srinivasan, 2004). Healthcare costs have been rising in recent years – specifically in developed countries, raising fears that these costs are likely to hit prohibitive levels despite growing disease burden due to longevity and prevalence of NCDs (EY and FICCI, 2016). With the novel coronavirus (COVID 19) pandemic raging across the globe, taking its toll on populations across countries and the global economy, these issues assume renewed significance.

Health Profile of India: The Big Picture

India's healthcare industry is one of the fastest-growing sectors, a market that is expected to reach $372 billion by 2022 (IBEF, 2020). This growth will be fuelled by rising incomes, increased demand for better healthcare, diseases induced by lifestyle changes, wider insurance cover and rising health awareness among consumers. The country has also become one of the leading destinations for high-end diagnostic services.The story of India's healthcare is, however, plagued by great contradictions. It is one of the countries with the lowest per capita expenditure on healthcare cost as percentage of GDP and cost of healthcare services in the world. However, health inequity arises out of inadequate access to healthcare services as well as lack of affordability for large sections of the population that are socially and economically backwardmaking barely enough money for survival (EY and FICCI, 2016).

Though India has medical institutions, facilities and providers that are comparable to the best across the world in tertiary, secondary and quaternary care, long strides need to be made to cover the gap in the country's primary healthcare. Currently, quality primary care is available mostly in the urban areas, which is where about 30% of the population is. Moreover, despite successive governments highlighting their commitment to universal health cover and the Right to Health, public expenditure on healthcare looms around 1.3% of GDP, one of the lowest in the world.

Issues in India's healthcare scenario are aplenty. With 17% of the world's population, India accounts for a 20% share of the global disease burden. Add to this one of the fastest-growing incidence of noncommunicable diseases and one of the weakest health infrastructures with

around 1.3 beds per 1,000 people (EY and FICCI, 2016). Rising costs and an acute shortage of qualified doctors, nurses and other staff are issues India has been grappling with. India touched the 'golden finishing line' prescribed by the WHO of 1:000 physicians per people in 2018. This includes MBBS as well as trained AYUSH or traditional medicine (Ayurveda, Yoga, Unani, Siddha and Homeopathy) doctors. As of March 2017, there were 10,22,859 MBBS doctors registered with the Medical Council of India or state medical councils. Taking attrition rates into consideration, this roughly translates to 0.77 doctors per thousand people for a total population of 1.33 billion. These are the figures for other comparable nations: Australia, 3.374:1,000; Brazil, 1.852:1,000; China, 1.49:1,000; France, 3.227:1,000; Germany, 4.125:1,000; Russia, 3.306:1,000; USA, 2.554:1,000; Afghanistan, 0.304:1,000; Bangladesh, 0.389:1,000; and Pakistan, 0.806:1,000 (Kumar and Pal, 2018). Number of dental surgeons registered with central/state dental councils in India as of December 2018 was 2,54,283. Total number of registered AYUSH doctors in India as of January 2018 was 799,879 (Government of India, 2019).

India is presently in a state of health transition. Adding to the threats posed by infectious diseases and antimicrobial resistance is the rising incidence of NCDs that have emerged a leading cause of mortality. Social, demographic, environmental and economic factors have contributed to this epidemiological transition. Moreover, out-of-pocket expenditure (OOPE) on health and the high cost of healthcare force nearly 60 million people into the poverty trap every year (Narain, 2018). Of the total healthcare expenditure in India, a meagre 9.6% goes towards preventive healthcare while 90% goes towards treating diseases. Of this, close to 50% are for hospitalisation for lifestyle diseases, and that too primarily in the urban and semi-urban regions.

According to a 2018 report by the Indian Council of Medical Research (ICMR), India's disease burden due to communicable, maternal, neonatal and nutritional diseases as measured by disability-adjusted life years (DALYs) has decreased from 61% to 33% between 1990 and 2016. The corresponding figures for non-communicable diseases went up from 30% to 55%. However, there is wide variation in the epidemiological transition among different states (Government of India, 2019). Estimated birth rate, death rate and natural growth rate have all shown a declining trend in recent years. Estimated birth rate fell from 25.8 in 2000 to 20.2 in 2017.The death rate declined from 8.5 to 6.3 per 1000 population over the same period. The natural growth rate declined from 17.3 in 2000 to 13.9 in 2017.Total fertility rate – the

average number of children that will be born to a woman during her lifetime – in 12 states has fallen below two children per woman and nine states have reached replacements levels of 2.1 and above. Delhi, Tamil Nadu and West Bengal have the lowest fertility rates. This has been attributed to the rising rates of literacy as well. India's Maternal Mortality Ratio (MMR) has seen a decline from 130 per 1 lakh live births in 2014-2016 to 122 per 1 lakh live births in 2015-2017 (Yasmeen, 2019).Karnataka fared well by showing the highest percentage decline, while Uttar Pradesh and Madhya Pradesh registered a 15-point increase. As per the Sample RegistrationSystem data of 2019, India's Infant Mortality Rate (IMR) witnessed a steady decline from previous years and stands at 33 infant deaths per thousand live births in 2017.

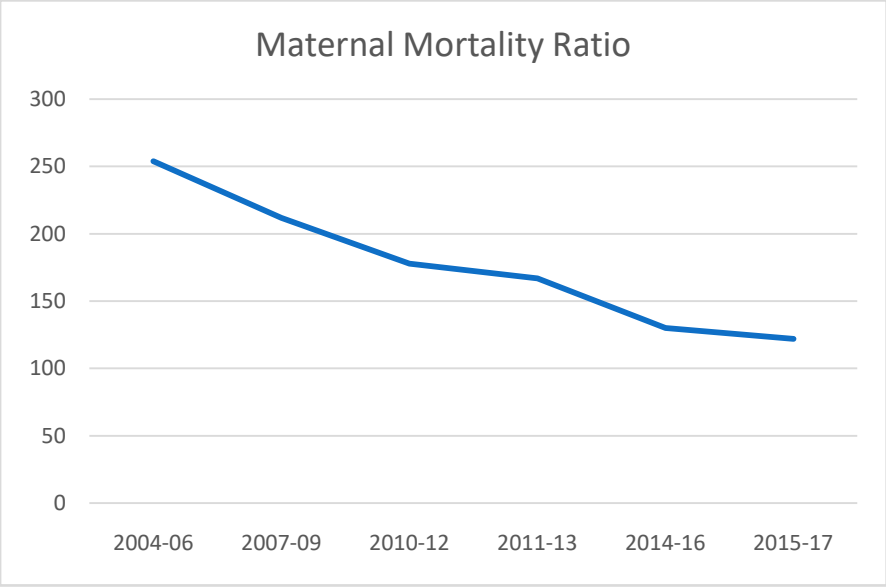

Figure 1: Maternal deaths per 1,00,000 live births in India across.
Source: SRS Survey Bulletin, 2019 and Niti Aayog

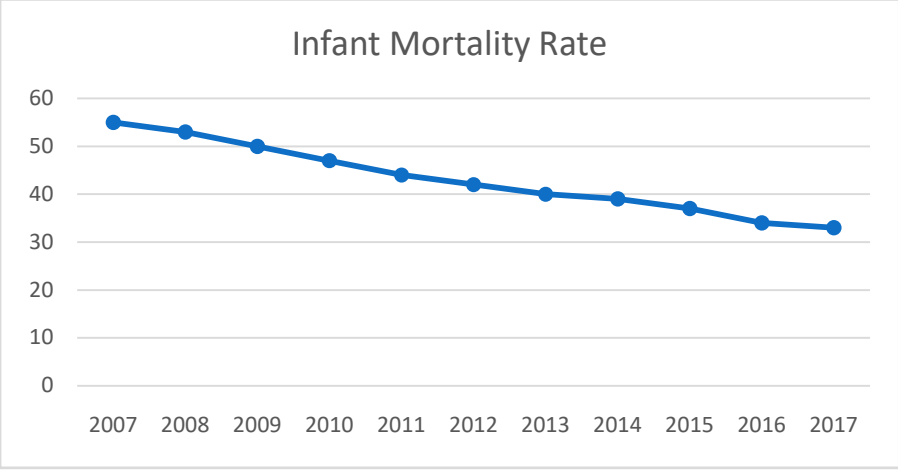

Figure 2: Number of infant deaths per thousand live births in India over the years.
Source: SRS Survey, 2019 and Niti Aayog

A number of factors have contributed to the positive developments in life expectancy, IMR and MMR; including improved access to healthcare services, widespread health and sanitation campaigns, and better immunisation and literacy rates, among others. Initiatives such as Janani Shishu Suraksha Karyakarm; Janani Suraksha Yojana; Reproductive, Maternal, New-borns, Child and Adolescent Health services and national programmes to curb incidences of diseases such as polio, HIV, TB, leprosy etc have also played critical roles in improving India's health indicators. Yet, a huge disparity in the availability of healthcare resources continues to exist in India. The rural-urban divide is considerable when it comes to healthcare access. Fairly-developed states like Kerala, Maharashtra and Tamil Nadu have brought down their IMR, TFR and MMR rates and states like Assam and Jharkhand continue to grapple with these issues even today.

India has also attained significant progress in achieving immunisation coverage through its Universal Immunisation Programme (UIP), which provides protection against 12vaccine preventable diseases. Mission Indradhanush (MI) launched in 2014 aims at increasing the full immunisation coverage to children to 90%. In its first two phases,MI resulted in 6.7% increase in full immunisation coverage in a year. India was declared polio-free in 2014 and eliminated maternal and neonatal tetanus in 2015.(Jain, 2018).

National health programmes launched by the Government of India have helped battle several serious health concerns over the last two decades. Malaria has been a problem in India for centuries. Both the cases reported and deaths due to malaria have come down over the years. As per the World Malaria Report 2019, India's malaria case load declined by 28% in 2018 compared to 2017; there was a 24% reduction in cases between 2016 and 2017 (Sharma, 2019).The number of annual deaths dropped to below 10,000 for the first time ever in 2018, a 41% reduction over the previous year. The malarial death rate in India declined to 0.02 deaths per lakh population in 2018 from 0.10 deaths per lakh population in 2001. To achieve a malaria-free country by 2027 and elimination by 2030, National Strategic Plan (NSP) 2017-22 for Malaria Elimination has been developed by National Vector Borne Disease Control Programme, which will see district-level implementation for improved results (Government of India, 2019).

Revised National Tuberculosis Control Programme (RNTCP) is another programme implemented under National Health Mission. Launched with the objective of ensuring access to quality diagnosis and care for all TB patients,the programme achieved millennium development goals in 2015 by halting and reversing the incidence of TB. Several notable activities such as notification of TB; case-based, web-based recording and reporting system (NIKSHAY); standards of TB care in India; composite indicator for monitoring programme performance; scaling up of the programmatic management of drug resistant TB services etc. were implemented in the past. NIKSHAY, the web-based reporting for TB programme has enabled to capture and transfer of individual patient data from the remotest health centres of the country. In 2017, National Strategic Plan (NSP) 2017-25 for TB Elimination framework was adopted which lays out the strategies for eliminating TB in India by 2030 (Government of India, 2019).

The National Programme for prevention and control of cancers, diabetes, cardiovascular diseases and strokeaims to integrate the non-communicable diseases (NCDs) interventions in the NRHM framework to optimise resource utilisation and make provisions to ensure long term sustainability of these interventions. The NCD cell implements and supervises activities connected to health promotion, early diagnosis, treatment and referral, thereby facilitating partnership with labs for early diagnosis in the private sector. It also seeks to create and sustain a fortified monitoring and evaluation system for public health through convergence with the ongoing interventions of National Health Mission (NHM), National Tobacco Control Programme (NTCP) and National Programme for Healthcare of Elderly (NPHCE).

India’s National Health Policy 2017 aims at achieving the highest possible level of health and well-being for all through preventive and promotive healthcare, and universal access to quality and affordable healthcare services. Under health-related Sustainable Development Goal (SDG) No. 3 (Good Health and Well-Being), a commitment towards global effort to eradicate disease, strengthen treatment and healthcare, and address new and emerging health issues has been pronounced. While progress in health indicators helped India achieve millennium development goals, efforts need to be focussed on reaching the goals of Universal Health Coverage and those envisioned in SDGs. Ayushman Bharat Mission, world’s largest health scheme announced in the Union Budget 2018-19, is the latest initiative for expanding the health insurance net and targets 10 crore poor and deprived rural families.

The Global Picture: How Does India Compare?

With healthcare delivery mechanisms being different the world over, the ranking of health systems has received renewed focus in the past years since WHO performed a ranking comparison in 2000 of member countries. India ranked a lowly 145 on the Healthcare Access and Quality Index, making it among the biggest underachievers in Asia, as per Lancet's Global Disease Burden study for 2016. Top honours went to Iceland, Norway, the Netherlands, Luxembourg, and Finland and Australia. Central African Republic, Somalia, Guinea Bissau, Chad and Afghanistan ranked the lowest. As per the study, subnational inequalities were more pronounced in countries such as China and India. For instance, Goa and Kerala ranked highly on the study, whereas Assam and Uttar Pradesh had the lowest ranks.

How India is Dealing with Covid -19?

As the novel coronavirus Covid 19 pandemic began to inflict itself on India's large and susceptible population at a faster pace than before in March 2020, the government bravely talked of a 21-day lockdown as a solution to arrest the spread of the disease. China's numbers had peaked in February, March was when the numbers in Iran and continental Europe went up sharply. US and UK numbers kept going up into May. As of May8, 2020 India had more than 52,000 confirmed cases of coronavirus and around 1,700 deaths. The trends are ominous, as the graph below shows and there is a steady increase in the confirmed cases.

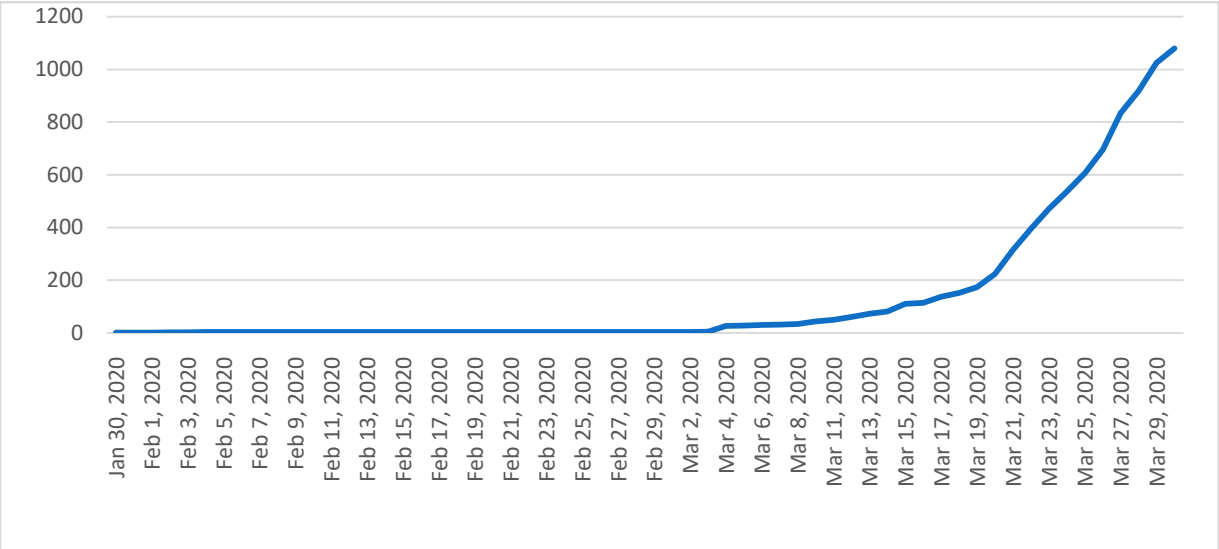

Figure 3: Rise in Covid-19 cases in India from Jan 30 – March 29, 2020.

Source: Khan and Razvi (2020)

The three-week lockdown and its subsequent extensions were aimed at slowing the spread of the disease and is a crucial step in the right direction. Epidemiological modelling based on analyses used for countries like US and UK indicate that India could face almost 300 million cases in the coming 3-4 months, of which approximately 10% could be critical cases, leading to more than 1 million deaths. Given the rise of the disease, with an exponential growth and the total number of cases doubling in just a 4-day period, it is only correct to assume that the virus is spreading through local transmission, confirmed by WHO in its Situational Report of COVID-19 dated March 26.

By all accounts, given the trajectories that other countries have taken, India seemed to be heading for a surge in the number of COVID-19 cases as thousands of migrant workers in large groups huddled together waiting to be transported back home. India is already home to the largest number of people with respiratory illnesses and therefore a very vulnerable population. To add to this, the country also has more than 50 million people respectively who suffer from diabetes and cardiovascular diseases. The pandemic is playing out against the backdrop of intense vulnerability, meagre health infrastructure, under-resourced and under-staffed health facilities and poor quality of healthcare. In the one week since the lockdown, the trend could be seen in this disturbing upward sloping curve.

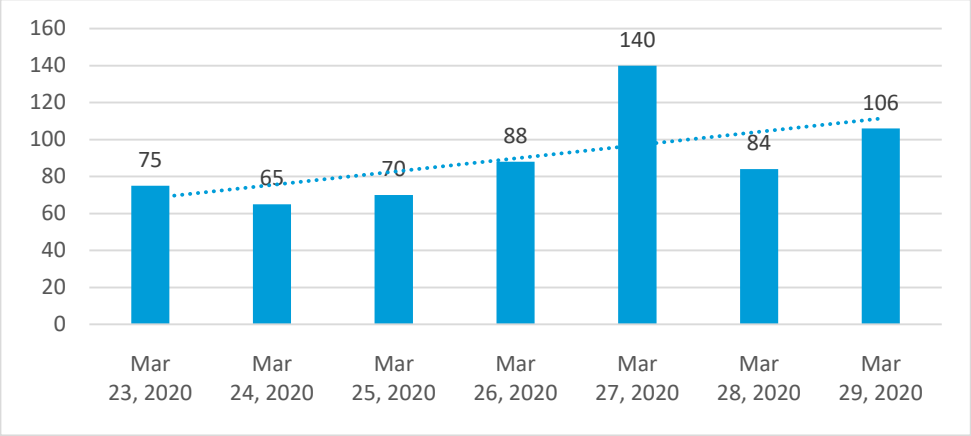

Figure 4: Rise in COVID 19 cases over the lockdown
Source: Khan and Razvi (2020)

Besides the social distancing and lockdown measures announced by the government, the following steps could help mitigate the impact of the disease on the country's population and economy:

R & D–Pharmaceutical firms, both in the public and the private sector, have been neglecting the need to make new vaccines against viruses. They also do not focus on developing diagnostic tests nor on finding cures against new virus attacks because this market is seen as being overcrowded, the returns are small, immunity develops quickly and the drugs therefore lose relevance. In addition, large generic medicine suppliers provide low priced competing products. Ironically, the argument actually made not to invest in studying viruses was that the population develops immunity far too quickly for adequate returns to be collected.That is why we need far greater government investment in fighting viruses.

Testing –With the ICMR recalibrating protocols and issuing fast track approval for Indian COVID-19 testing kits for commercial use, allowing for more private sector participation, large-scale expansion of testing seems possible. As of March 30, 2020, India had only tested 34,931 samples. Randomized testing over the next three months in densely-populated urban settlements such as slums and unauthorized colonies where the infection can spread very rapidly is the need of the hour. Symptomatic testing needs to be scaled up with dissemination of information on the need for testing, again especially in the dense settlements. Asymptomatic testing for the purpose of surveillance also needs to be carried out, especially in the case of migrants returning home as they could be potential carriers of the infection.

Health Infrastructure: An intensive deployment of resources into upgrading healthcare facilities – hospitalbeds, equipment such as ventilators and ICU beds, are the need of the hour. Primary health centres and wellness centres should be adequately reinforced to handle and treat mild cases of the infection. Government health spending is currently poor but the problem is further compounded by the inadequate utilisation of health budgets. Less than 60% of the budget for the National Health Mission was spent and less than 40% of funds available for upgrading hospital facilities was spent in the last fiscal year.

Health Personnel: India has to tackle this imminent health crisis on a war footing and the importance of identifying outbreaks and clusters cannot be overlooked. Mobile teams of doctors and nurses can be sent to these zones for effective clinical care. Simultaneously, front

line health workers who form the first frontier of healthcare in rural India are another force who can be effectively managed to aid in outbreaks. They should be engaged with, trained on symptoms and awareness of the infection, protocols of prevention, isolation and quarantine measures and patient care (Khan and Razvi, 2020).

Health Equity – Who Gets Left Out

There is evident association of low health status with poverty, female gender, rural place of residence, tribal ethnicity, scheduled castes (SC) and specific minority groups in India. Research on equity and inequality in health is important to identify and analyse the vulnerable populations of the country. Such research is also crucial for policy formulation for universal access to healthcare and to create an enabling environment for achievement of SDG 3. In the last 70 years, India has achieved considerable improvement in the health of its population. Ensuring access among the vulnerable and poor, since the financial burden of curative care is higher among lower income groups (most of whom are Dalits), becomes the prerogative of the state often through social insurance. There is evidence of marked differentials in access to material resources, health resources and in exposure to health risks on multiple axes such as gender, age, caste, religion and ethnicity.

While access to healthcare services is generally determined by quality, equity and trust, differential access is revealed in the way certain mandated norms in caregiving are particularly refused and violated while care is provided to patients from socially-depressed communities, particularly Dalits and Muslims (Acharya, 2018). Such discrimination is often seen in care delivery spaces such as healthcare facilities or the patients' homes, in case healthcare practitioners are called to the patient's home for treatment. Moreover, patients from rural areas increasingly lack access to healthcare resources. Adivasis and Dalitshave some of the worst health outcomes in India. Guha (2007) revealed that 28.9% of Adivasis and 15.6% of Dalits lacked access to doctors or clinics and only 42.2% of Adivasi children and 57.6% of Dalit children were immunised. Patients from the ST, SC or Muslim communitiessuffered a higher risk of premature death, poor health, and lack of access to treatment and care is substantially higher.

Both the NSSO rounds asked respondents aged 60 years or more about their perception of their current state of health in terms of one of the following categories: (i) excellent/very good; (ii) fair; (iii) poor. An analysis of the perception of being in poor health revealed variations across social groups and gender. Muslims, both OBC and upper class, had the highest perception of being in poor health (over 30% in both rounds). STs had the lowest perception of being in poor health, with less than one-fourth declaring that they were in poor health. There was also a gender divide in terms of poor health: 23%–24% of men and 27%–28% of women declared themselves to be in poor health (Borooah, 2018).

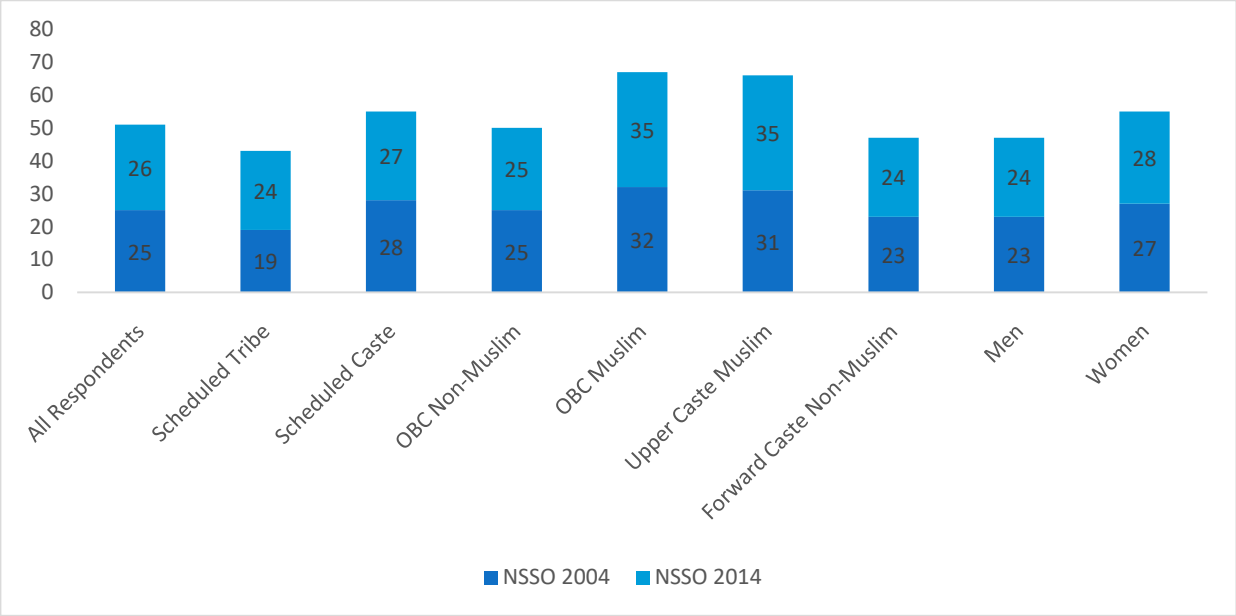

Figure 5: Perception of being in poor health by social group
Source: Borooah (2018)

State of India's Healthcare Infrastructure

As an important indicator for assessing a country's healthcare policy, health infrastructure reveals investment priority in relation to the establishment of healthcare facilities. As per the National Health Profile 2019, health infrastructure in the country is broadly classified into education infrastructure and service infrastructure. Infrastructure for medical education has improved rapidly in the last two decades. As per the latest available data, India has 529 medical colleges, 313 dental colleges for BDS & 253 dental colleges for MDS courses. The medical colleges admitted 58,756 students for the academic year2018-19, while the dental colleges recorded an intake of 26960 in BDS and 6288 in MDS courses during the same

period. Meanwhile, 1909 institutes for ANM (auxiliary nurse midwife) courses registered an admission of 55,263, 6861 nursing schools saw an intake of 267,564 and 1682 pharmacy institutions took in 99,145 students as of March 2018 (Government of India, 2019). As of April 2018, India has 4035 hospitals and 27,951 dispensaries to provide healthcare under AYUSH. As many as 158,417 sub-centres, 25,743 primary health centres (PHCs) and 5,624 community health centres had been established in India as of March 2018 for provision of healthcare for India's rural populace.

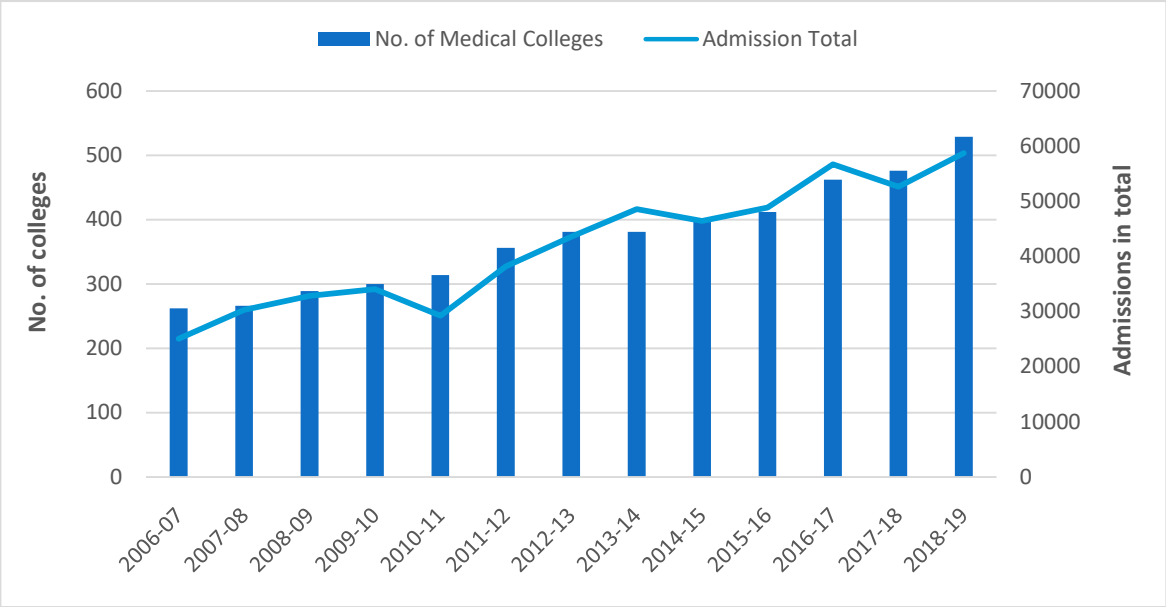

Figure 6: No. of medical colleges and admissions in India over the years
Source: National Health Profile (2019)

Public Healthcare Infrastructure in India

With a mixed healthcare system consisting of public and private healthcare service providers, it has been observed that a majority of the private healthcare providers are in urban India, largely servicing the needs for secondary and tertiary care. The government healthcare system in India seeks to provide primary, secondary and tertiary care in an affordable and accessible manner in both rural and urban areas.

National Rural Health Mission, launched in 2005, seeks to provide affordable, accessible and quality healthcare to the rural population, especially to those belonging to vulnerable groups. Special focus will be accorded to the empowered action group states, namely - Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttaranchal and Uttar Pradesh, as well as the north-eastern states, Jammu & Kashmir and Himachal Pradesh. Set up in a

decentralised manner, the primary healthcare system in rural India has been established as a three-tier system based on the following norms:

1) Sub-centres: The peripheral and first point of contact for healthcare in rural areas, a sub-centre (SC) is established in a plain area with a population of 5,000 people and in hilly/difficult to reach/tribal areas with a population of 3,000. Based on factors such as catchment area, care seeking behaviours, case load, among others, sub-centres have been classified into two types. Type A sub-centres provide all mandated services except facilities for childbirth. Type B sub-centres provide all recommended services, as well as facilities for delivery. The staffing recommendations for both facilities are different but require at least one ANM/female health worker and one male health worker. The minimum assured services offered include preventive, promotive, few curative and referral services (Government of India, 2012).

2) Primary health centres: A primary health centre (PHC) is established with six indoor/observation beds in a plain area with a population of 30,000 people and in hilly/difficult to reach/tribal areas with a population of 20,000, and acts as the cornerstone of rural health.It is the first port of call between patients from the village community and a medical officer, and serves as a referral unit for six sub-centres. PHCs were designed to provide integrated preventive, promotive and curative healthcare to the rural population. As per minimum requirement, a PHC is to be staffed by a medical officer and other staff (Government of India, 2012).

3) Community health centres: Community health centres (CHCs) are set up by state governments in an area with a population of 1,20,000 people and in hilly/difficult to reach/ tribal areas with a population of 80,000. They aim to provide optimised and specialised care to the community. Considering the current shortage with regards to clinical manpower, doctors in PHCs may also have to take over shift duties to provide emergency services at CHCs. An anaesthetist and public health specialist will be required in addition to specialists for surgery, medicine, obstetrics and gynaecology, and paediatrics.

A district / sub-divisional hospital or CHCcan be declared a **first referral unit** if it can provide round-the-clock emergency obstetric and newborn care as well as for blood storage. District hospitals serve as secondary level care providers for rural areas.

National Urban Health Mission (NUHM) was launched as a sub-mission of the National Health Mission in 2013. It seeks to cover all state capitals, district headquarters and cities/towns with a population of more than 50,000 with a primary focus on care for vulnerable groups and reducing out-of-pocket expenditures. Inter-sectoral convergence that focuses on all determinants of public health is one of the key objectives of the NUHM. The healthcare delivery model under NUHM is best represented thus:

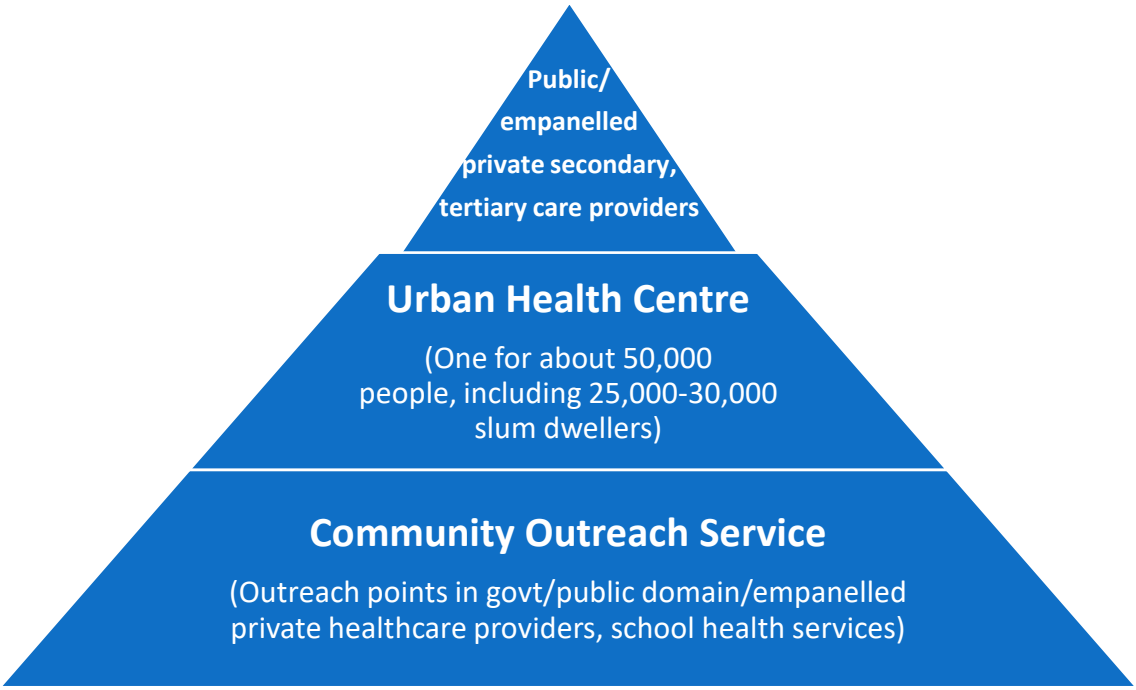

Figure 7: Urban healthcare delivery model
Source: (Ministry of Health & Family Welfare, 2013)

Private Healthcare Infrastructure in India

With an aim to bring in quality and affordable healthcare, several private players have entered the healthcare sector in the past two decades. However, much of these facilities are limited to urban areas. While India's economy continues to grow, the health-seeking habits of its citizens have changed with increasing health awareness. Healthcare has achieved more political will in the past few years, and more so in the current year in light of the COVID-19 pandemic. As much as 70% of new hospital beds added to the country's healthcare capacity in the last ten years has come in from the private sector. Since the hospital business is capital-intensive with a long gestation period, several of the current hospital assets are not delivering

expected investor returns. Capital and operating efficiency are therefore critical for keeping the business of healthcare healthy for investors (EY and FICCI, 2016). Going by data from the past decade, the hospital bed density per 1,000 people has risen from 2.26 to 2.77 for urban areas in India. However, at the national level, the number of beds remains nearly 1.31 beds per 1,000 people.

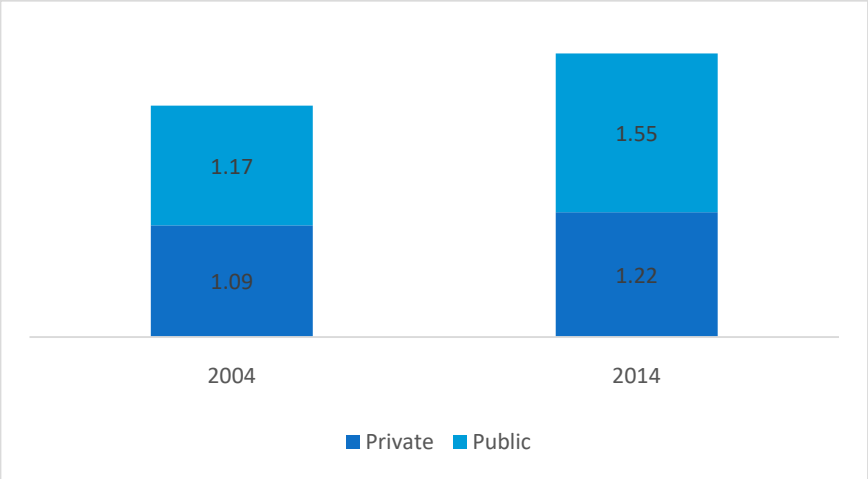

Figure 8: Hospital bed density in India per 1,000 population (urban)
Source: (EY&FICCI, 2016)

A recent report (Singh, 2018) in the *Business Standard* describes the evolution of the India's organised healthcare industry. Earlier, private healthcare was provided largely by trust-run hospitals or private facilities. Branded for-profit hospitals and corporate caregiver chains have also entered the market today. Growth in this industry has clocked in at 12-17%. Apollo Hospitals was the first corporate group to enter the for-profit healthcare business in the 1980s. Several other entities, including Max Healthcare, Fortis, Narayana Hrudayalaya, Medanta and Paras entered the fray in the coming years to varying levels of success.

Tier-2 and tier-3 cities have seen the entry of several private hospital chains as well. Niche facilities in maternal health and neonatal care have also emerged with chains like Cloud 9 and CK Birla Women's hospital setting up shop. With the epidemiological transition that India has seen and the rising cases of NCDs, lifestyle diseases, infections and geriatric health conditions, opportunities for healthcare businesses are significant (Singh, 2018).

Health Policy in India: Evolution

Bhore Committee Report - 1946

The evolution of India's health policy has its roots in the Indian government's 1946 Report on the Health Survey and Development Committee, commonly known as the Bhore Committee report. The report attributed India's poor health status to a range of factors; including poor sanitation, malnourishment, lack of preventive healthcare services, inadequate healthcare facilities, and low levels of health awareness. The committee put forth several recommendations such as a three-tier healthcare delivery system at the district level, placing health workers on the public payroll, and establishment of healthcare for preventive and curative care, among others. While most of these recommendations were not implemented immediately, the report embodied the philosophy behind the reforms that followed in the coming years– access to primary healthcare as a basic right that is not dependent on individual socioeconomic factors. A three-tier system was subsequently set up for rural healthcare with PHCs, SCs and CHCs. District hospitals were designed to provide specialised care. By the late 1980s, an extensive network of healthcare facilities was in place and large numbers of healthcare personnel were trained.Between 1980 and 1990, the number of PHCs more than tripled from about 5,500 to 20,536 and the number of doctors rose by more than 1,00,000 (Ma and Sood, 2008).

While healthcare in India is delivered by the state, the central government is in charge of policy-making, medical education and disbursal of financial resources. The National Health Policy of 1983 advocated for a strong national public health services system with decentralised primary health facilities. Over time, this led to a system where central government assistance is used for non-wage spends like drugs and equipment, while the state's share is spent on salaries and wages. Moreover, India's five-year plan system put in place a top-down approach for decision-making, setting of health agendas, and implementation of central schemes and disease-control programmes.

Several factors invoked change in the health system in India from the 1980s. An emerging middle saw the rise of privatisation in India's healthcare. The push for hospitals that can provide international standards of care can be partly attributed to the support for reforms that came from international donors, aid agencies, International Monetary Fund and the World Bank. These reforms include cutting down on health sector investments, encouraging private sector participation and introducing user fees and private investments in public hospitals. This led to a situation where PHCs suffered from a lack of funds for disease control

programmes that dipped from 17% to 4% and prioritised funding for family planning that went up from less than 1% to 26% of the total. Financial assistance for water supply and sanitation initiatives saw a boost as well. While several communicable diseases such as small pox and Guinea worm disease were successfully eradicated between the 1970s and 1990s, many vaccine-preventable illnesses and infectious diseases such as tuberculosis and malaria emerged to become grave public health concerns (Chokshi et al, 2016).

National Health Policy 1983, NHP2002

India's first National Health Policy (NHP) was formulated in 1983 and the country's first national population control programme was announced in 1951. It highlighted the need to provide primary healthcare to all by 2000, while prioritising the establishment of a primary healthcare network optimally using health volunteers, available technology for well-functioning referral systems and specialty healthcare facilities. The subsequent National Health Policy of 2002 further built on NHP 1983 with a focus on non-allopathic and traditional schools of medicine such as Ayurveda, Unani and Siddha.

India's federal system of governance places health as subject to be divided between the state and central governments. Ministry of Health & Family Welfare implements various national programmes (National AIDS Control Programme, Revised National Tuberculosis, National Vector Borne Disease Control Programme, etc) for preventive and curative healthcare. While states are allowed to adapt the programmes as per their specific needs, the central government also lends technical assistance to control outbreaks of seasonal diseases. While public health, hospitals, sanitation, etc come under the state's purview, family planning, medical education, quality control of drugs and other matters of national importance are governed jointly by the state and union governments (Chokshi et al, 2016).

Several targets in NHP 1983 and NHP 2002 have still not been achieved. While NHP 1983 projected that all births would be attended to by a trained care professional by 2000, one in four births were not supervised by a trained attendant even in 2015. Though NHP 2002 emphasised on the need to steadily increase public expenditure on health, it has remained at close to 1.2% almost 18 years since the policy was formulated (Sengupta, 2017).

National Health Policy 2017

NHP2017 has notably set a much lower bar for health in two areas. Though the draft policy released in 2015 promised a doubling of health expenditure as percentage of GDP from 1.15% to 2.5% by 2020, NHP 2017 extended the deadline to achieve this target to 2025. Even if this achieved, the expenditure will be half of the WHO's recommended optimum for public spending on health. However, the actual budget allocations have a different story to tell. While Union Budget 2015-16 effected a 5.7% cut in total allocation for health, the following budget effected a 5% increase, when adjusted for inflation. A similar increase was effected in Union Budget 2017-18 as well. However, when adjusted for inflation, the total allocation is less than the 2011-12 allocation (Sengupta, 2017). The total allocation for expenditure on health in Union Budget 2020-21 was about Rs 69,000 crore, roughly 10% higher from the preceding year. However, this increase too is negligible, considering that consumer price index inflation was 7.5% in December 2019 (Kaur, 2020).

NHP 2017 has also rolled back on claims the government had made that healthcare would soon be made a justiciable right. The policy advocates for a progressively incremental assurance-based approach with assured funding to create a conducive environment for realising healthcare as a right in the future. (Sengupta, 2017). The policy also sets a low bar for other targets. The target life expectancy at birth of 70 years is to be achieved by 2025, much less than what India's regional peers Sri Lanka and Bangladesh have already achieved. NHP2017's targets for mortality rate for children below the age of 5 years and neonatal mortality rates are set at 23 deaths and 16 deaths per 1,000 live births, respectively. This too is twice more than what Sri Lanka has already achieved – 9.8 for children under five years and 5.4 for neonatal mortality.

The document says that the target that life expectancy at birth should be 70 years will be achieved in 2025. This future target is less than what both Sri Lanka and Bangladesh have already achieved. The policy has set targets that mortality for children below the age of five should be brought down to 23 deaths per 1,000 live births and that neonatal mortality should be brought down to 16 deaths per 1,000 live births, both to be achieved by 2025. These rates would still be more than twice of what Sri Lanka has already achieved – 9.8 for mortality of children under five years and 5.4 for neonatal mortality (Sengupta, 2017). The policy also makes a case for opening up the primary healthcare to the private sector. In January 2020, the government approved a plan to link district hospitals to private medical colleges on a public-private partnership model (PPP). Besides, NHP 2017 states its objective to integrate public-

funded insurance schemes into a single-payer system, making it possible to buy healthcare services from private for-profit facilities.

Antimicrobial Resistance

NHP2017 identifies anti-microbial resistance (AMR) as a problem that requires effective action. Six strategic priorities have been identified under the National Action Plan for AMR (i) generating awareness; (ii) strengthening surveillance; (iii) improving infection prevention and control; (iv) optimising use of antimicrobial agents in health, animals and food; (v) promoting investments for R&D; and (vi) strengthening India's leadership on AMR. Ministry of Health & Family Welfare identified AMRas one of top 10 priorities for the ministry's collaborative work with WHO. (Government of India, 2017).

Mental Health Care Act, 2017

India's Mental Health Care Act, 2017 guarantees every person affected by mental health issues access to healthcare and treatment from services run or funded by the government. The act aims to eliminate the stigma attached to mental illness, while rehabilitating affected patients. In the financial year 2019-2020, the budget allocated to the National Mental Health Programme (NMHP) was brought down to Rs 40 crore from Rs 50 crore in the previous year. However, only about Rs 5 crore was spent during both years. Budget 2020-21 has not increased the allocation for NMHP either. The conservative annual estimated cost on the government to implement the Mental Healthcare Act, 2017 would be Rs 94,073 crore, according to a study by the *Indian Journal of Psychiatry*. Actual current spending is not even a fraction of the figure (Munjal, 2020).

Health Financing– Who Pays?

Inefficiencies and inequities in the delivery of healthcare and have given rise to a need for change in the existing structure of healthcare service and risk-pooling in both the public and private healthcare sectors. While at the national level, there has been an effort to improve the access to and quality of services for the poor, the economic policies of the 1990s helped attract foreign investment. Funding options for hospitals have made available through private equity, venture capital,external commercial borrowings and long-term debts, among others (PWC, 2012).

Taking the level of activities in the healthcare sector; including establishment of green field facilities, expansion of existing care facilities and acquisition of brown field projects, innovative funding mechanisms became the need of the hour. Though debt-financing is the predominant source of funding in the current context, several private sector banks have also started offering a separate health sector portfolio (PWC, 2012). With public healthcare expenditure looming at 1.2%, per capita health expenditure on health in nominal terms has risen from Rs 621 in 2009-10 to Rs 1,112 in 2015-16. The centre:state share in total public expenditure on health was 31:69 in 2015-16, and the centre's share has beendeclining steadily (Government of India, 2018).NHP2017 expects states to boost their share of spending on health from 4.7% at present to 8% of states' total spending by 2022.However, it is to be noted that this share hasn't crossed 4.8% in the last 15 years (Ahuja, 2018).

Though health insurance has been a growing sector in India, health insurance pays primarily only for in-patient hospitalisation and treatment in hospitals. With the entry of private insurance companies beginning 2000, several innovative coverage plans like family floater plans, top-up plans, critical illness plans, coverage for specific diseases, etc, are now available (Government of India, 2018).

Universal Health Coverage and Ayushman Bharat

Several developing countries around the world have introduced tax-financed health insurance coverage for its poor and vulnerable populations. With 67% of all expenditure on health being household out-of-pocket expenditures (OOPE), India ranks 12th highest among 191 nations and 6th highest among 50 low-middle income nations for household OOPE. Taking this into consideration, India launched the '*RashtriyaSwasthyaBima Yojana*' (RSBY) in 2008 to protect its financially backward households from catastrophic healthcare expenditure by providing a coverage of Rs 30,000 annually to each family under the scheme.Several states supplemented this coverage or implemented other schemes to coverage of varying limits.

As of March 25, 2013, RSBYhad 34,285,737 smart cards and 5,097,128 hospitalisation cases. By September 2016, over 41 million families (about 150 million people) out of a targeted 65 million families were enrolled in RSBY. A 2017 study on the impact of the scheme, however, suggested it had largely been ineffective in reducing out-of-pocket expenditures.Nine years into the implementation of the scheme, only half of the below-poverty-line (BPL) families

had been covered by the scheme. Moreover, hospitalisation rates were as low as 1% among those covered by the scheme, as opposed to a national average of 2.6% for the general population, as of 2014. This varied largely across states from 0.1% in Rajasthan and 4.8% in Kerala. It is to be noted that utilisation rates of other insurance schemes are also very low. Maharashtra's MJPJAY scheme, which has been in effect from 2011, had a utilisation rate of (calculated as the proportion of eligible persons with at least one inpatient claim during the year) just 0.12% in 2013–14 and 0.18% in 2014–15 (Ghosh, 2018).

With 60 million people falling into poverty traps due to OOPE on healthcare, universal health coverage (UHC) is also something India is committed to achieving. It is also No.3 of the Sustainable Development Goals India is a signatory to (Bakshi, Sharma and Kumar, 2018). While presenting the Union Budget 2018-19, the government announced two major initiatives in the health sector termed the Ayushman Bharat programme:

(i) Health and Wellness Centre:- In line with NHP2017's aim to improve access to primary healthcare, 1.5 lakh centres are to be set up to provide comprehensive healthcare services, including care for NCDs as well as maternal and child health services. They are also aimed at providing free essential drugs and diagnostic services. While involvement of CSR initiatives and philanthropic institutions are also envisaged, Rs 1,200 crore was allocated for the programmein the budget for 2018-19 (Press Information Bureau, 2018).

ii) National Health Protection Scheme: Ayushman Bharat scheme will provide health coverage of up to Rs 5 lakh per family per year for secondary and tertiary care hospitalisation. This will cover over 10 crore families from financially backward and vulnerable classes, including 50 crore beneficiaries. AyushmanBharat - National Health Protection Mission subsumed on-going centrally-sponsored schemes –RSBY and Senior Citizen Health Insurance Scheme (SCHIS).

India's central Ministry of Health & Family Welfare invited public and private hospitals to be empanelled in the initiative in July 2018 (Narain, 2018). Benefits of the scheme were to be portable across the country for cashless treatment at empanelled facilities. Beneficiaries were to be identified based on the basis of deprivation criteria in the Socio-Economic Caste Census database. The provision for package rates for treatment is aimed at keeping costs to the minimum. In the light of the COVID-19 pandemic, the government empanelled close to

1,000 more hospitals under the scheme, taking the total number of hospitals under the scheme to 21,541 public and private hospitals across India (Dey, 2020). The expenditure for the premium will be shared between central and state governments in the ratio as specified by Ministry of Finance's guidelines. Ayushman Bharat received an allocation of Rs 3,200 Crore (US$ 500 Million) in Budget 2018-19. With state contributing remaining as per agreed formula,the total allocation would be in range of Rs 5,000 Crore (US$ 770 Million).

Pharmaceuticals and Medical Equipment Pricing

Several countries around the world impose price controls on healthcare products such as prescription drugs and medical equipment. The Indian government's pricing control policies under the National Pharmaceutical Pricing Authority (NPPA) has come under intense scrutiny in the past few years (Phadke et al., 2013; Gandhi, 2016; Rajagopal, 2016). The NPPA's price caps on stents and knee implants in 2016 stimulated even more discussion (see GOI, 2016, Khan, 2017). Price controls can have several effects on investment in R&D and competition, discouraging FDI and disadvantaging patients if drug therapies become unavailable.

Price controls on drugs in India began in 1966 with Drug Price Control Orders being passed. It has since then been amended and revised half-a-dozen times to cover drugs, formulations, scheduled drugs and non-scheduled drugs. The order provides for a complex formula to determine the price of drugs that covers material costs, conversion costs, packing cost, and a maximum allowable post-manufacturing expense (UKIBC, 2018). However, since relentless innovation in healthcare is the need of the hour, especially in the context of the COVID-19 pandemic, India's arbitrary price control mechanism may be doing more harm than good.

The Drugs and Cosmetics Act, 1940 and Rules, 1945 were meant to regulate the import, export, manufacturing and distribution of drugs and had no bearing on drug pricing. Until 1962, India had largely no regulations to fix pricing of drugs in a market that was dominated by foreign multinational companies (Centad, 2010). After that, several Drugs (Prices Control) Orders (DPCO) under Section 3 of the Essential Commodities Act, 1955 were issued to regulate prices of both bulk drugs and formulations from the essential drug list. The National Pharmaceutical Pricing Authority (NPPA) was established in 1997 to fix and revise the prices of scheduled and non-scheduled drugs. In 2013, the NPPA was authorised to revise and fix

the National List of Essential Medicines (NLEM). A draft pharmaceuticals policy circulated in 2017 aimed to change the role played by NPPA in drug pricing. At present the NLEM is prepared by the health ministry and a special committee. The draft policy seeks to give the Department of Pharmaceuticals the final decision on which drugs to place in the NLEM.

Medical devices mostly fall under the category of bulk drugs, and its price control mechanisms and regulatory mechanism werealso similar. In 2017, the NPPA capped the price of various models of stents and knee implants, bringing its prices down by around 50% to improve the affordability of angioplasty and knee replacement surgeries.Some companies quickly withdrew their stents from the Indian market (Rajagopal, 2017). An Advamed study conducted on stent price control in the immediate aftermath of the revised policy says benefits to patients and growth in procedure volumes have not indicated significant change in the short term(Advamed, 2018). The Medical Devices Rules, 2017, implemented in 2018sought to divide medical devices that currently fell under the category of ‘drugs’ into four risk categories, while expanding the list of devices covered in the Drugs and Cosmetics Act, 1940(Dam et al, 2020).

While India has the opportunity to play a larger role in the global drug supply chain, pharmaceuticals comprise 43.16% of the total OOPE on healthcare in the country. A 2020 report called the price controls policy in India a double-edged sword (Dam et al, 2020), while advocating for a balanced approach that provides for price controls on drugs that are used to treat diseases with higher disease burden. India currently has placed 347 drugs on the National List of Essential Medicines (NLEM) that places a ceiling price for the sale of these drugs and its formulations. The need of the hour is responsible and incentivised public private partnerships, that will ensure lower out of pocket expensesand universal healthcare access.

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