International Journal of Research in Pharmacology & Pharmacotherapeutics

ISSN Print: 2278-2648 IJRPP |Vol.10 | Issue 3 | Jul - Sep - 2021
ISSN Online: 2278-2656 Journal Home Page: www.ijrpp.com

Research article Open Access

COVID-19 Battle in Rural India: Current Status and Future Prospects

Darla Raju

SRT-149, Jawahar nagar, Gandhi nagar, Hyderabad-500003, Telangana, India.

Corresponding author: R Darla
Email id: rajudarlaofficial@gmail.com

ABSTRACT

As the pandemic's second wave makes further inroads into India's hinterland, the country might be watching the likelihood of a disaster almost like what occurred within the urban regions early this year. And since 65.53 percent of the country's entire population is rural, targeted, comprehensive strategies must be undertaken to stop such a catastrophe from happening. Things are already dire, and require immediate attention: medical infrastructures are weak, there are severe shortages in qualified medical staff, the vaccine rollout is slow, and there's poor adherence to safety protocols. These, including enduring, large-scale poverty and lack of livelihoods—which have existed long before COVID-19.This special report outlined a ten point agenda for immediate action in India's rural districts. Beyond this urgent course of action, however, it's equally important that India turns the crisis into a chance to rethink current approaches to development: instead of being urban-centric, India must develop better health and welfare systems within the rural regions and make the countryside more resilient to shocks like COVID-19. The blueprint presented during this report can go an extended way in not only addressing the present health crisis in India's villages, but also within the achievement of cross-cutting sustainable development goals: SDG 1 (no poverty); 2 (zero hunger); 3 (good health and well-being); 5 (gender equality); 8 (decent work and economic growth); and 10 (reduced inequalities).

Keywords: COVID-19, Sustainable Development Goals, Rural and Urban India, Ten Point Agenda

INTRODUCTION

As India welcomed 2021, the country was reporting but 15,000 new COVID-19 cases per day between mid-January and mid-February. Soon, however, there was a surge, and on 7th April, the amount of daily infections reached 126,260 with the seven-day daily average crossing 100,000.[1]By then it had been clear, that the second wave of COVID-19 in India would be much more severe than the primary one. The steep rise in infections and deaths made headlines across the planet, as images of mass pyres and other people queueing for free of charge oxygen cylinders in temple grounds made the rounds of social media.

Today, two months later, while the number of active cases has come down in big cities, the pandemic is fast spreading across rural districts, with the most important increases being recorded within the states of Rajasthan, Maharashtra, Uttar Pradesh, Karnataka, Andhra Pradesh, and Kerala (See Figure 1). A report by the depository financial institution of India (SBI) noted that by mid-May, the agricultural districts accounted for 50 percent of all new cases within the country.[2] the agricultural areas of Amravati in Maharashtra are worst affected with an outsized number of latest cases,[3] and people of Nagpur within the same state have also become hotspots. About 35 percent of all COVID-19 deaths in Haryana are reported from the agricultural districts, with the heaviest toll in Hisar (258), followed by Bhiwani (217), Fatehabad (159), and Karnal (150).[4] The second wave has also hit the agricultural areas of Gujarat.[5]The state reported 90 deaths in 20 days from one village alone, Chogath, which features a population of 13,000. Two of India's largest and most populous states – Uttar Pradesh and Bihar—have also witnessed a steep rise in COVID-19 cases in their rural districts. [a]To make certain, the particular numbers of COVID-19 cases within the rural regions of India might be much above the official figures due to low testing rates[6] and people's reluctance to urge tested, [7] to start with. Given the severe shortage of medical facilities in rural India, managing

the spread of the pandemic would convince be even harder than what the urban cities experienced earlier this year.

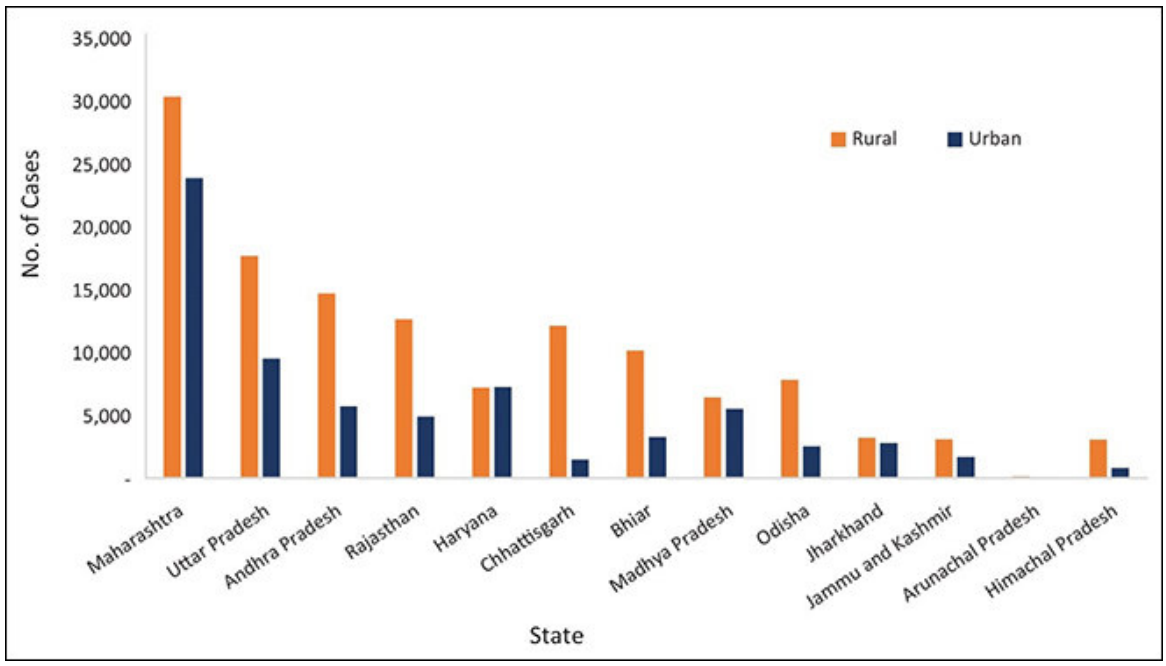


Figure 1: COVID-19 case trends in urban and rural areas

Source: *Times of India* [8]

Figure 2 shows that by the peak of the first wave around September 2020, rural areas accounted for one in every three (33 percent) of all new cases. It was about 65 percent in both rural and semi-rural districts, which is almost double the 34-percent share of urban and semi-urban.

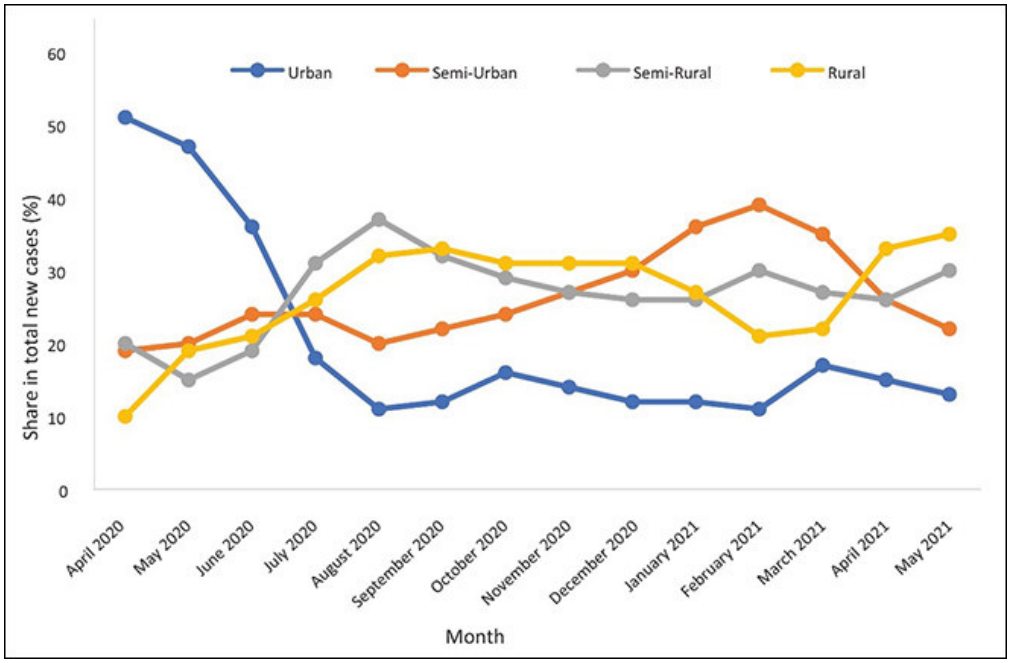


Figure 2: Covid-19 cases in Urban, Semi-Urban, Rural and Semi-Rural Areas

Source: *The Hindu* [9]

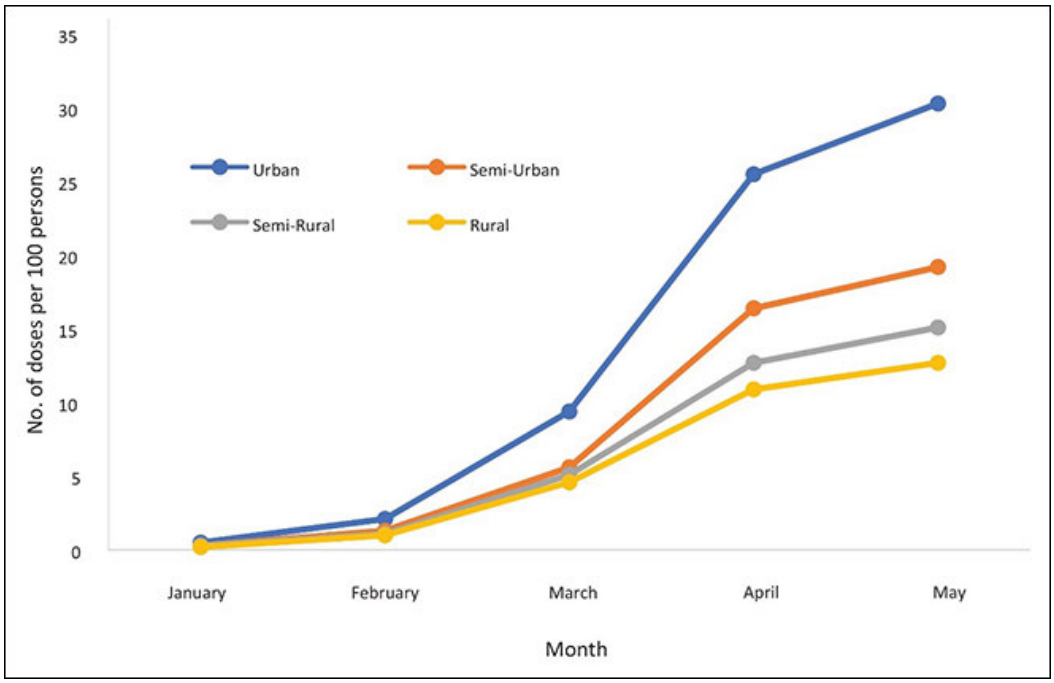


Figure 3: Vaccine doses administered per 100 persons in Urban, Semi-Urban, Rural and Semi-Rural Areas (2021)

Source: *The Hindu* [10]

At an equivalent time, the vaccination drive has been slow within the rural areas as compared to urban (See Figure 3). The key reasons for this include lack of internet connectivity, low smartphone access, digital illiteracy, and apprehensions about vaccine safety.[11]Moreover, there's also a drag of availability of doses, which has compounded the lag.[12]A December 2020 household survey across 60 districts in 16 states found low preference for vaccines, with only 44 percent willing to buy it.[13]

Given that 65.5 percent of India's entire population is rural,[14]adequate steps got to be undertaken at the earliest to stop the occurrence of a health catastrophe in rural India. An depression is making the challenges more acute. As a response to the increase in infections, many nations like Madhya Pradesh and Uttar Pradesh are under lockdowns to curb the spread of the virus. Consequently, villagers who are mostly daily-wage workers or street vendors in nearby towns have lost their livelihoods. While remittances from relations working in big cities were relied upon to spice up the incomes of the agricultural households, the increase in cases within the urban areas beginning in early February led to a different exodus of migrant workers from those cities, almost like what occurred in 2020 during the primary wave and nationwide lockdown. Rural households suffered losses in household incomes as a result, pushing many to deeper indebtedness and worse hunger. Media reports suggest that folks in rural India are eating less and sometimes unable to afford nutritious food like pulses and vegetables. [15] Overall, a survey in October 2020 among urban and rural communities in 11 states found that nearly 70 percent of households aren't consuming nutritious meals, with about half them skipping a minimum of one meal a day.[16] If India is to stop a humanitarian disaster in its hinterland, there's a requirement for an efficient strategy to regulate the spread of the virus, also as sincere and targeted efforts to reboot the agricultural economy and supply welfare services to the people.

This special report describes the precise challenges wrought by COVID-19 in India's rural areas, and descriptions a ten-point agenda for effective pandemic management and therefore the revival of the agricultural economy. the remainder of the report provides an summary of the government's efforts to manage COVID-19 in rural areas; discusses the precise challenges in those regions; and presents a ten-point strategy for immediate action. Among others, the report recommends the constitution of a task force, and therefore the provision of a special economic package for the agricultural regions.

CURRENT GOVERNMENT STRATEGY

The central government in May 2021 released the quality Operating Practices (SOP) on COVID-19 management in semi-urban, rural, and tribal areas. [17, 18] the blueprint tasked the state health secretaries to oversee the implementation of the SOPs at the grassroots level.

The subsequent are the key actions listed within the strategy:

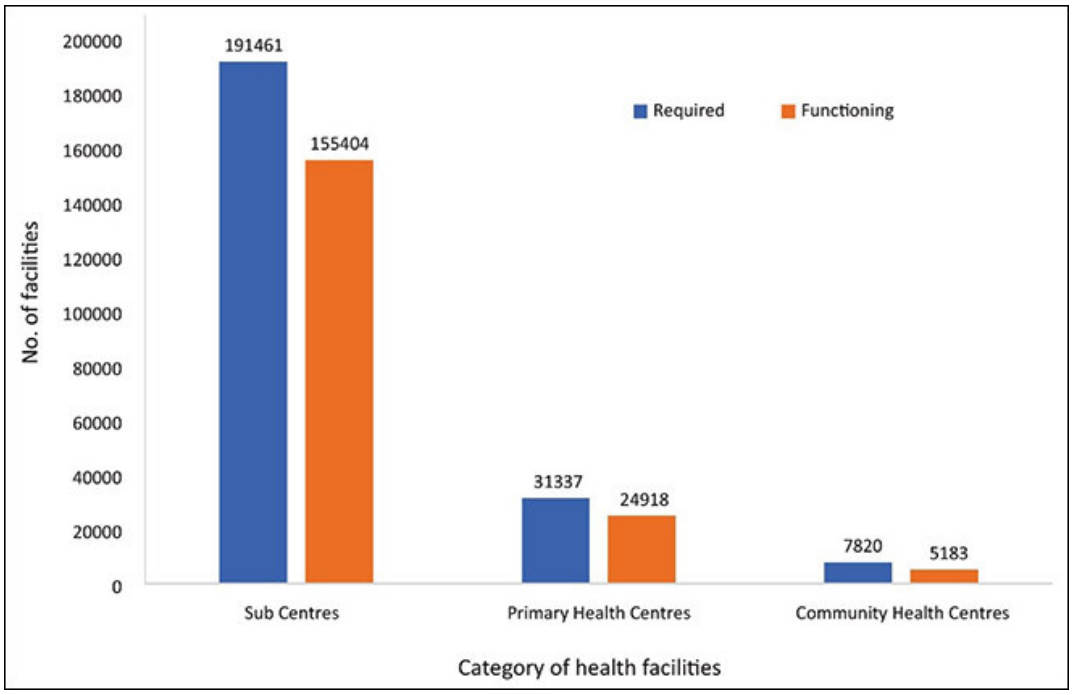
1. Accredited Social Health Activist[b] (ASHA) workers to be trained by Panchayati Raj institutions to spot early signs of COVID-19.
2. Women's self help groups to be utilised for promoting awareness on symptoms and COVID-19-appropriate behaviour.
3. Test, Triage and Treat. The mechanisms for screening, isolation and referral of cases must be strengthened, alongside the monitoring of home isolation cases. Facilities for COVID-19 care are to be ramped up, and focus to tend on psychological state.

4. State health administrators to triage patients so as to scale back mortality.
5. Vaccination to be stepped up, especially for those above 45 years aged. ASHA workers and block medical officers to mobilise the population.
6. Central and government schemes to be leveraged for providing food rations, beverage, sanitation, and employment under the Gandhi National Rural Employment Guarantee Act (MGNREGA). Interlinkages with medical facilities in nearby districts/sub-districts to be established for emergency services.[19]
7. A three-tier structure to be set up: A Covid-care centre for mild cases; primary health centres or community health centres or sub-district hospitals for moderate cases; and district hospitals or private hospitals for severe cases. Ambulances to be made available for the rapid transport of patients.[20]
8. the utilization of drones to be explored for delivering vaccines in remote villages and isolated communities.[21]

The COVID-19 Challenges in India's Villages

a. Health infrastructure

India's rural health infrastructure has improved since the implementation of the National Rural Health Mission and therefore the Ayushman Bharat Programme in 2018. However, it remains ill-equipped to tackle the challenges posed by the COVID-19 pandemic. Rural India has historically had less access to health services . (See Figure 4.)



Source: *Ministry of Health and Family Welfare* [22]

Health facilities within the rural districts are overwhelmed, even without an epidemic. consistent with Rural Health Statistics 2019- 20, the typical population covered by a Sub-Centre clinic within the rural areas is 5,729, as against the norm of 5,000; for Primary Health Centres (PHC), it is 35,730, while the norm is 30,000; and for Community Health Centres (CHC), it is 171,779 against the norm of 120,000.[23]There are considerable differences among the states. (See Figures 5, 6, and 7) Both the PHCs and therefore the Sub-Centres are already overwhelmed in several states like Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, and Maharashtra; the steep rise in COVID-19 cases is compounding the burden.

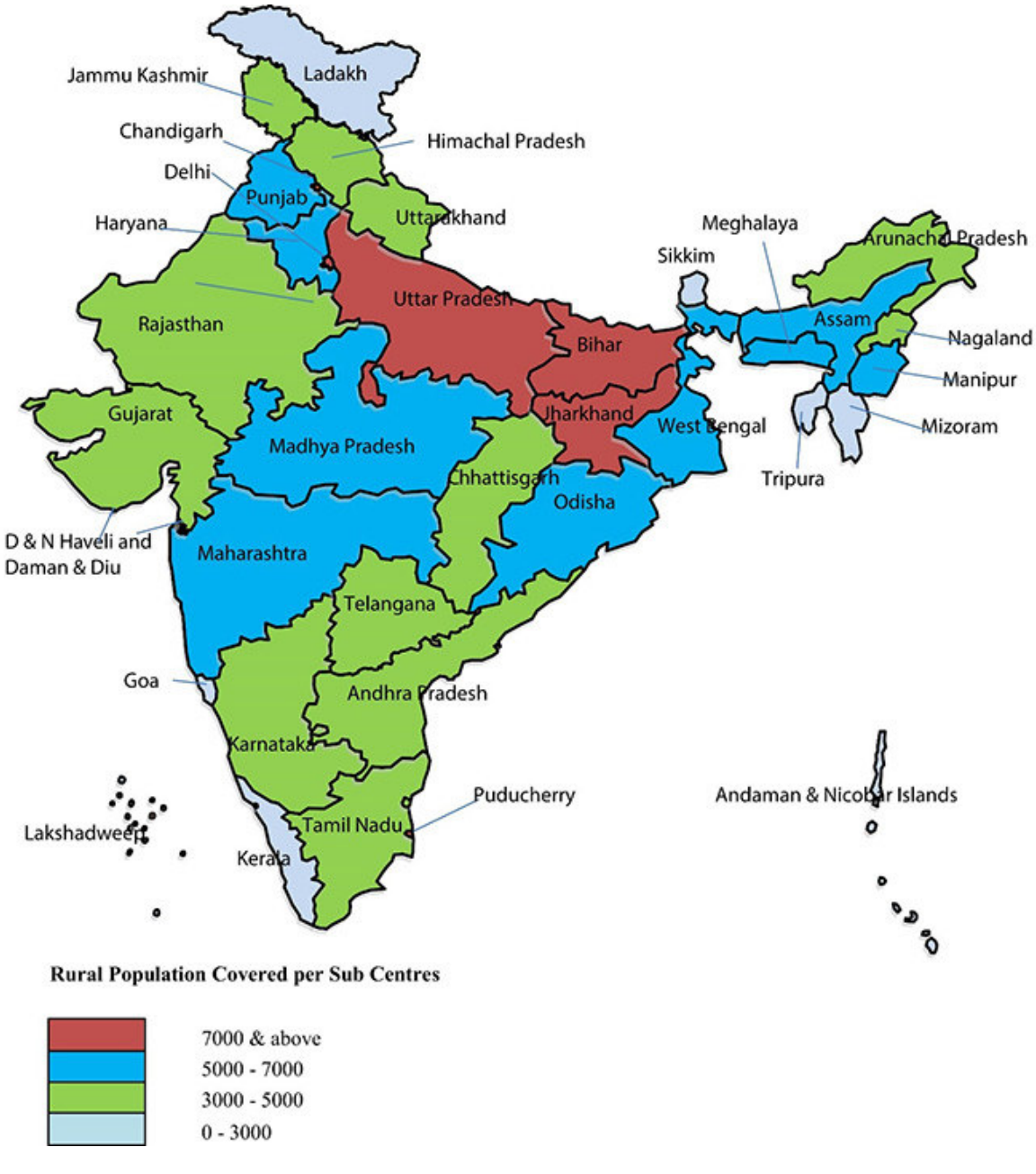


Figure 5: Average Rural Population covered per Sub Centre in 2020

Source: *Ministry of Health and Family Welfare* [24]

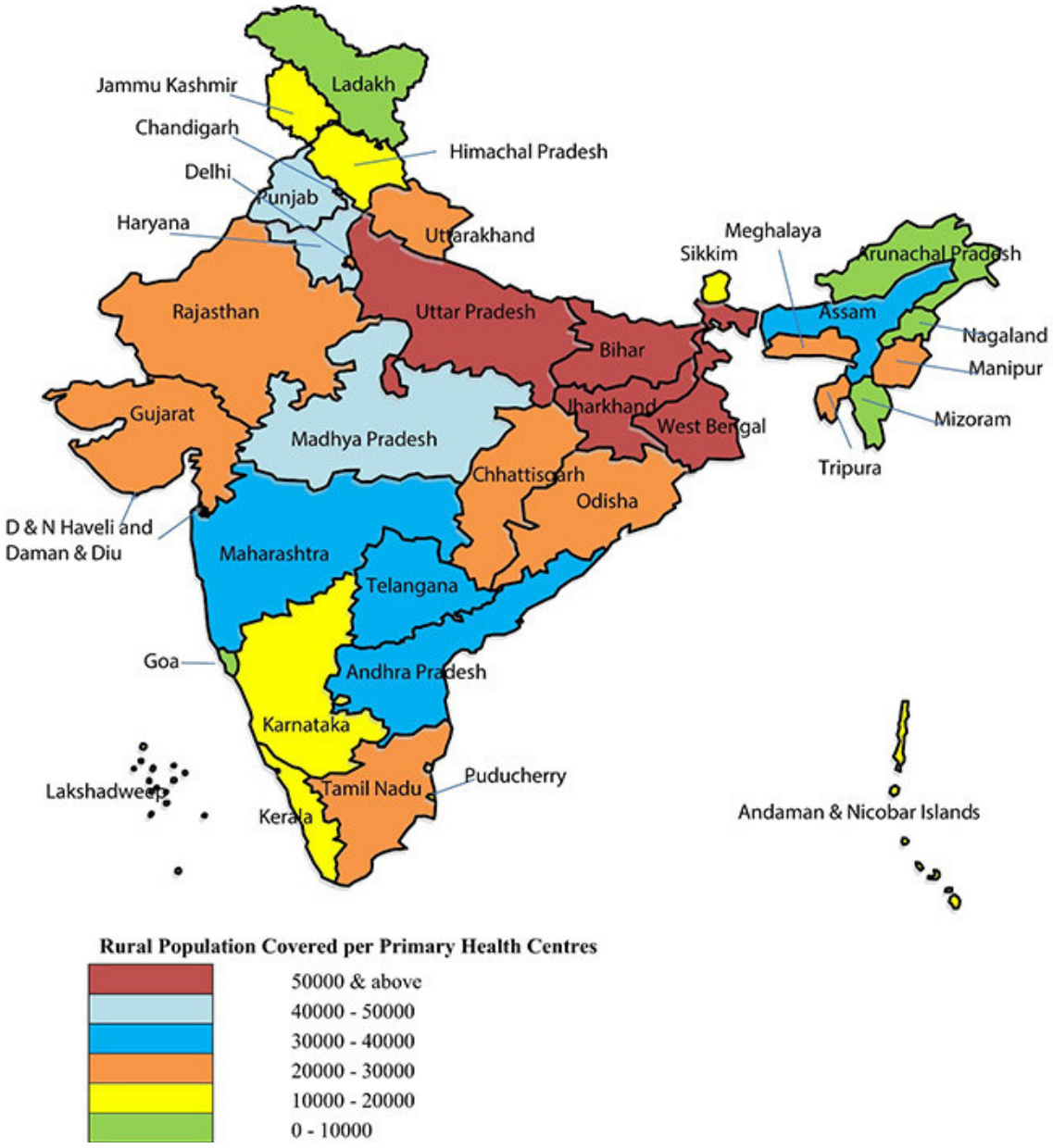


Figure 6: Average Rural Population covered per Primary Health Centre in 2020

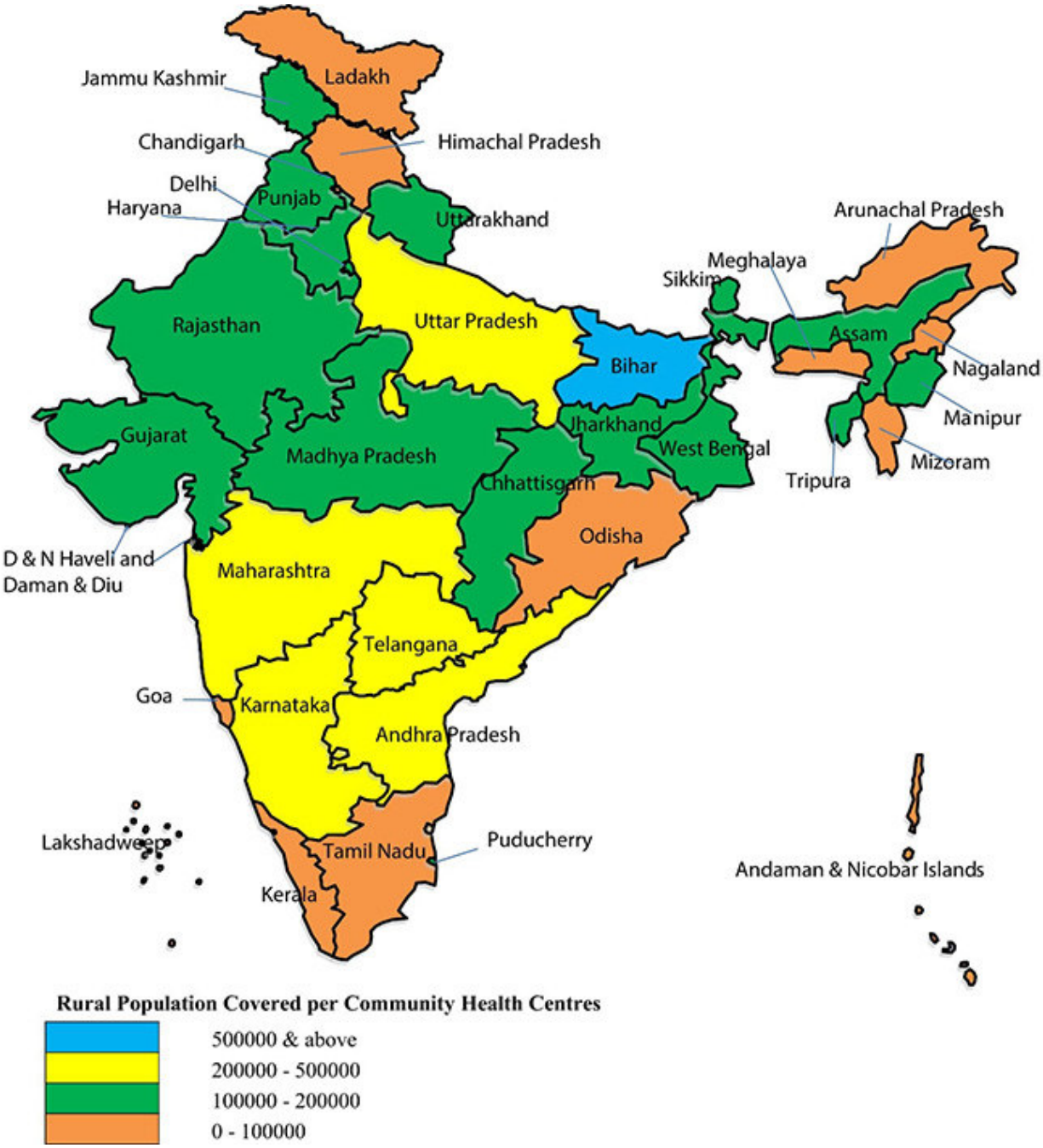


Figure 7: Average Rural Population covered per Community Health Centre in 2020

Source: *Ministry of Health and Family Welfare* [26]

The Sub-Centres, Primary Health Centres, and Community Health Centres in rural India often lack diagnostic equipment and medicines.[27]Media reports on Bihar, for instance, have noted the absence of ambulances within the health centres, forcing many patients to steer long distances to access test kits and basic medicines like paracetamol.[28] Technology can bring improvements to the present healthcare system, especially within the rural areas. Enduring challenges remain, however, like lack of connectivity and infrastructure, and of smartphones. Although developing robust IT systems has been one among the objectives of the Ayushman Bharat Programme, not all ASHAs have access to smartphones nor are all Sub-Centres equipped with computers. Overall, rural populations still believe basic mobile phones, being without means to get smartphones. Therefore, central government efforts like the Health Ministry's guidelines regarding tele-consultation with specialist doctors—will likely fail in rural India.

b. Human resources

India's rural districts suffer from shortages in qualified medical personnel. The system rests on the ASHAs, who act both as providers and facilitators of medical aid. India's 1.3 million strong army of female health activists (Anganwadi Workers[c]) have played an important role in managing the COVID-19 pandemic, conducting contact-tracing and interesting in sensitisation campaigns among the population. However, consistent with a survey by Oxfam,[29]over 1 / 4 of the ASHAs haven't received either protective gear (masks

and gloves) or their monthly stipends. There is a critical shortage of medical doctors, paramedical staff, and health workers/Auxiliary Nurse Midwives in large parts of the country. consistent with Rural Health Statistics 2019-2020, 14.1 percent of the sanctioned posts of doctors (Female)/ Auxiliary Nurse Midwives[d] and 37 percent of the sanctioned posts of doctors (Male) are currently vacant within the Sub-Centres. Further, there's a shortage of doctors (1,704 positions) in primary health centres across the agricultural areas, also as nursing staff (5,772), female doctors (5,066), pharmacists (6,240), and laboratory technicians. (see Figure 8).

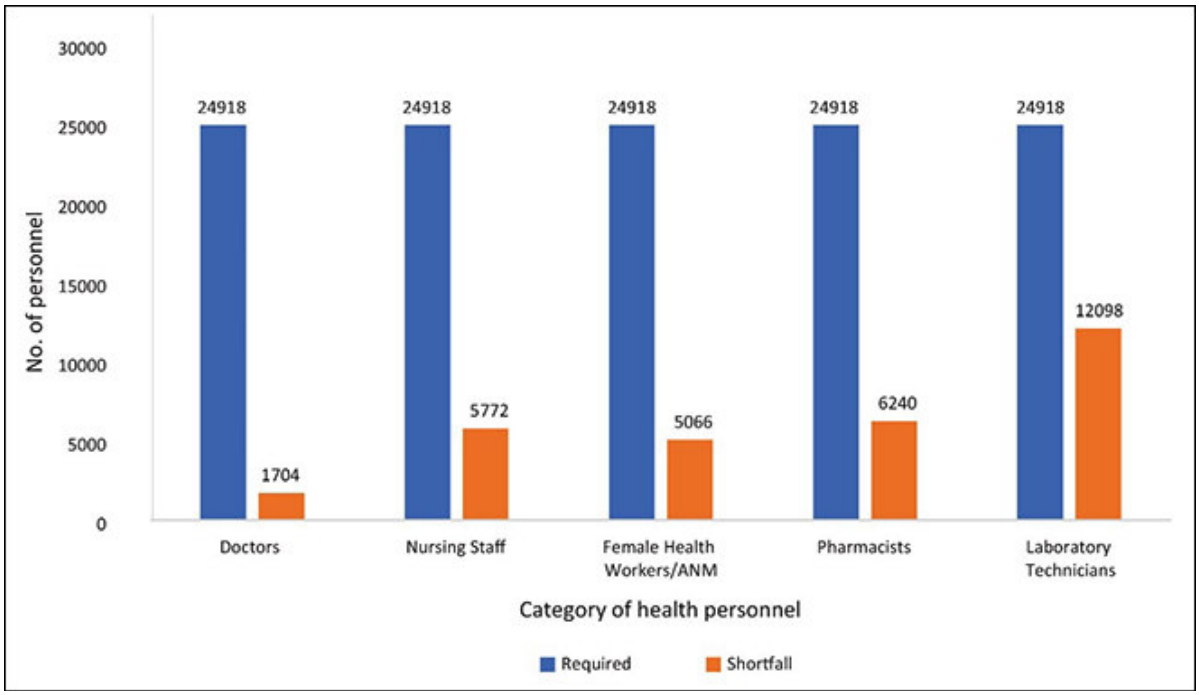


Figure 8: Human Resources in Rural Primary Health Centres

Source: *Ministry of Health and Family Welfare*[30]

An identical situation prevails within the CHCs which are designed to supply specialised medical aid including surgeries. they're operational with about 24 percent of required specialist doctors (See Figure 9). States like Odisha, Chattisgarh, Rajasthan, Karnataka, and Uttar Pradesh face a number of the foremost severe shortages of doctors, medical officers, and nursing staff.

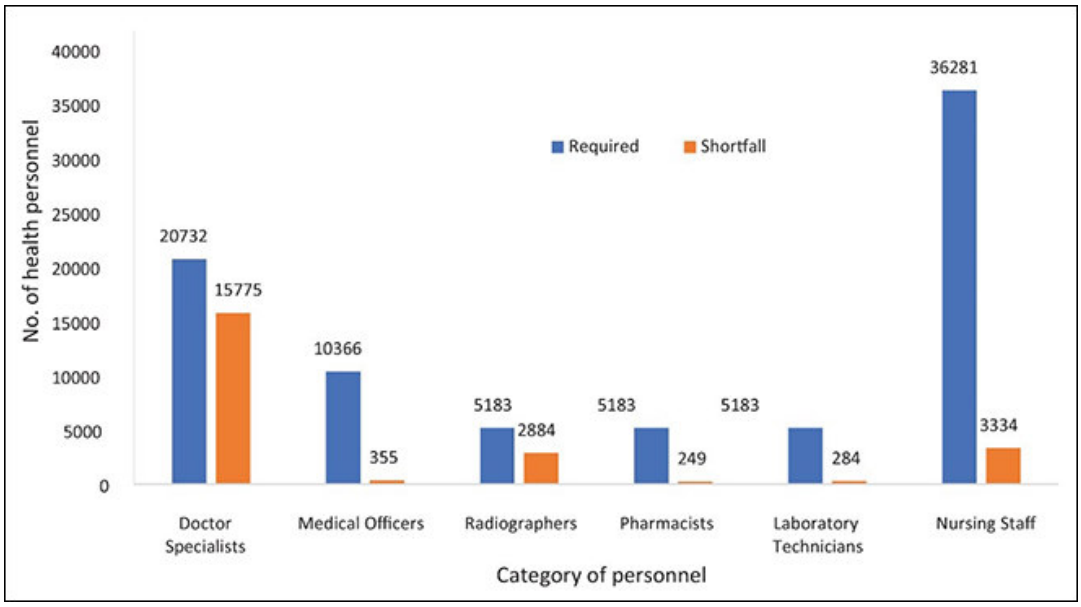


Figure 9: Human Resources in Rural Community Health Centres

Source: *Ministry of Health and Family Welfare*[31]

The District Hospitals are experiencing an equivalent problems. As Table 1 shows, the amount of doctors and paramedical staff has increased only marginally since the launch of the Ayushman Bharat programme a couple of years ago. Since the initial onslaught of the pandemic, there has been a drastic reduction within the number of doctors at district hospitals (from 24,676 to 22,827) also as paramedical staff (from 85,194 to 80,920).

Table 1: Number of doctors and paramedical staff in district hospitals in India

	2018	2019	2020
Doctors	24 899	24 676	22 827
Paramedical Staff	77 203	85 194	80 920

Source: *Ministry of Health and Family Welfare*[32]

c. Public investment in healthcare

The last decade saw a point of public investments within the country's tertiary healthcare sector, especially, within the supply of health workforce: between 2014 and 2019, there has been a 47-percent increase within the number of state medical colleges, compared to a 33-percent increase privately medical colleges. the amount of undergraduate medical seats has seen a jump of 48 percent, from 54,348 within the school year 2014-15 to 80,312 in 2019-20. While India was expanding the amount of seats in government medical colleges, it had been also leveraging the private sector to fill gaps in personnel and health care delivery. However, these tertiary hospitals are almost exclusively located within the urban areas.

The imperative is for financial resources to be pumped into the system through investments within the National Rural Health Mission (NRHM), in order that staff shortages are addressed. Unfortunately, no such improvement is being seen within the funding towards the National Health Mission (NHM), which houses NRHM, despite the government's own National Health Policy 2017 declaring that government expenditure in health will reach 2.5 percent of GDP by 2025. Indeed, analysts note a widening gap between required and actual central funding. [33] (See Figure 10)

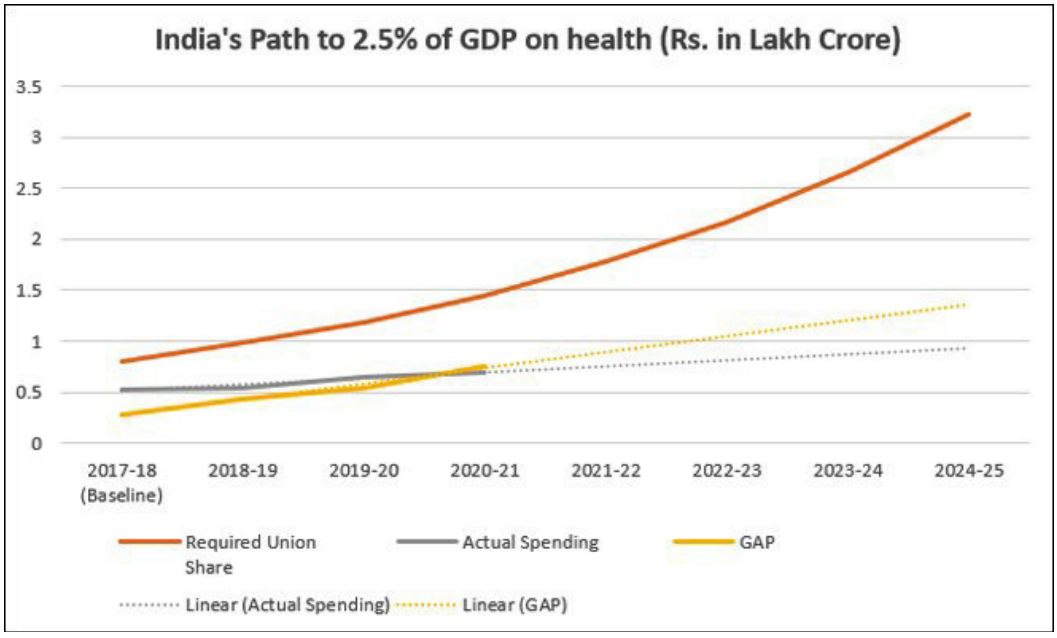


Figure 10: India's Path to 2.5% of GDP on health

Source: *Kurian (2020)*[33]

Infrastructure creation and upgrade in rural areas also stagnated within the exact same states with the foremost acute needs. for instance, analysis has shown that that the pace of upgrade of health facilities into Health and Wellness Centres (HWCs) under Ayushman Bharat has been slower than planned, and a high number of functional HWCs are concentrated within the states with relatively better resources. High-Focus States[e]—i.e., Bihar, Rajasthan, Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand, Uttar Pradesh, and Uttarakhand, who together account for around

half India's population have disproportionately low numbers of HWCs.[34]The 2021 budget didn't veer from an equivalent trajectory, despite some stop-gap funding necessitated by the pandemic. Between the estimates of Budget 2020 and people of Budget 2021, there was a paltry increase of 10.5 percent, when the wants on the bottom are far higher. the quantity allocated in 2021 — INR 746,020 million — was actually 10-percent less than the revised estimates from the previous year, which was INR 824,450 million[35]

Understandably, India languishes at rock bottom of the BRICS countries[f] in terms of state investments in healthcare (See Figure 11). India is indeed the poorest within the grouping as measured in per-capita incomes. Nonetheless, there was a notable lack of any considerable improvement over the past two decades—a period of relatively high economic process for the country. India's general government expenditure on health as a percentage of GDP is less than many countries with lower per capita incomes (see Figure 12). Even smaller neighbouring countries like Nepal, or African countries that receive development assistance from India, spend more resources on public health.

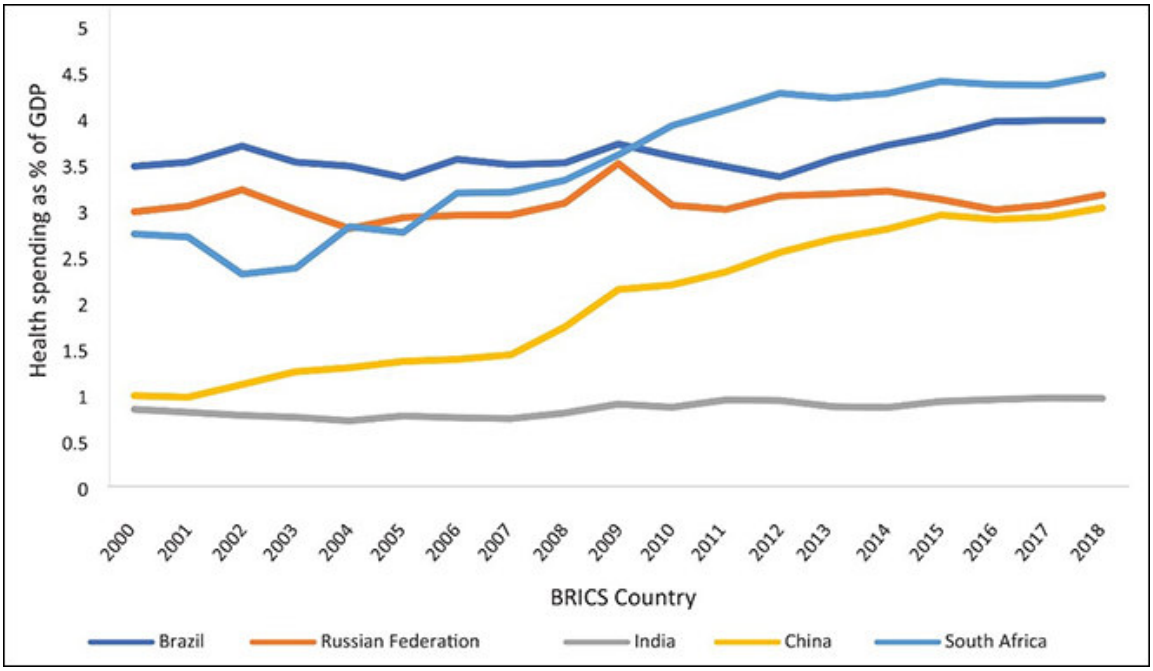


Figure 11: Domestic general government expenditure (% of GDP) in BRICS countries

Source: *World Bank*[36]

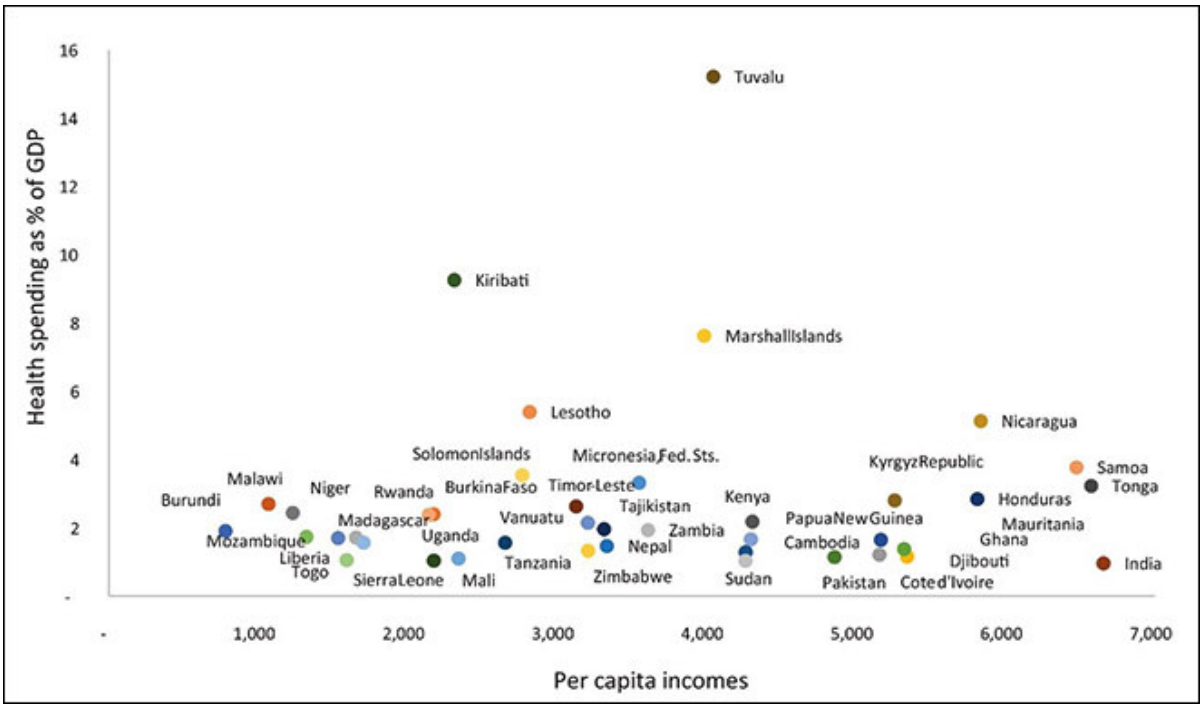


Figure 12: Countries with lower per capita incomes than India but higher spending on health as a percentage of GDP

Source: *World Bank*[37]

d. Data collection and dissemination

Efficient data collection and data-sharing are critical components of any effective COVID-19 management strategy, whether for urban or rural regions. Health experts have often asserted that data should inform and drive India's COVID-19 management strategies and patient care, instead of guidelines developed in other countries because the conditions within the country are different. Similarly, the template for the agricultural areas shouldn't be a reproduction of that for urban regions, because their conditions could also be unique to those populations and geographies.

Given the severe shortage in testing capabilities and poor data collection, an accurate picture of the spread of COVID-19 in rural areas remains absent. Deaths also are being undercounted in villages. Most deaths aren't registered in rural India and it's easier to bury the dead in fields and open areas.[38]Without reliable data, policies to curb the spread of the virus and treatment of afflicted persons are going to be even tougher.

According to noted epidemiologist and Director of the Centre for Global Health Research, Prabhat Jha, better death data is crucial in effective management of the pandemic because it helps in identifying the hotspots.[39]He recommends conducting a Sample Registration System by the Registrar General of India to get more accurate death statistics in rural areas—this would involve getting municipalities to release daily or weekly death figures, and mapping hotspots. The sample registration system involves sending teams to a random sample of villages across the country to ask every family if there has been a birth or a death within the past certain number of months. If anyone has died within the family, then they're asked to fill during a form to offer details. Data derived from the registration can function proxy for the particular number of deaths within the region, and the way many of them were Covid-related.

e. Food insecurity and Economic crisis

As discussed briefly earlier, significant proportions of the country's village populations have lost their livelihoods thanks to the pandemic; many are pushed to worse states of indebtedness. Economist Pronab Sen predicts that unlike in 2020, when rural India was the "bright spot" within the economy, these regions are getting to be badly affected in 2021.[40]If farmers aren't ready to access the markets thanks to either fear of getting infected, or a lockdown, then rural incomes would fall significantly even with a productive harvest. Moreover, non-agriculture services account for about 60 percent of rural incomes, and a fierce spread of the virus—and, as a possible response, lockdowns—will adversely affect the service sector. India saw this in 2020, when the lockdowns that were implemented to arrest the initial onslaught of the pandemic threw the economy into turmoil.

Families who have any source of income, food or medicines can hardly be expected to strictly follow COVID-19 norms like social distancing, handwashing, and wearing masks. The state has got to step in to require care of the requirements of its citizens once they lose their livelihoods thanks to lockdowns and are compelled by restrictions to remain reception. As things are, nutritional services are disrupted across the country. The 2020-21 Union Budget saw an enhanced allocation of INR 356,000 million for nutrition-related programs and INR 286,000 million allocated for women-related programmes. the govt has also announced a relief package of INR 1,740 billion under the Pradhan Mantri Garib Kalyan Yojana for the poorest of the poor.[41]This included the supply of an additional five kilograms of wheat or rice and one kilogram of pulses monthly. Several other measures just like the 'One Nation, One Ration Card' scheme to avail food grains under the National Food Security Act may benefit migrant workers. The Indian government has announced five kilograms of food grains for people listed under the National Food Security Act, 2013, through the general public distribution system; this is often meant to succeed in 800 million people up to November 2021.[42]These efforts, however, might just prove inadequate given the present hardships that rural India goes through, and therefore the long-term economic fallout of the pandemic. If the past one and a half years of the pandemic has taught anything, it's that lockdowns not only create panic, but also bring disproportionate difficulties for the poor. These restrictions on movement and closure of non-essential services, must be amid schemes like rations or the fixing of community kitchens.

f. Disproportionate impacts on women

Even without a health crisis like the COVID-19 pandemic, rural women in India face cascading challenges: lack of education and employment, more hours spent on unpaid domestic work, higher risk of maternal mortality, and violence. Women account for quite 70 percent of agricultural labour force within the country, where there's little pay and social protection, if at all.[43]A mere 27 percent of girls have completed 10 or more years of schooling in rural areas as compared to 51 percent in urban[44]

Teenage pregnancies, for instance, are almost double for rural women (9.2 percent) compared to the incidence among their urban counterparts (5 percent) as per the NFHS 4 (2015-16). These pregnancies occur thanks to various reasons like poverty, lack of education, and employment opportunities. It contributes to the increase in maternal and child mortality, and intergenerational undernutrition.[46, 47] because the pandemic spreads across the agricultural areas, the women—already reeling from the results of gender-based biases—are bearing a greater burden of the economic fallout. Families find less food to eat, and therefore the women—assigned by societal norms to partake of less within the household's meagre resources—suffer even more. Before COVID-19, data from 2015-16 has shown the

worsening incidence of anaemia in India's women; the prevalence among rural women (15-49 years old) is quite 50 percent.

Another area of concern within the rural regions is maternal healthcare. Unlike during the primary wave of the pandemic, when COVID-19 was mostly "mild" in pregnant women, within the second wave, experts are seeing many pregnant women succumbing to COVID-19 complications. Pregnant women with weaker immune systems developed widespread scarring after getting infected by the virus.[48]within the rural districts, whilst maternal mortality has declined within the past decade, it remains high at 143 per 100,000 livebirths.[49]The pandemic has only worsened the situation: media reports suggest that a lot of pregnant women in rural India are opting out of institutional delivery due to fear of getting to undergo a COVID-19 test.[50]within the absence of a gendered response to the pandemic, current inequalities faced by rural women will only get exacerbated.

g. Migrant Labour

Rural-urban migration in India features a 'circular character': migrants don't settle permanently in cities but still maintain close links with their villages.[51]In India, large numbers of individuals who leave the villages in search of livelihoods don't find jobs within the formal sector. within the words of noted scholar, Jan Breman, "The people pushed out of agriculture don't hand over the habitat which keeps them embedded within the village of their origin; first and foremost, because they'll are accepted within the urban spaces as temporary workers but not as residents. It means in fact that they simply cannot afford to vacate the shelter left behind within the hinterland.

This is often additionally to the very fact that dependent member of the household don't join them on departure."[52] Circular migrants, a term Breman uses, are poorly paid, have long working hours, lack legal protection and Social Security benefits, and don't have proper basic shelter. they're forced to return to their villages after periods of casual employment.

During the nationwide lockdown in 2020, many of those migrants did not find the informal jobs that sustained them in cities and had little choice but to undertake the arduous journey back to their village. an identical exodus, of a smaller magnitude, was observed in February-March 2021. The threat is that because the virus mutates further, migrants might be carriers of deadlier variants in both rural and concrete areas. Migrants must therefore be identified as a high-risk group that needs targeted care.

h. Societal attitudes

Absent systematic research thus far, there's anecdotal evidence of villagers refusing to be tested and avoidance doctors. as an example, Pradep Kumar, a doctor during a Primary Health Centre in Katihar, Bihar laments,[53] "We send mobile testing teams in villages but they're not interested. thanks to the stigma attached to Covid, most of them hide their symptoms and avoid testing." Indeed, there's extreme fear and stigma related to COVID-19—and it'd not be peculiar to the agricultural populations.

The excesses witnessed during the national lockdown have also contributed to their fears.[54]Some people also are hiding symptoms out of fear of being shifted to isolation wards. At an equivalent time,

home isolation—recommended by the Health Ministry for mild cases of the disease—is extremely difficult. Family size is usually larger in rural areas and three generations cohabitation is more of the norm. Moreover, rural homes are ill-equipped for following the norms associated with home quarantine. Many households don't have a second toilet for COVID-19 patients; they typically have one or two rooms which are wont to store grain, while the relations sleep together in one room or angan. this is often a topic carefully explained on Twitter by Bhairavi Jani,[55]an entrepreneur who lives within the Himalayan town of Pithoragarh within the state of Uttarakhand. Jani underlines the measures of how ill-equipped the agricultural healthcare system is and why certain COVID-19 protocols will fail during a village setup. during a series of tweets that have resonated with many on the platform, she involves creating awareness within the villages to beat false beliefs, creating isolation centres at panchayat ghar to be managed by ASHAs, and ramping up testing.

Villagers also are falling prey to unqualified medical professionals and unverified information circulating in social media.[56]News reports found people, for instance, in rural Madhya Pradesh and Haryana who have had no choice but to approach unqualified medical practitioners: they are doing not have adequate information with which to form decisions, they fear being sent to isolation wards, there's shortage of medical facilities, and city hospitals are overcrowded.[57]the shortage of data relates to vaccination as well—and it's not uncommon to listen to of rural villagers resisting government vaccination drives. [58]

Recommendations for a Ten-Point Agenda

1. Constitute a task force: The govt of India should immediately form a task force with members from the ministries of Health, Rural Development, Agriculture, and Panchayati Raj, the state governments, alongside experts in health and other areas like sociologists and economists. This task force should have two components: enforcing COVID-19 protocols and improving rural health infrastructure. The group which focuses on protocols will raise awareness, disseminate correct information, identify specific problem areas, and description solutions at the local level. Given the huge diversity of rural India, a top-down approach is probably going to be ineffective. The task force should regularly interact with local authorities to know their specific challenges. For its part, the group which can specialise in strengthening the agricultural health infrastructure should outline a comprehensive strategy for effective distribution of medicines, testing kits, mobile medical units, and medical oxygen, found out makeshift hospitals for emerging hotspots, and prepare SOPs for COVID-19 patients keeping in mind the prevailing medical facilities within the region.

2. Raise awareness: Raising awareness through a huge public outreach campaign should be among India's first steps in its fight against COVID-19 within the rural districts. India has conducted successful public information campaigns for health issues like polio, HIV/AIDS, and leprosy. an identical large-scale campaign must be launched across the country, using all mediums of communication—television, radio, newspapers, and door-to-door campaigns

by doctors. this is often especially important given the urban bias of data currently being put out by the govt through television and radio. The outreach programme should be supported rural or tribal lifestyles, have rural characters, and are presented in vernacular languages. for instance, it might help rural households to find out how they will maintain social distancing within their own settings; they might also need proper and adequate information on testing and vaccination. Civil Society Organisations, NGOs, and native organisations should be roped in as partners during this exercise.

3. Strengthen the agricultural health systems: Health policy experts and advocates have long been demanding increased budgetary allocation for a robust and comprehensive primary health care system within the rural regions. The development of PHCs and CHCs should be done on a war footing. The COVID-19 pandemic exposed India's vulnerability to health shocks and demonstrated the necessity for increased public investment within the health sector. India has rock bottom healthcare budget within the world at 1.26 percent of GDP; as compared to the goal of two.5 percent listed within the National Health Policy.[59]Nearneighbours like Bangladesh and Pakistan, for instance, spend over 3 percent of their GDP on public health. India ranks 145th out of 195 countries on quality and accessibility to healthcare[60]as per the worldwide Burden of Disease study, less than China (48), Sri Lanka (71) and Bangladesh (133). With COVID-19 further exposing the rural-urban disparities in health, higher spending on the agricultural infrastructure has become even more urgent, including, as an example, for hospitals with ICU facilities. Government can adopt the model of public-private partnerships to urgently found out the required facilities.[61]

4. Provide a special economic package for rural India: Economist and Nobelist Amartya Sen has argued that restrictions on movement like lockdowns and social distancing, must be amid arrangements for income, food, and medical attention which are all likely to be impacted by those rules.[62]The challenge is gigantic, and states face varying degrees of monetary crunch. The Centre should announce a special rural package to assist the states bridge over the present crisis. This stimulus should specialise in ensuring food and livelihood security for families. The public distribution system (PDS) must be strengthened to make sure accessibility and availability of food grains, also because the MGNREGA.

Through cash transfers, the govt should provide a security net to all or any households who have lost their livelihoods thanks to lockdowns. consistent with Mahesh Vyas, CEO of Centre for Monitoring Indian Economy, over 10 million Indians have lost their jobs since the onslaught of the second wave of COVID-19; overall 97 percent of households across the country have witnessed a decline in incomes.[63]herefore, paying every household in rural districts a modest monthly amount to sustain themselves during the pandemic (without withdrawing their eligibility for other, existing schemes) is probably going to be simpler than trying to spot the "needy"— after all, no household is unaffected by the pandemic. The normative arguments made against cash transfers—i.e., that they're unproductive—no longer hold because the lockdowns have left millions jobless and lots of families have lost either and both of their breadwinners to COVID-19.

Guy Standing, an economist from the University of Bath, has argued that a universal basic income results in better physical and psychological state, and brings about clear improvements in nutrition, productivity, and therefore the status of girls.[64]Other economists, including Nobelist Abhijit Banerjee, have recommended bigger public spending to deal with India's current economic problems. the huge socio-economic fallout of the second wave of the pandemic involves stepping from public spending. Fiscal tightening at this juncture can prove devastating for the economy.

5. build up testing and vaccination: Scanty testing within the rural districts may be a matter of concern, to realize a clearer picture of the infection rates, launch a targeted response, and arrest the further spread. More Rapid Response Teams should be deployed within the rural regions for door-to-door visits where doctors check body temperatures, oxygen saturation levels, and other symptoms. Despite the surge in cases in rural areas, only 13 percent are vaccinated. this means the urgent got to proportion the vaccine rollout.[65]Testing units are often camped at local bus stops, especially where caseloads are heavy. Delhi is an example of this strategy.[66]

6. Fill vacant healthcare positions and recruit more staff: As discussed earlier during this report, many positions are lying vacant in Sub-Centres, Primary Health Centres, and Community Health Centres across the country. of these positions should be filled in immediately. an honest example is that the state of Jharkhand, which has started recruiting nurses on an outsized scale. State governments should consider recruiting temporary staff where necessary to deal with the surge in cases.

7. Impose strict rules on gatherings: Gatherings for weddings and non secular rituals must be curbed immediately to contain the spread of the virus. Police are deployed to stop such gatherings since last year, except for better compliance, community leaders and therefore the panchayat should take the lead in enforcing restrictions.

8. Distribute essential medication and equipment: there's an urgent got to mobilise resources for the distribution of implements like thermometers and pulse oximeters to families, and followup should be conducted by the community doctors. The panchayati raj and village health and nutrition committee are often involved during this task. Home medicine kits are often provided to affected households, alongside proper instructions on the way to use them. Still the foremost potent defence against COVID-19, consistent with experts, is that the use of masks, and hand hygiene. With average monthly expenditure of rural households at INR 6,646 and lots of families heavily indebted, the acquisition of masks, sanitisers, and soaps are going to be beyond reach for several. These should be made freely available in Sub-Centres, PHCs, and CHCs, and be distributed by ASHAs and doctors. Panchayats should launch dedicated sanitation drives across their jurisdictions. The Members of Parliament Local Area Development Scheme (MPLADS) funded[67]by Government of India enables Members of Parliament (MPs) to spend on enabling community assets like beverage, primary education, public

health, sanitation, and roads. The funds are allowed to be used for the acquisition of medical equipment for hospitals, N95 masks, PPEs, and ventilators. [68]MPs should be encouraged to use the funds under MPLADS to distribute these essentials in their constituencies.

9. Create a gender-sensitive response: Women are disproportionately impacted by the pandemic, with inequalities in access to health and nutrition getting exacerbated and therefore the burden of unpaid care work increasing manifold. Women, however, are the backbone of agriculture in India and that they play an important role as caregivers. Women's self-help groups and ASHAs have also been crucial thus far within the management of the pandemic in these districts. Therefore, women should be at the guts of India's COVID-19 response in rural areas. Women frontline workers should be vaccinated on an urgent basis, and therefore the stipend of ASHA workers must be increased. There should be special guidelines for the more vulnerable groups—for example, pregnant women: given the shortage of medical facilities in rural areas and therefore the rising COVID-19 cases, there's a danger that non-Covid medical needs, including births, get neglected.

10. Encourage the private sector to take a position in rural health: Experts argue that if businesses pursue social progress, then poverty, pollution, and disease would decline and their own profits would increase.[69]Companies that consider collective impact[g] won't only advance social progress but also find economic opportunities that their competitors are missing. Pursuing a collective agenda are going to be within the private sector's own interest, as businesses in India also are experiencing a decline in demand on account of the economic slowdown.

A rural recovery programme alongside expansion of welfare services will help businesses expand their markets. Therefore, India's private sector should be encouraged to take a position in building social infrastructure within the rural regions. A healthy population is, after all, the bedrock of economic process. A recent report by NITI Aayog[70] involves investment opportunities in healthcare through tax incentives. It provides for 10- percent deduction on profits for hospitals in rural areas. this is often a chance for the private sector to take a position in rural healthcare for tax incentives.

There are existing examples of Indian companies providing healthcare within the rural areas through CSR (Corporate Social Responsibility) initiatives. As an example, Tata Steel Limited launched its initiative, 'MANSI' (Maternal & Newborn Survival Initiative) which reduces mortality among neonates and infants by enhancing the capacity of state health volunteers within the Home-Based Newborn Care (HBNC) system.[71]The project is being implemented in 12 blocks across the states of Jharkhand and Odisha. Meanwhile, an initiative by Hindustan Petroleum focuses on providing basic healthcare facilities and services in remote rural areas through the deployment of Mobile Medical Vans.[72]The beneficiaries are women, children and therefore the elderly, whose general health is neglected thanks to poverty and lack of resources and awareness. The CSR wing of Ambuja Cement is engaged in awareness campaigns on protocols like handwashing and social distancing.[73] Sakhi-women[h] volunteers work with local health authorities to supply services. Such initiatives got to be scaled up in an urgent manner. As do philanthropic efforts. speculator, Vinod Khosla, has set an example by donating $10 million to the country's Covid fight.[74]Texas-based philanthropists, Raj and Aradhana Asava, have also offered up to $25,000 in donations to support pandemic relief in their native India.[75]

CONCLUSION

As the pandemic's second wave makes further inroads into India's hinterland, the country might be watching the likelihood of a disaster almost like what occurred within the urban regions early this year. and since 65.53 percent of the country's entire population is rural, targeted, comprehensive strategies must be undertaken to stop such a catastrophe from happening. things are already dire, and require immediate attention: medical infrastructures are weak, there are severe shortages in qualified medical staff, the vaccine rollout is slow, and there's poor adherence to safety protocols. These, including enduring, large-scale poverty and lack of livelihoods—which have existed long before COVID-19.

This special report outlined a ten point agenda for immediate action in India's rural districts. Beyond this urgent course of action, however, it's equally important that India turns the crisis into a chance to rethink current approaches to development: instead of being urban-centric, India must develop better health and welfare systems within the rural regions and make the countryside more resilient to shocks like COVID-19. The blueprint presented during this report can go an extended way in not only addressing the present health crisis in India's villages, but also within the achievement of cross-cutting sustainable development goals: SDG 1 (no poverty); 2 (zero hunger); 3 (good health and well-being); 5 (gender equality); 8 (decent work and economic growth); and 10 (reduced inequalities).

REFERENCES

Endnotes

[a] It was in these areas where photographs emerged of corpses floating in the river Ganga, and mass burial sites along the riverbed.

[b] ASHAs are community health workers instituted by the Ministry of Health and Family Welfare in the community to create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilisation and accountability of the existing health services.

[c] *Anganwadi workers* are community-based frontline workers of the Integrated Child Development Scheme program of the Ministry of Women & Child Development.

[d] ANM is a village-level female health worker.

[e] Due to unacceptably high fertility and mortality indicators, the eight Empowered Action Group (EAG) states (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh and Assam), which account for about 48 percent of India's population, are designated as "High Focus States" by the Government of India.
[f] The emerging economies of Brazil, Russia, India, China, and South Africa.
[g] The concept of collective impact was developed by John Kania and Mark Kramer. Collective impact is the commitment of a group of actors from different sectors to a common agenda for solving a specific social problem, using a structured form of collaboration.
[h] *Sakhis* – a group of women volunteers trained by Ambuja Cement Foundation in healthcare services

1. HT correspondent. As India records 126. *Hindustan Times*; April 8, 2021. 260 new Covid-19 cases, curbs in more states'.
2. SBI report emphasises on vaccination, says nearly half of the new cases in rural India. *The Hindu*; May 7, 2021.
3. Bidwai Aditya. After affecting big cities, Covid-19 is now hitting India's rural areas hard. *India Today*; May 7, 2021.
4. Chaman Vishakha. In Haryana, most rural Covid deaths in Hisar. *The Times of India*; May 18, 2021.
5. Ghangar Gopi Maniar. Second wave hits Gujarat's rural pockets; village loses 90 people to Covid. *India Today*; May 5, 2021.
6. Dubey Mithilesh Dar. Testing times for rural India as delay in RT-PCR test results may hasten the Covid spread. GoanConnection. May 5, 2021.
7. In rural India, fear of testing and vaccines hampers COVID-19 fight. Livemint. June 5, 2021.
8. Thakur Atul. Proof that COVID is now a rural pandemic in India. *Times of India*; May 12, 2021.
9. Vignesh R. Vaccination in rural India trails urban areas as cases surge. *The Hindu*; May 18, 2021.
10. Vignesh R. Vaccination in rural India trails urban areas as cases surge.
11. Bhavya, Himanshi. Low smartphone reach coupled with lack of digital literacy hit rural India Covid vaccine drive. *The Economic Times*; May 16, 2021.
12. Pranab M, Harpreet B, Sudhir S. Covid vaccine a distant reality in rural India, shows app. *The New Indian Express*; May 23, 2021.
13. Dubey Mithilesh Dar. 44% rural citizens willing to pay for corona vaccine; two-third wants its price to not exceed Rs 500: Gaon Connection Survey. GaonConnection. December 23, 2020.
14. Trading economics. India – rural population.
15. 76% of rural Indians can't afford a nutritious diet: study. *The Hindu*; October 17, 2020.
16. Nandy Debmalya. COVID and rural economic distress: food for all and work for all should be the way forward. GaonConnection. June 2, 2021.
17. Mordani Sneha. Centre gives states blueprint for containment of COVID-19 in rural areas. *India Today*; May 17, 2021.
18. Government of India, Ministry of Health & Family Welfare. SOP on COVID-19 Containment & Management in Peri-urban, Rural & Tribal areas; May 16, 2021.
19. Govt issues SOPs to combat Covid in rural areas, focus on awareness, screening, isolation. *India Today*; May 16, 2021.
20. Mudur GS. Union Health ministry releases guidelines for Covid management in rural areas. *The Telegraph Online*; May 17, 2021.
21. Chandran Rina. Drones are delivering vaccines to rural communities in India. World Economic Forum; May 25, 2021.
22. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20. New Delhi: Ministry of Health and Family Welfare Statistics Division; 2020.
23. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
24. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
25. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
26. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
27. Srivastava Piyush. Covid: RAT kits sent from UP headquarters turns out to be faulty. *The Telegraph Online*; May 15, 2021.
28. Bihar struggles to cope with rising COVID-19 cases. *The Hindu*; April 16, 2021.
29. Raina Agrima. ASHA workers are hailed as Covid warriors but only 62% have gloves, 25% have no masks. Print. September 21, 2020.
30. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
31. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
32. Government of India, Ministry of Health and Family Welfare Statistics Division. Rural health Statistics 2019-20.
33. Oommen C. Kurian. Does budget 2020 provide material support for the ongoing health reforms? Observer Research Foundation, February 7, 2020.
34. Oommen C. Kurian. Does budget 2020 provide material support for the ongoing health reforms?
35. Oommen C. Kurian. The War Budget: Can the Centre Fight à Pandemic Simply by Turning Water Into Wellbeing? Observer Research Foundation, February 1, 2021.
36. World Bank.
37. World Bank.
38. Vishnu Uma. Prabhat Jha: 'Lack of death data prolongs pandemic… survey villages'. *India Express*; May 25, 2021.
39. Vishnu Uma. Prabhat Jha: 'Lack of death data prolongs pandemic… survey villages'.
40. Mishra Asit Ranjan. Growth setback likely as rural India begins to reel from COVID-19. Livemint. May 5, 2021.
41. Suri Shoba. Coronavirus pandemic and cyclone will leave many Indians hungry and undernourished. Observer Research Foundation; July 16, 2020.
42. Ray Meenakshi. Free ration to 800 million people till Diwali, announces PM Modi. *Hindustan Times*; June 7, 2021.

43. Government of India, Ministry of Statistics and Programme Implementation, Annual Report 2017-18; 2018.
44. Kancharla Bharath. NFHS-5: gender and urban–rural divide observed in access to School Education. Faqtly. December 22, 2020.
45. van Leur Alette. Rural women need equality now. International Labour Organization, (Speech. New York; March 15, 2018).
46. Jena Sasmita. Breaking the shackles of intergenerational malnutrition in Jharkhand. Welhungerhilfe. March 18, 2019.
47. Kulkarni Ragini, Surve Suchitra, Patil Sagar, Sankhe Lalit, Gupta Priyanka, Toteja Gurudayal. Nutritional status of adolescent girls in tribal blocks of Maharashtra. Indian J Community Med. 2019;44(3):281-4. doi: 10.4103/ijcm.IJCM_369_18, PMID 31602120.
48. Allana Alia. Why is Covid killing so many pregnant women in India? *Deccan Herald*; May 24, 2021.
49. World Bank [Database].
50. Mander Manav. Wary of Covid testing, pregnant women in villages avoid hospitals. *The Tribune*, June 8.
51. de Haan Arjan. Rural-urban migration and poverty: the case of India. IDS Bull. 1997;28.
52. Bremen Jan. Outcast labour in Asia: circulation and Informalization of the workforce at the bottom of the economy. Oxford: Oxford University Press; 2010.
53. Mishra Prasun K, Jha Aditya Nath. Covid-19 stigma, vaccine hesitancy slowing fight against covid-19 in rural Bihar. *Hindustan Times*; May 20, 2021.
54. Johari Aarefa, Lalwani Vijayta. Indians fear lockdowns more than Covid-19. How prepared are governments to avert a crisis this time? Scroll.*in*. June 13, 2021.
55. Bhairavi Jani.
56. Noronha Rahul. Why unqualified medical practitioners are a hit among Covid patients in rural MP. *India Today*; April 29, 2021.
57. Dwari Anurag. In rural Madhya Pradesh, A 'field hospital' for covid run by quacks. NDTV, May 6, 2021.
58. Rashid Omar. People in some rural areas resisting vaccination, say U.P. officials. *The Hindu*; May 25, 2021.
59. India 145th among 195 countries in healthcare access, quality. *Economic Times*; May 24, 2018.
60. GBD 2016 Healthcare Access and Quality Collaborators. Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016. Lancet. 2018;391(10136):2236-71. doi: 10.1016/S0140-6736(18)30994-2, PMID 29893224.
61. Ashok Kumar ER. Why India needs private-public partnership in healthcare. *Business Line*; March 18, 2021.
62. Sen Amarty. A better society can emerge from the lockdowns. *Financial Times*; April 15, 2020.
63. PTI. Second wave rendered 1 cr Indians jobless; 97 pc households' incomes declined in pandemic: CMIE. *Economic Times*; May 31, 2021.
64. Standing Guy. Support is growing for a universal basic income – and rightly so. The Conversation. May 26, 2021.
65. Radhakrishnan Vignesh. Vaccination in rural India trails urban areas even as cases surge. *The Hindu*; May 18, 2021.
66. Butani Ashna. Delhi: at bus terminals and railway stations, lab techs, volunteers have hands full as testing ramps up. *The Indian Express*; April 4, 2021.
67. Swaniti initiative. Members of Parliament Local Area Development Scheme: exploring opportunities with emphasis on Jharkhand.
68. Suneja Kirtika. Government allows MPLADS funds to set up oxygen manufacturing plants in Govt hospitals. *The Economic Times*; April 30, 2021.
69. Kramer Mark R, Pfitzer Marc W. The ecosystem of shared value. Harward Bus Rev. October 2016.
70. NITI A. Ayog 2021. Invest Opputunities India's Healthc Sect.
71. Tata Sustainability Group. TATA steel Mansi project.
72. Hindustan petroleum.
73. Cement Ambuja. Reaching out to rural India in the fight against coronavirus; April 7, 2020.
74. Venture capitalist Vinod Khosla pledges $10 million to aid India's Covid-19 fight. *The Economic Times*; May 3. 2021.
75. Donors race to aid India during Covid-19 surge. Deccan Herald; May 6, 2021.