



India's Policy Response to COVID-19

Policy Report • June 2020

Key Messages

- **Number of cases.** India detected the first COVID-19 case on January 30, 2020. As of June 15, India had 332,424 cases. The total number of cases doubled since May 1, and continues to grow exponentially while the testing rates remain one of the lowest globally.
- **Geographic variation.** There is huge geographic variation in COVID-19 infections and deaths among the states in India. As of June 15, over 32% of total identified COVID-19 cases in India were in the state of Maharashtra, followed by Tamil Nadu 13.6 (%) and New Delhi (12.5%).
- **Measures to control transmission.** Since mid-January, the Government of India has issued international travel advisories, ensured mandatory compliance of travel restrictions and quarantines, provided guidance on hand-washing and social distancing, and imposed a national lockdown to control the spread of infections. The Epidemic Disease Act (recently modified Epidemic Ordinance, 2020), Disaster Management Act, 2005, and Section 144 of the Indian Penal Code were invoked to restrict movement of people and to curtail exports of essential medical and non-medical goods. On March 22, guidelines and action plans for control and quarantine were provided by the Ministry of Health and Family Welfare (MoHFW) through the COVID-19 containment plan.
- **Lockdown and re-opening.** On March 22, a 14-hour Janata curfew was announced and almost immediately extended into a lockdown. After extending the lockdown multiple times due to increasing cases, phased removal of the lockdown has been in effect since June 8. However, daily cases continue to increase sharply in India which calls for improved detection, containment, and mitigation measures.
- **Socioeconomic welfare policies.** The COVID-19 crisis in India has had a broad impact on the economy due to lockdown, restrictions, and the economic slowdown that followed. The COVID-19 Economic Taskforce introduced a US\$ 23 billion special economic stimulus program, Pradhan Mantri Garib Kalyan Yojana, to support poor households. This program provides free essential food items, cooking gas, direct cash transfers to the poor, and insurance coverage to COVID-19 health workers. In addition, tax relief and debt relief has been provided to small and medium enterprises and households.
- **Barriers to epidemic control.** Barriers to detecting, containing, and treating COVID-19 cases include low testing rates, enforcement of physical and social distancing in densely populated areas, and the poor state of public health infrastructure. Migrant workers have been severely affected by the lockdown, and the government has faced severe criticism in providing food, temporary housing, and quarantine measures to this population.
- **Mitigating harms.** Measures need to be taken to mitigate the impact on key health sector priorities such as malnutrition, reproductive, maternal and child health conditions, and control programs for tuberculosis (TB), HIV, and malaria. Long term policy and program measures are needed to strengthen the health system including its capacity in outbreak prevention, detection, and response.

In this brief, we focus on India's response to the COVID-19 pandemic. We begin by examining the country's level of preparedness to deal with a pandemic prior to COVID-19. We then give a snapshot of the current COVID-19 situation, the policies that the federal and state governments have enacted to curb the epidemic, and the policy gaps. Finally, we describe how the country is funding its COVID-19 response.

Background

On January 23, 2020 the World Health Organization's International Health Regulations (IHR) Emergency Committee advised all nations worldwide to be prepared to deal with transmission of the new coronavirus (then called 2019-nCoV, now called SARS-CoV-2) in their countries. The committee stated: "all countries should be prepared for containment, including active surveillance, early detection, isolation and case management, contact tracing and prevention of onward spread of 2019-nCoV infection, and to share full data with WHO."³¹ On January 30, the WHO declared COVID-19 to be a public health emergency of international concern.³¹ January 30, 2020 was also the date that India detected its first case of COVID-19.

Pandemic preparedness prior to COVID-19

India has had a long history of outbreaks. During the Spanish influenza pandemic of 1918, India accounted for the largest number of estimated global cases and deaths.^{3,2} During the past decade, outbreaks of avian influenza, Japanese encephalitis, dengue, cholera, swine flu, and most recently Nipah in 2018, have hit several parts of the country.³

Background	2
Pandemic preparedness prior to COVID-19	2
Current COVID-19 situation and impact	3
Policy steps taken	4
Policy gaps	10
Funding the COVID-19 response	14
Conclusion	15
References	16
Funding, authorship, and methods	19

How prepared was India for tackling a pandemic prior to COVID-19, in light of the aforementioned outbreaks during the past decade? The WHO Joint External Evaluation (JEE) and the Global Health Security (GHS) Index are two measures that assess and compare country capacities in outbreak preparedness. Though there has not been a JEE for India, it did receive a GHS Index score in 2019.⁴ The index is based on a detailed framework that has 140 questions across 6 categories (Table 1), with 34 indicators of a country's health security.

In 2019, India's overall GHS Index score was 46.5, placing it 57 out of 195 countries receiving a score. India's score was above the global average of 40.2 (Figure 1), but lower than other south-east Asian countries like Thailand and Indonesia, which received scores of 73.2 and 56.6,

Table 1: GHS Index indicator categories

Categories	Example of indicators under categories
Prevention	<ul style="list-style-type: none"> Antimicrobial resistance Immunization
Detection and reporting	<ul style="list-style-type: none"> Real-time surveillance and reporting Laboratory systems
Rapid response	<ul style="list-style-type: none"> Emergency preparedness and response planning Emergency response operation
Health system	<ul style="list-style-type: none"> Health capacity in clinics, hospitals and community care centers Communications with healthcare workers during a public health emergency
Compliance with international norms	<ul style="list-style-type: none"> IHR reporting compliance and disaster risk reduction Commitment to sharing of genetic & biological data & specimens
Risk environment	<ul style="list-style-type: none"> Political and security risks Infrastructure adequacy



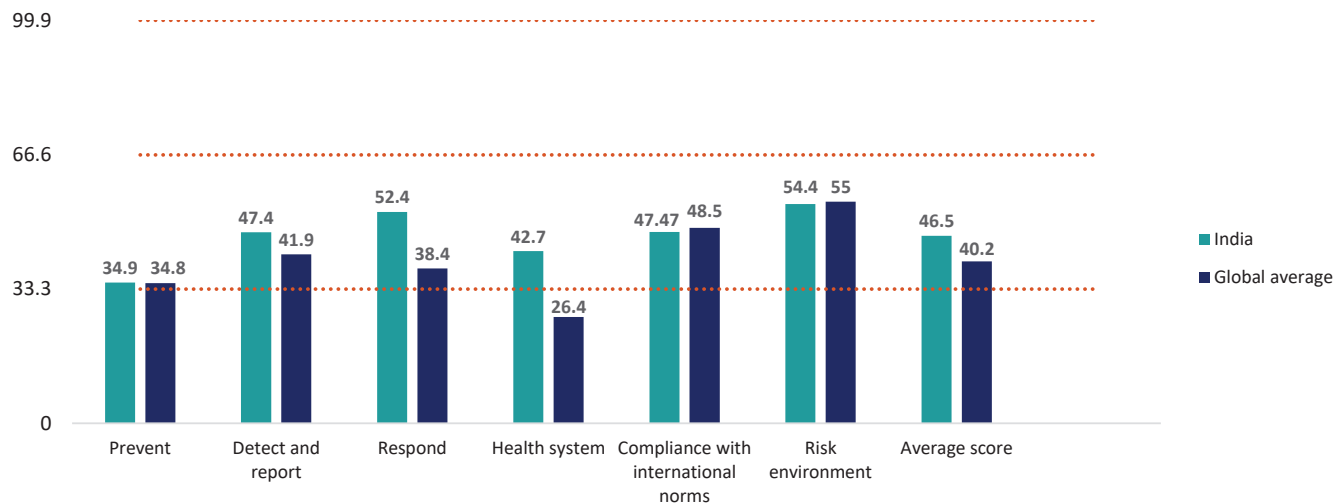


Figure 1. GHS Index scores for India compared with the global average scores

The index range is 0-100: a score below 33.3 is **low**, 33.4-66.6 is **moderate**, and 66.7-100 is **high** (100 means perfect health security conditions)

Source: Global Health Security Index, 2019

respectively. The scores under all six categories were in the moderate range for preparedness (Figure 1), indicating room for improvements on all fronts.⁵ Table 2 shows India's scores for a list of sub-indicators based on the 219 GHS Index.⁵

India's National Centre for Disease Control is responsible for research, training, and investigation of arboviral and zoonotic diseases, and the Inter-Sectoral Coordination for Prevention and Control of Zoonotic Diseases program.⁶ The Integrated Disease Surveillance Program (IDSP) has a network of regional laboratories for routine surveillance.⁷ Several decentralized surveillance units are in place at the state and district levels through which data are collected and integrated through the IDSP data platform.⁸ However, incomplete and unreliable data, weak decentralized surveillance capacity, and poor response mechanisms are key challenges in India's health emergency preparedness and response. These data weaknesses are in part related to the government's limited engagement with the private sector for data collection. With the exception of national disease programs like polio, HIV/AIDS, and TB, very little data from the private health care system is captured.⁹

Current COVID-19 situation and impact

According to the MoHFW, as of June 15, 2020, India had a total of 332,424 confirmed COVID-19 cases and 9,520 COVID-19 related deaths (Table 3).¹⁰ As Figure 2 shows,

cases of COVID-19 are rising sharply with confirmed cases having more than doubled and deaths more than tripled between May 1 and June 15. The rise in cases may be a result of increased testing in more recent weeks. India has conducted over 1.75 million tests.¹¹ Data released by MoHFW show that as of May 21, 2.94% of active cases were being treated in intensive care units.¹² The recovery rate in India has increased from 30% in early May to 52%, but there is no immediate sign that COVID-19 has reached its peak.

India has a daily testing capacity of 300,000 tests as of June 15,¹³ and there are 1,000 COVID-19 testing labs, of which 730 are government and 270 are private.¹⁴ India has started producing its own testing kits based on guidelines provided by the Indian Council for Medical Research (ICMR) to minimize reliance on imported kits.^{11,13} Currently, 10 out of 42 testing kits validated for use in India are being manufactured domestically.¹⁵ The ICMR provides guidelines on India's COVID-19 testing strategy. Box 1 shows India's latest testing guidelines.

Data released on April 6, 2020 by the MoHFW show that 76% of confirmed COVID-19 cases were male and 24% were female. As shown in Figure 3, the highest proportion of cases (47%) has been in people aged 40 years and below, followed by 40-60 years (34% of cases), and then 60 years or over (19% of cases).¹⁸ Data released on age distribution of COVID-19 deaths show that more than 50% of deaths

Table 2. India's GHS 2019 scores across various sub-indicators

Low score <33.3	Moderate score 33.4-66.6	High score 66.7-100
<ul style="list-style-type: none"> Biosafety Dual-use research and culture of responsible science Linking public health and security authorities Data integration between human/animal/environmental health sectors Medical countermeasures and personnel deployment Cross-border agreements on public and animal health emergency response 	<ul style="list-style-type: none"> Biosecurity Zoonotic disease prevention Emergency preparedness and response planning Health capacity in clinics, hospitals, and community care centers Healthcare access 	<ul style="list-style-type: none"> Communications with healthcare workers during a public health emergency International commitments Trade and travel restrictions Laboratory systems Immunization Socio-economic resilience

Source: Global Health Security Index, 2019

have been among the elderly above 60 years age, followed by those in the 45-60 years age group. The MoHFW reported that 73% of deaths were in people with underlying co-morbidities. Almost two thirds (64%) of deaths have been in men and just over one third (36%) in women.¹²

COVID-19 incidence varies greatly across India (Figures 4 and 5). As of June 15, the state of Maharashtra had recorded the highest number of cases and accounted for one-third of total COVID-19 cases (Figure 4), followed by Tamil Nadu (13.6%) and New Delhi (12.5%).¹⁰ This variation may in part reflect variation in testing rates across states, as discussed below.

Figure 6 shows the testing rates and the number of identified cases across the states in India. The bubble size represents cases per million population. The average testing rate in India is 4,972 per million as of June 15. Ladakh has the highest testing rate at 38,170 per million, followed by Goa (27,568 per million), Jammu and Kashmir (20,400 per million) and Delhi (14,693 per million). Maharashtra, which accounts for 33% of all cases, has a lower testing rate of 5,445 per million compared with many other states (i.e., the high number of cases in Maharashtra is not explained by a high test rate).¹⁹ States like Telangana, Gujarat, and

Tamil Nadu have low testing rates coupled with a high percentage of positive cases. By increasing testing rates, these states will likely identify far more positive cases which will help to isolate and control the spread of COVID-19.

As of June 15, India ranked fourth in the world in terms of total number of confirmed COVID-19 cases. Among the countries with the highest COVID-19 burden, India had a low death rate of 7.3 per million compared to Spain (580.6 per million), the United Kingdom (629 per million), and the United States (354.9 per million).^{20,21} (Figure 7)

Policy steps taken

Some of the key policy steps taken by the government of India to control the country's COVID-19 outbreak are described below and summarized in Figure 8.

Legislative measures

Both the central and state governments are constitutionally empowered to legislate various activities in response to disease outbreaks.²²

India's Epidemic Diseases Act is a colonial era act that was put in place in 1987 and serves as the main legislative framework for the prevention and spread of dangerous epidemic diseases. After the COVID-19 outbreak, this Act

Table 3. Status of COVID-19 in India (As of June 15, 2020)

Total cases	332,424
Active cases	169,798
Deaths	9,520
Recovered/discharged/migrated out of the country	180,013
Total cumulative tests conducted	5,921,069
Testing capacity	300,000 samples per day

Source: Ministry of Health and Family Welfare



This is one in a series of reports focusing on the response of middle-income countries to the COVID-19 pandemic. The briefs are part of a broader study called *Driving health progress during disease, demographic, domestic finance, and donor transitions* led by the [Center for Policy Impact in Global Health](#).

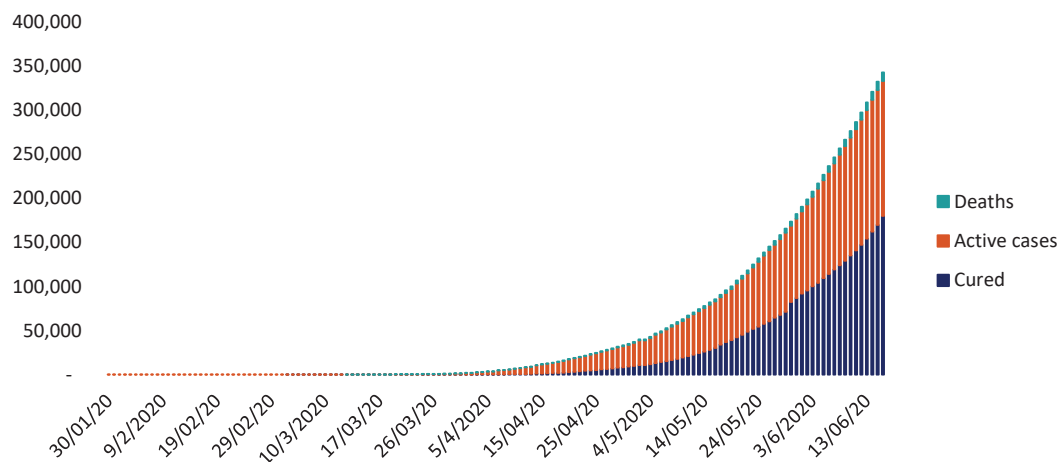


Figure 2. Total (cumulative) number of cases of COVID-19 in India as of June 15, 2020

Source: Ministry of Health and Family Welfare

was invoked and a recent amendment, Epidemic Diseases (Amendment) Ordinance, 2020 ("2020 Ordinance") was made. The key amendments and updates aim to (i) ensure the protection and security of healthcare service personnel nationwide, (ii) expand the powers of the central government to restrict movement of people and transport, and (iii) empower authorities to take legal action against damage to property and violence against health personnel.²³

At the state level, several hard hit states invoked the Epidemic Diseases Act and adopted legislative and regulatory measures, such as regulations or ordinances in Maharashtra, Delhi, and Kerala.^{24,25,26}

The Disaster Management Act, 2005 was invoked on March 24 after lockdown was announced to restrict the movement of people, initiate action against false and fake news, and provide access to states for emergency funds.²⁷

Section 144 of the Indian Penal Code, which empowers authorities to take legal action "against those indulging in spread of disease" and prohibits gathering of people, has been enforced in several states including Maharashtra, Delhi, and Karnataka.²⁸

Public health measures

Surveillance

Once early reports of COVID-19 cases started trickling out in China and other countries, in India the MoHFW reviewed India's COVID-19 preparedness and initiated the Integrated Disease Surveillance program on January 17, 2020, nearly two weeks before the first case was identified.²⁹ Surveil-

lance at international airports was put in place. Universal thermal screening for all international arrivals has been in effect since March 3. Two COVID-19 surveillance systems have been put in place to monitor trends in COVID-19 infections at a district level. The first is a facility-based survey across all districts, initially using throat/nasal swabs and testing for the virus, which will be replaced by serum testing

These guidelines state that testing should be done on:

1. All symptomatic individuals (influenza-like illness symptoms) who have undertaken international travel in the last 14 days
2. All symptomatic contacts of laboratory confirmed cases
3. All symptomatic health care workers and frontline workers involved in containment and mitigation
4. All patients with a severe acute respiratory illness (fever and cough and/or shortness of breath)
5. All symptomatic individuals within hotspots/containment zones
6. All hospitalized patients who develop symptoms
7. All symptomatic individuals among returnees and migrants within 7 days of illness
8. Asymptomatic direct and high-risk contacts of a confirmed case (they should be tested once between day 5 and day 14 of coming into contact with the confirmed case)¹⁶

The real time RT-PCR test is recommended for diagnosis using the above strategy. Apart from RT-PCR, TrueNat and CBNAAT tests are also used for diagnosis, while ELISA and rapid antibody tests are conducted for surveillance to detect exposure in high risk populations and areas.¹⁷

Box 1. India's COVID-19 testing guidelines, as of May 15, 2020

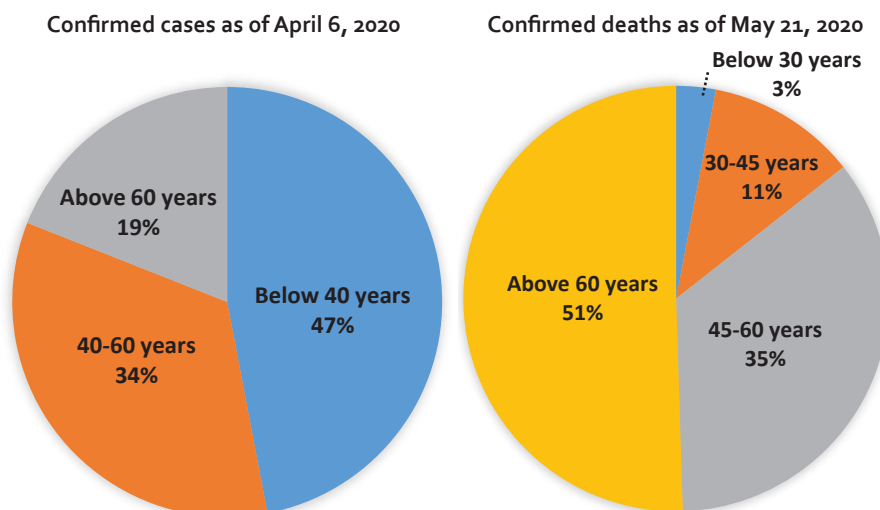


Figure 3. Breakdown of COVID-19 confirmed cases and deaths in India by age
Source: Ministry of Health and Family Welfare

for antibodies. The second is a population based sero-survey (testing serum for antibodies) in selected districts to detect exposed populations in high-risk areas and containment zones.³⁰ ASHA (Accredited Social Health Activists) health workers are playing a key role in community surveillance by (i) conducting house to house surveillance on symptoms, (ii) contact tracing, and (iii) providing information to households on preventive public health measures. Other non-health workers like Panchayati Raj functionaries, Red Cross volunteers, and Anganwadi staff have been provided training to support community surveillance.²⁸

Travel advisories and restrictions

After India's first COVID-19 case was confirmed on January 30, the same day that the WHO declared COVID-19 to be a public health emergency of international concern (PHEIC)³¹, travel advisories were immediately announced against any form of non-essential travel to China.³² This advisory was later expanded to other highly-impacted countries including France, Iran, Italy, Japan, Malaysia, Republic of Korea, Singapore, Spain, and Thailand during the month of February.³³ On March 22, the government of India prohibited incoming international flights from entering the country. On May 5, the government of India announced measures to repatriate Indian citizens stranded abroad since lockdown in a phased manner.³⁴ Compulsory 14-day quarantine measures have been in place since January 31 for international travelers returning from China; these measures were later ex-

tended to passengers from other countries and to all inter-state migrants and health workers. Quarantine centers have also been set up at various hospitals and other facilities for returning travelers and inter-state travelers across the country.

Containment

On March 11, a COVID-19 Containment Plan²⁸ was released by the MoHFW that provides guidelines to states on a plan of action and quarantine measures to be adopted. India is prepared to develop a mitigation plan in case the containment plan does not help to control the spread of COVID.³⁵ As per India's COVID-19 Containment Plan, all districts have been divided into three zones: (i) red zone: hotspot districts with large outbreaks and clusters, (ii) orange zone: non-hotspot districts with reported cases, and (iii) green zone: no reported cases or no new cases in the past 21 days (Figure 9). On April 30, of the 733 districts, 130 districts were in the red zone, 284 districts in the orange zone, and 319 districts in the green zone.^{36,37} This strategy has helped India to tailor its response and vary the degree of restrictions on movement and economic activities based on infection rates and changes in status of the districts.

Within the first two weeks of May, the number of COVID-19 cases doubled. 81% of these new cases were in red zone districts, 15% in orange zone districts and 4% in green zone districts. 272 green zone districts have reported new cases since May 1.³⁸

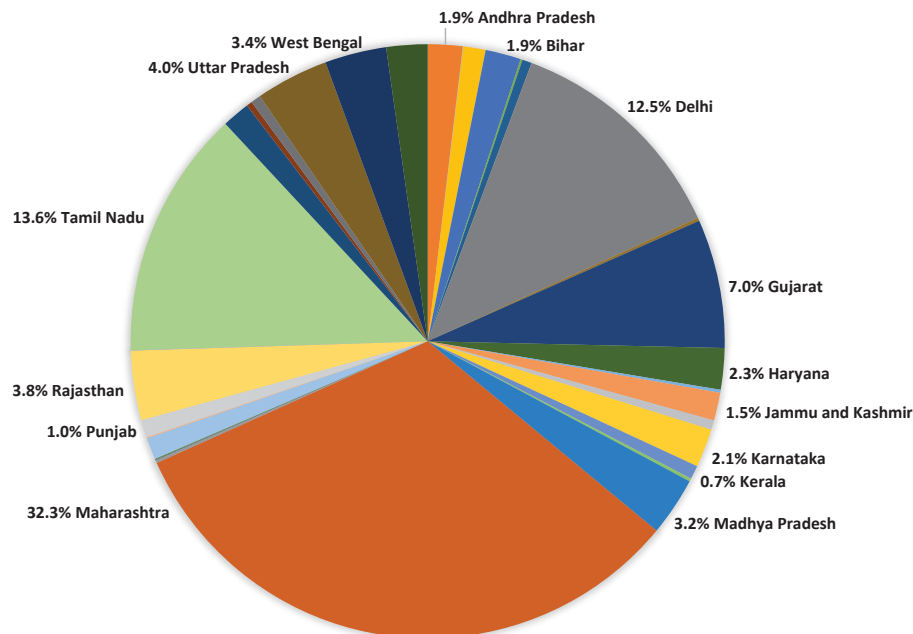


Figure 4. Percentage distribution of COVID-19 cases across states, as of June 15, 2020
Source: Ministry of Health and Family Welfare

Lockdown

The "Janata curfew," a 14-hour national lockdown announced by Prime Minister Narendra Modi, was put in place on March 22, and was almost immediately expanded to a 21-day lockdown that took effect midnight of March 25 through April 14. This lockdown was further extended to May 3 (Lockdown 2.0) and then again to May 15 (Lockdown 3.0) to control the spread of COVID-19. Prime Minister Modi once again extended the lockdown (Lockdown 4.0) to May 31 as the number of COVID-19 cases were rapidly increasing in India. Lockdown 4.0 allowed relaxation in economic activities, including activities in the hotspot red and orange zone districts.^{39,40}

Contact tracing

The government of India launched the 'Aarogya Setu' app to enable people to assess themselves for COVID-19 risk based on their interaction with others. The Ministry of Home Affairs has asked local authorities to ensure 100% coverage of all residents in containment zones through this app.^{40,41} However, this is not a legally binding measure as currently there are no laws in India to enforce use of this app.⁴²

Healthcare facilities

India has designated specific public health facilities for COVID-19 case management. These facilities fall under three broad categories. Category I includes dedicated COVID-19 hospitals, category II includes dedicated COVID-19 health centers, and category III includes dedicated COVID-19 care centers (Table 4).

As of May 5, there were 7,740 facilities in 483 districts. In total there are 656,769 isolation beds, 305,567 beds for confirmed cases, 351,204 beds for suspected cases, 99,492 oxygen-supported beds, 1,696 facilities with oxygen manifold (oxygen supply through a pipeline), and 34,076 ICU beds.⁴³

Phased re-opening after lockdown

On June 1, the Ministry of Home Affairs (MHA) issued new COVID-19 guidelines for Unlock 1.0, a phased re-opening of areas outside containment zones in effect from June 8 through June 30. During Phase I, places of worship, hospitality services, and shopping malls were permitted to open starting June 8 with directives from MoHFW. Decisions on whether or not to open academic institutions in July will be made after consultations with states. Activities like international air travel, operation of metro rail services, and big

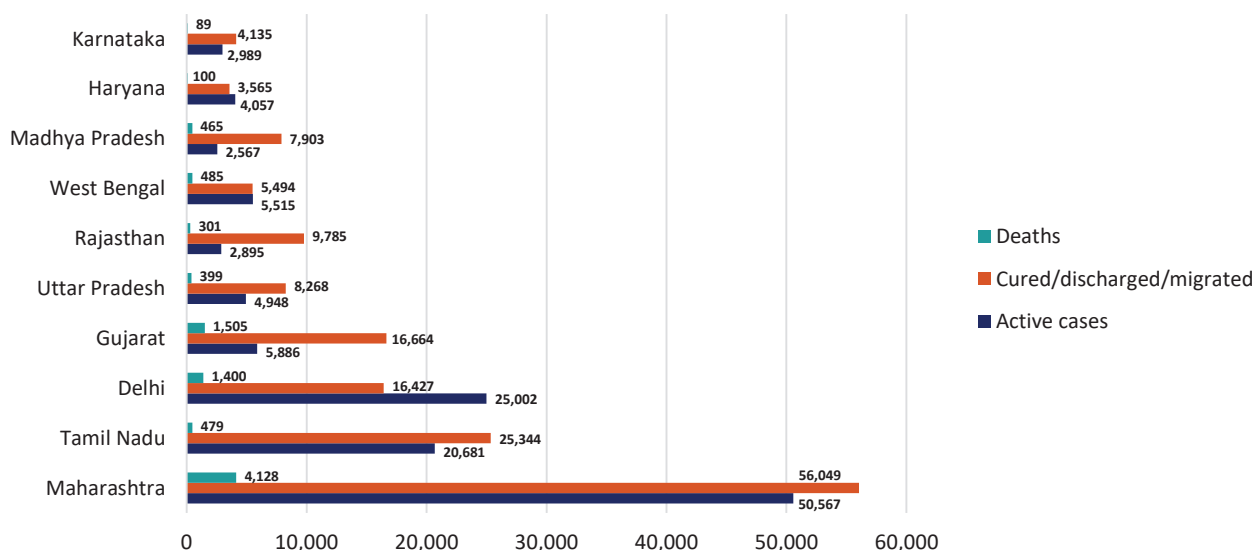


Figure 5. States with the highest number of COVID-19 cases in India, as of June 15, 2020

Source: Ministry of Health and Family Welfare

gatherings like attending movie halls or gyms and social gatherings remain prohibited with night curfew in force between 9pm to 5am. However, inter- and intra-state movement without permission, domestic air travel, rail travel, and evacuation of stranded nationals have been allowed under Unlock 1.0. State governments are allowed to either follow standard quarantine procedures or update procedures to combat increases in cases and new hotspots.

Socio-economic measures

Package of economic relief measures

The COVID-19 Economic Response Task Force was set up on March 19 under India's Finance Minister to tackle the economic challenges resulting from the COVID-19 pandemic.⁴⁴

On March 23, the government of India introduced the Pradhan Mantri Garib Kalyan Yojana (PMGKY), a set of relief measures to mitigate economic distress faced by vulnerable and poor people amounting to US\$ 23 billion.⁴⁵ The World Bank is providing US\$ 1 billion support towards the implementation of PMJKY.⁴⁶ This program would benefit 800 million poor people in India. The key benefits under this program include:

- Insurance coverage of INR 5 million (approx. US\$ 62,000) per health worker fighting COVID-19
- Free provision of 5kg wheat or rice and 1kg of pre-

ferred pulses to 800 million poor people for the next three months

- Free provision of cooking gas supplies for the next three months to poor households
- Direct bank account transfers of INR 500 (US\$7) to 200 million women covered by the financial inclusion program, Jan Dhan Yojana, for the next three months
- Increase in daily wages under the rural employment guarantee program, the Mahatma Gandhi National Rural Employment Guarantee Act, which benefits 136 million families
- Voluntary payments to 30 million poor senior citizens, poor widows and poor disabled persons
- Front loaded payments to 87 million farmers
- Relief packages for construction workers

Monetary policy measures

The Reserve Bank of India, the country's central bank, introduced a number of monetary policy measures to regulate market volatility, increase liquidity, and check inflation.⁴⁷ It also introduced measures to allow more borrowing by state governments to combat COVID-19 and provide debt relief on various forms of personal and commercial borrowing and loan repayments.

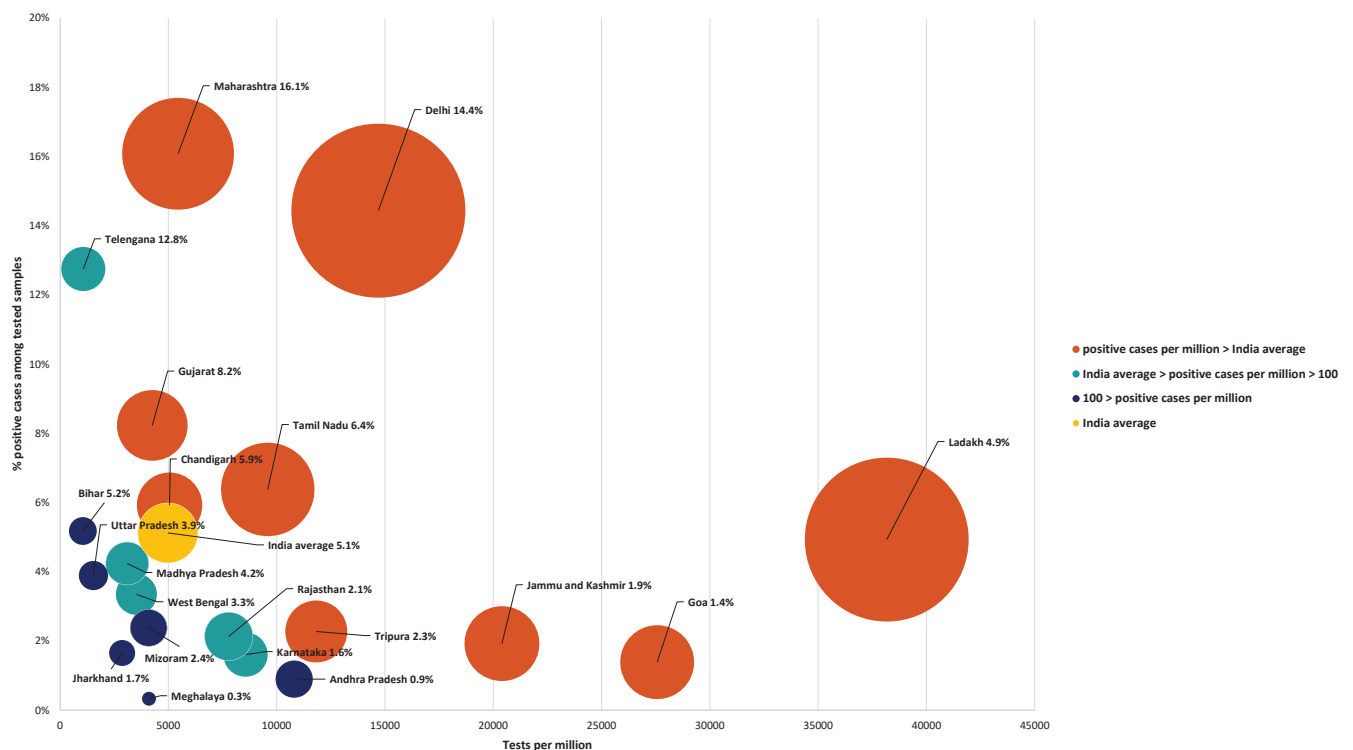


Figure 6. Testing rates and positive cases as of June 15, 2020 across states in India
Source: Data from state health departments and Indian Council of Medical Research

Testing and treatment costs

COVID-19 testing is free for all at government public facilities, and since April 4, both testing and treatment has been made free for eligible beneficiaries under India's Pradhan Mantri Jan Arogya Yojana (PMJAY), the publicly funded health insurance program benefitting the poorest households in India.⁴⁹ While the cost of testing in private labs was capped at INR 4,500 (US\$ 60), the cap has been removed and states are allowed to fix their own prices.

Relief for statutory and regulatory compliance

To help firms, especially small and medium enterprises, to cope with the sudden loss of economic opportunity, the government has provided relief in statutory and regulatory compliance matters related to income tax, goods and service tax, customs, financial services, and corporate affairs.⁵⁰

The Self-Reliant India program

The global crisis created by the COVID-19 pandemic has impacted economic growth across the world. The Inter-

national Monetary Fund's World Economic Outlook, 2020 reports that India's GDP growth rate has been halved from 4.2% to 1.9%. However, the economy is expected to bounce back in 2021 with a 7.4% growth rate.⁵¹ On May 11 Prime Minister Narendra Modi announced a new economic package of US\$ 260 billion, equivalent to 10% of India's GDP, under a new "Atmanirbhar Bharat" (Self Reliant India) program. The economic package focuses on five pillars: economy, infrastructure, technology driven systems, demography, and demand.³⁹ With a long-term focus, the first tranche of measures focuses on reviving businesses through longer-term soft-lending and debt and tax relief.⁵² The second tranche of measures—focusing on migrants, small traders, and small farmers—includes supplying free food grains to migrants for two months, concessional loans to small farmers, and affordable housing for migrants and the urban poor.⁵³

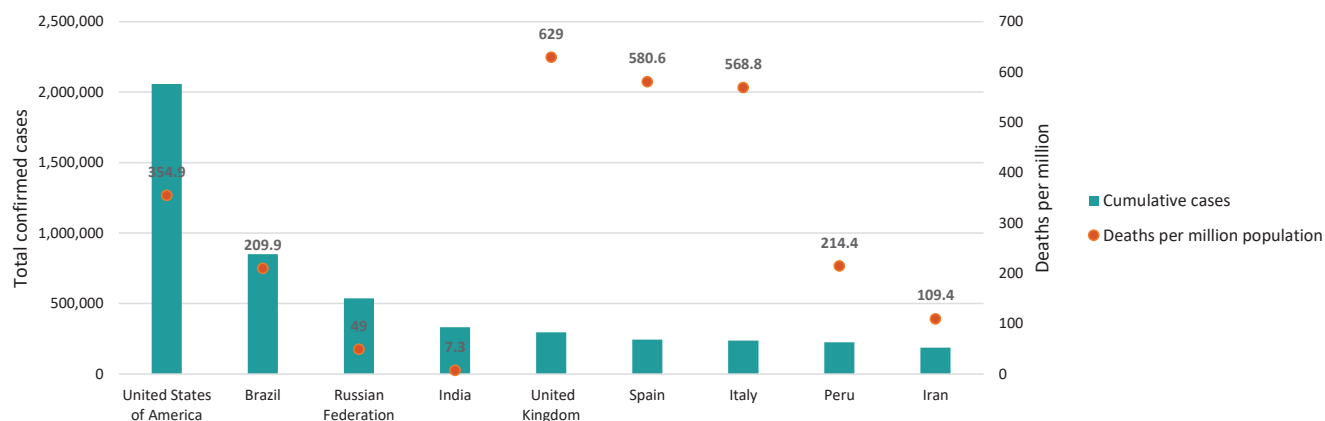


Figure 7. International comparison of total cases and deaths per million as of June 15, 2020

Source: Data from World Health Organization, Johns Hopkins Coronavirus Resource Center

Policy gaps

While India has taken many measures to address the pandemic, several critical gaps and weaknesses have hampered its response to containing the outbreak and dealing with its impact.

Testing

Gap: The low testing rates in India remains a critical weakness.⁵⁴ In the early days of the pandemic, India was not producing its own kits and procurement of testing kits was low due to the high global demand. As a result, testing capacity was limited at 1,400 samples per day in mid-March. The lockdown and travel restrictions, along with delays in ramping up test manufacturing capacity, led to low testing kit availability.⁵⁵ Restrictive testing criteria coupled with limited laboratory testing capacity also contributed to the low testing rate.⁵⁶

What needs to be done: India has ramped up testing capacity by increasing the network of testing labs—from 4 labs in early February to 1,000 labs in mid-June—and increasing the domestic production of test kits. The Geneva-based organization FIND, the Foundation for Innovative New Diagnostics, is tracking COVID-19 testing worldwide. FIND's COVID-19 testing tracker shows that the testing rate in India as of June 14 was only 4,100 tests per million of the population, far below the global average of 29,319 per million.⁵⁴ India would need to increase its testing capacity manifold. Improving the country's testing strategy by 1) harnessing the production capacity of the private sector for

laboratories, test kits, and supplies, 2) increasing the density and capacity of test sites and laboratories, and 3) improving procurement and supply chains are some measures that can help improve India's testing capacity.⁵⁷

The economic impact of lockdown on migrants

Gap: After the 14-hour Janta Curfew was announced, it was extended into a lockdown just hours before it would come in to effect on March 24. This sudden announcement caught households off guard, and the shutdown of all economic activities and all forms of public transport at short notice had the most severe impact on migrant workers. Without any personal savings and proper guidance from the government, these workers faced food insecurity and financial hardships that led migrants and families to walk thousands of miles to reach their villages⁵⁸; many migrants were killed in road and train accidents during their journey.^{59,60} The economic impact of the lockdown on migrants was mitigated to some extent through provision of rations by the government⁶¹. While it is true that the government launched the Self Reliant India program, which included free food grains for migrants and special train services, the launch was on May 15—more than two months after lockdown was imposed. Moreover, despite measures announced to quarantine returning migrants in their villages, there are multiple reports of migrants fleeing quarantine centers due to overcrowding and poor facilities.^{62,63} Such migrant flight could result in the spread of COVID-19 to and within interior villages, which have not yet been severely impacted.

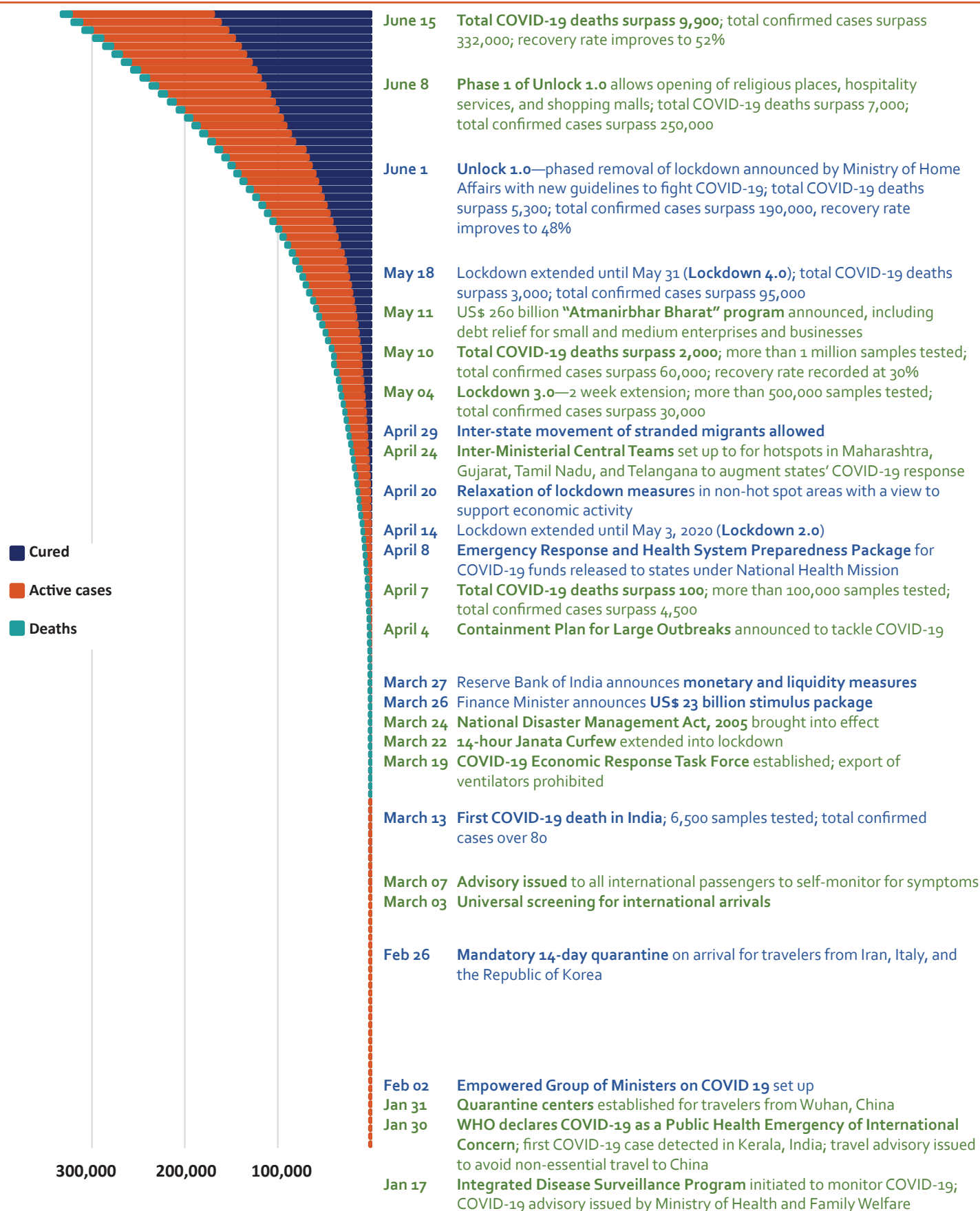


Figure 8. Timeline of COVID-19 cases and deaths and key policy steps taken by the Government of India
 Key: green indicates public health policies; blue indicates social and economic policies



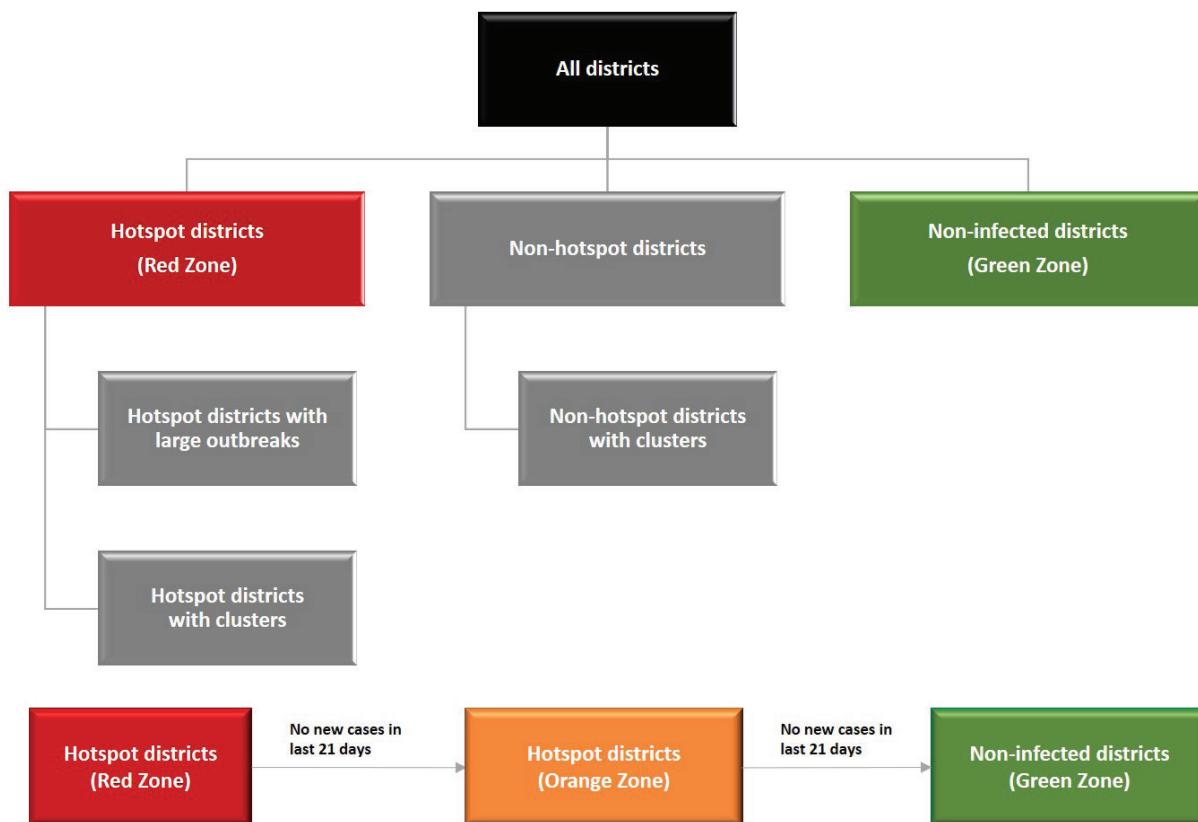


Figure 9. COVID-19 containment zone classification in India
Adapted from Ministry of Health and Family Welfare³⁶

What needs to be done: The government's estimates of the number of migrant workers impacted by the lockdown range between 2 to 10 million.⁶⁴ On June 4, the Supreme Court of India said that relief measures provided to migrant workers were inadequate and ordered the government to provide food, shelter, and free transportation.⁶⁵ With more than 139 million internal migrants, India needs stronger policies to address migrant worker needs, especially those in the informal sector and those living in poverty. The Working Group on Migration, constituted by the Ministry of Housing and Urban Poverty Alleviation, released a report in 2017 with observations and recommendations that need to be effectively adopted as a long-term measure to address the challenges faced by migrants. These include provision of affordable housing, access to employment, and access to social entitlements and service provisions.⁶⁶

Rising new daily cases

Gap: With a view to restart the economy, the government announced Unlock 1.0, a phased relaxing of lockdown, which came into effect from June 8. Daily new COVID-19 cases have, however, continued to rapidly increase in India. While new daily cases were at around 1,000 in the beginning of May, despite lockdown, they increased to over 8,000 daily new cases in early June and reached 11,500 new cases on June 15.¹⁰ The emergence of hotspots in major cities with high population densities such as New Delhi after easing of lockdown raises serious concerns about the future trajectory of infection rates.

What needs to be done: The increase in the number of daily cases points to a need to review detection and containment measures, including vigorous contact tracing and testing. Stringent social distancing, effective quarantine measures, mandatory mask wearing, and hand hygiene measures, along with improved detection, containment,

Table 4. COVID-19 public health facility categories

Category I—dedicated COVID-19 hospital	<ul style="list-style-type: none"> • Comprehensive care primarily for clinically severe cases • Fully equipped intensive care units (ICUs), ventilators, and beds with assured oxygen support • Separate areas for suspect and confirmed cases • Serve as referral centers for the dedicated COVID-19 health centers and the COVID-19 care centers
Category II—dedicated COVID-19 health center	<ul style="list-style-type: none"> • Care for clinically moderate cases • Hospital beds with assured oxygen support • Linked to one or more dedicated COVID-19 hospitals
Category III—dedicated COVID-19 care center	<ul style="list-style-type: none"> • Care only for clinically mild or very mild cases or COVID-19 suspect cases • Makeshift facilities can be set up in hostels, hotels, schools, stadiums, lodges, etc., both public and private • Separate areas for suspected and confirmed cases • Linked to one or more dedicated COVID-19 health centers and at least one dedicated COVID-19 hospital for referral purposes

and mitigation measures, need to be continuously enforced to avoid a steep uptake in cases. India's contact tracing app, Arogya Setu, has created much debate due to data privacy concerns. Although over a million people have downloaded the app and the government has encouraged its use, lack of transparency and the absence of any national data privacy laws have made it difficult to use the app as an effective measure and have created hurdles in making it mandatory.^{42,67} As a long-term measure, national data privacy laws need to be introduced and enforced in India to effectively use technology to improve India's health emergency response and safeguard against data privacy concerns.

Stimulus and boosting economic growth

Gap: There has been criticism that India's US\$ 23 billion stimulus program, the PMGKY, is not adequate as it accounts for only 0.8% of India's GDP.⁵⁰ Additional relief measures for businesses, migrants, farmers, and poor households were announced in mid-May by the Finance Minister, measures that amount to 3.8% of GDP.⁵⁰ Combined, these stimulus packages are much lower than the ones offered by other governments.⁶⁸ Analysis of the stimulus benefits also shows that PMGKY has not mobilized additional funding. Rather, it reallocates funding across existing budgets or allows individuals to make advance withdrawals on their social benefits. This calls into question the additional funding India has mobilized to provide relief to poor households.⁶⁹

What needs to be done: The government of India has announced relief packages to tackle the pandemic and its im-

pact on economic activities. Self Reliant India, announced in May, comprises mostly monetary interventions to provide liquidity, with a longer term outlook to boost the economy. Moreover, loans from the World Bank, Asian Development Bank, and the Asian Infrastructure Investment Bank have also been obtained to fund the crisis. With the global recession hitting almost all countries, India's economic growth is projected to fall from 4.2% to 1.9% in 2020, and capacity to raise domestic revenues and service debt will be impacted.^{70,71} With its high government debt to GDP ratio of 68%⁷² and low economic growth projections, spending by the government of India along with monetary and fiscal measures would need to be adjusted cautiously with an eye on the long term fiscal outlook. Efforts to increase production capacity and attract industrial investments can help spur growth while also addressing the issue of rising unemployment in India.⁷³

Disruption to other health services

Gap. The COVID-19 response has shifted attention from other key health programs such as immunization, rural health delivery, and disease control programs. Analysis of government data by LiveMint (Figure 11) showed that inpatient and outpatient treatment of several high-burden diseases such as diabetes, heart diseases, and cancer declined in the months since the onset of the COVID-19 outbreak. Over 100,000 children did not receive their BCG vaccination, and another 200,000 missed each dose of the pentavalent vaccine. Services for pregnant women, HIV testing, and

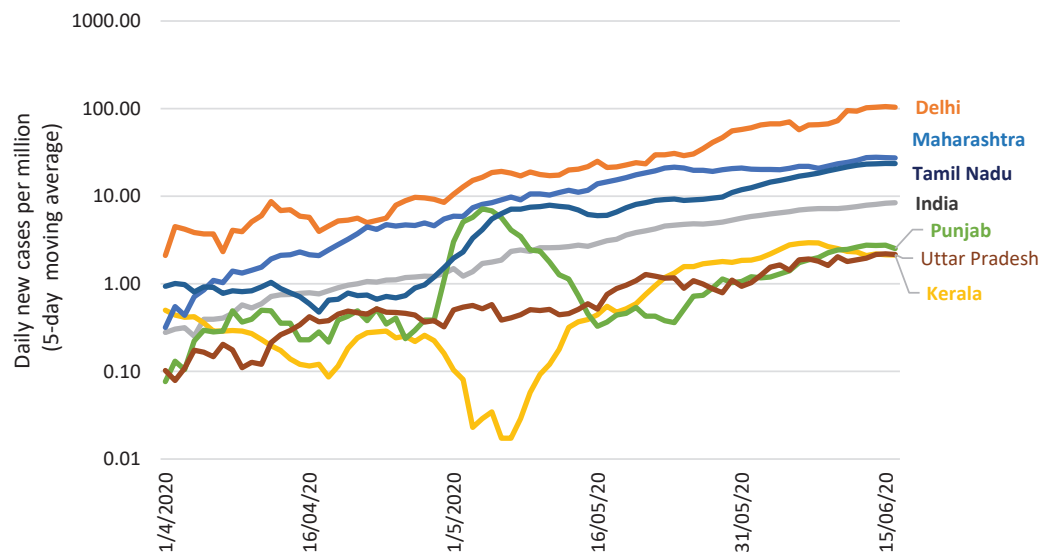


Figure 10. Daily new confirmed cases

Source: Ministry of Health and Family Welfare, Census of India

DOTS administration for TB also showed declines.⁷³ These data do not capture services provided by the private sector, which accounts for 70% of healthcare provision and 50% of hospitalizations in India.⁷⁴

The latest analysis conducted by the National Health Authority on PMJAY claims data also showed that weekly claims volume during the 10 weeks of lockdown was half the pre-lockdown claims volume. Claims for cataract eye surgery and joint replacements fell by over 90%, and significant declines were also seen in cardiovascular surgeries, child delivery, and oncology.⁸⁶

What needs to be done. Although a few states in India have made steady progress to strengthen their public health systems, most of the country remains vulnerable due to weak public health infrastructure and outbreak preparedness. Public expenditures on health in India are very low at only 1.18% of GDP, much below the global average of 6%.⁷⁵ Measures need to be adopted to mitigate the impact of COVID-19 on implementation of critical health services and disease programs to avoid a resurgence of vaccine preventable diseases, infectious diseases, and chronic illnesses. Since the COVID-19 outbreak, only INR 150 billion (US\$ 2 billion), equivalent to 0.1% of the GDP, was devoted specifically for health infrastructure to tackle COVID-19.⁷⁶ Higher levels of strategic investments are needed to build capacity. Formulating partnerships with

the private sector, development partners, and community health workers will be needed to strengthen surge capacity and ensure continuity of health provision.

Funding the COVID-19 response

With economic activity being hard hit by the lockdown, and revenue mobilization likely to be lower over the next year due to lower economic growth projections, several adjustments are being made to increase funding for the COVID-19 response. As part of the budget announcement, the Finance Minister announced that the fiscal deficit would be raised by 50 basis points to limit it to 3.8 percent and 3.5 percent for 2019-20 and 2020-21, respectively, allowing for more flexible spending.⁷⁷ Moreover, the defense budget for India will likely see a huge cut during the FY2020-21 to create fiscal space for COVID-19 spending. To date, the government of India has announced measures under the PMGKY amounting to US\$ 23 billion to provide relief to poor families severely impacted by the outbreak. Under the Disaster Management Act, the states and union territories have been allowed to draw funds from the State Disaster Response Fund to respond to COVID-19. On April 3, the Home Ministry approved release of INR 110 billion (US\$ 1.45 billion).⁴⁸

To boost detection, response, and containment, many multilateral and bilateral donors are also providing support for COVID-19 response in India. A World Bank US\$ 1.0 bil-

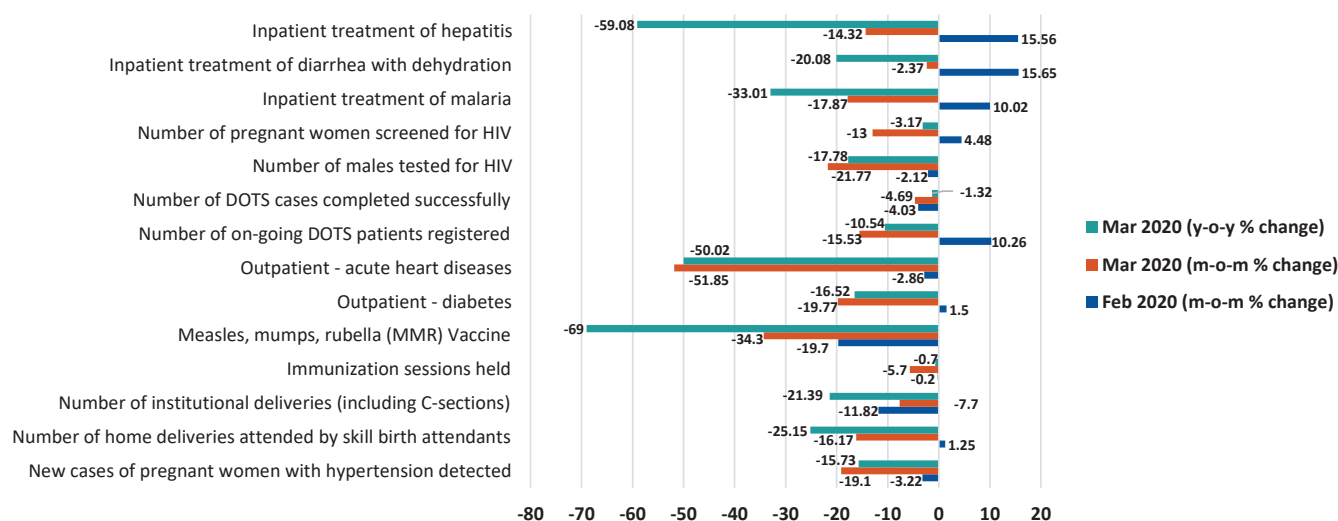


Figure 11. Impact of COVID-19 on health programs in India

Source: Adapted from data and analysis by LiveMint "How COVID-19 response disrupted health services in rural India"

Note: This LiveMint analysis normalizes data from past years to the same number of facilities and districts for which the data are available in March 2020. M-o-m% change refers to month-on-month percent change with respect to the previous month.

Key: Y-o-y% change refers to year-on-year percent change with respect to the previous year

lion COVID-19 Emergency Response and Health Systems loan aims to help India prevent, detect, and respond to the COVID-19 pandemic and strengthen its public health preparedness.⁷⁸ A US\$ 1.5 billion loan from the Asian Development Bank aims to implement (i) a COVID-19 containment plan to rapidly ramp up test-track-treatment capacity, and (ii) social protection for the poor, vulnerable, women, and disadvantaged groups to protect more than 800 million people over the next three months.⁷⁹ A US\$ 500 million loan by the Asian Infrastructure Investment Bank aims to support India's responses to COVID-19 and strengthen preparedness of the national health system.⁸⁰ USAID announced US\$ 5.9 million to support the COVID-19 response in India.^{81,82} The World Bank extended support of an additional US\$ 1.0 billion to support the PM-JKY program.⁴⁶ Funding support has also poured in from philanthropic donors, non-government organizations, and the private sector.

Based on data collected by Devex, between January 1 to May 17, funding for COVID-19 and health systems in India was US\$ 34 billion, of which 67% is funded by the government, almost 22% by philanthropic donors, and 10% by multilateral funders (Figure 12).⁸³ Almost 99% of funding is currently going towards the COVID-19 response.

The South Asian Association for Regional Cooperation COVID-19 Emergency Fund was set up on March 15 with voluntary contributions from all countries. India made an initial offer of US\$10 million for the fund.⁸⁴ On March 28, Prime Minister Modi called for the establishment of a public charitable trust called the 'Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund' (PM CARES Fund).⁸⁵ However, the size and details of use of these funds are not readily available.

Conclusion

The government of India has been very proactive in its initial response to the COVID-19 crisis. Even before the WHO declared COVID-19 as a PHEIC, India announced advisories, started surveillance, and took measures to review preparedness to tackle the crisis. During the initial two months of the outbreak, travel restrictions, quarantine measures, and lockdowns were put in place, but testing criteria were restrictive and testing rates were quite low. Although India was able to increase testing rates and laboratory capacity manifold, testing rates are still lower than most countries. To tackle the variable infection rates across the country, the containment plan created three zones that helped to stagger economic activities based on severity of infections. As infection rates started rising

The government needs to:

1. Increase testing capacity by 1) harnessing the production capacity of the private sector for laboratories, test kits, and supplies, 2) increasing the density and capacity of test sites and laboratories, and 3) improving procurement and supply chains.
2. Implement stronger policies addressing migrant worker needs including policies offered by the Ministry of Housing and Urban Poverty Alleviation in their 2017 report. These policies include provision of affordable housing, access to employment, and access to social entitlements and service provisions.
3. Ensure stringent social distancing, effective quarantine measures, mandatory mask-wearing, and hand hygiene measures, along with improved detection, containment, and mitigation measures.
4. Introduce and ensure national data privacy laws to improve India's health emergency response and safeguard against data privacy concerns.
5. Cautiously adjust spending, increase production capacity, and attract industrial investments to spur growth and address rising unemployment.
6. Maintain essential critical health services and disease programs to avoid a resurgence of vaccine preventable diseases, infectious diseases, and chronic illnesses.
7. Expand strategic investments and partnerships with the private sector, development partners, and community health workers to strengthen surge capacity and ensure continuity of health provision.

Box 2. What needs to be done to control India's COVID-19 epidemic

rapidly in May, lockdown measures were extended with some relaxation for economic activities, and the testing criteria were updated. More stringent measures of social distancing, containment, and mitigation would be required to flatten the curve and reduce infection rates in India.

The pandemic and necessary lockdown measures have had a severe impact on economic activities worldwide, including in India. While economic stimulus and relief mea-

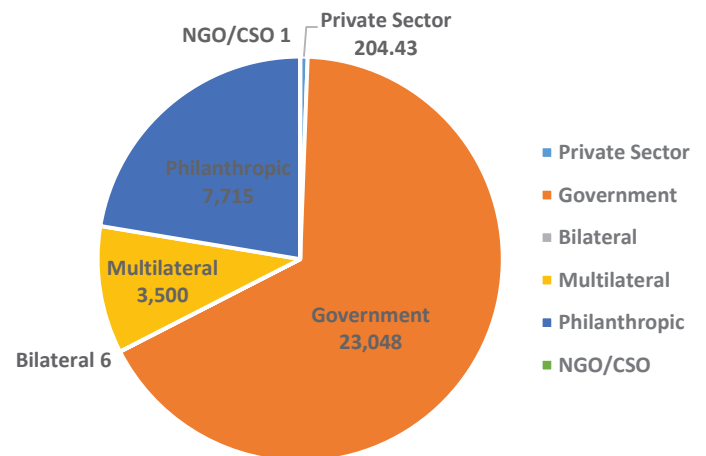


Figure 12. COVID-19 and health system funding in India (in US\$ millions) January 1 – May 17, 2020

Source: Devex COVID funding

Note: Includes only funding support for the following focus areas: response, health systems, prevention, detection, equipment, and vaccine/treatment

asures have been announced, implementation and gaps in policy responses remain to be addressed. Prudent long term macro-fiscal planning and policies will be needed to protect the poor and vulnerable from the long-term health and economic impacts of COVID-19, and provide stimulus for economic growth. The full scale of policy responses in India to COVID-19 remain to be fully understood as the outbreak is still worsening and has not reached its peak. As part of recovery measures, emphasis on increasing investments on health infrastructure, ensuring continuity of other health services, and improving health emergency preparedness will be critical for strengthening India's health system and for preparing and responding to future outbreaks.

References

1. Chandra S, Kassens-Noor E. The evolution of pandemic influenza: evidence from India, 1918–19. BMC Infect Dis [Internet]. 2014 Sep 19 [cited 2020 May 28];14. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4262128/>
2. Spinney L. How the Spanish flu of 1918 changed India. The Caravan [Internet]. [cited 2020 May 28]. Available from: <https://caravan-magazine.in/history/spanish-flu-1918-changed-india>
3. World Health Organization GPMB annual report 2019.pdf [Internet]. [cited 2020 May 28]. Available from: https://apps.who.int/gpm/assets/annual_report/GPMB_annualreport_2019.pdf
4. Homepage - GHS Index [Internet]. [cited 2020 May 28]. Available from: <https://www.ghsindex.org/>
5. GHS Index India 2019 report.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.ghsindex.org/wp-content/uploads/2019/08/India.pdf>
6. Mandate: National Centre for Disease Control (NCDC) [Internet]. [cited 2020 May 28]. Available from: <https://ncdc.gov.in/index1.php?lang=1&level=1&sublinkid=19&lid=34>
7. Home: Integrated Disease Surveillance Programme (IDSP) [Internet]. [cited 2020 May 28]. Available from: <https://idsp.nic.in/>
8. Integrated Disease Surveillance Programme (IDSP): National Centre for Disease Control (NCDC) [Internet]. [cited 2020 May 28]. Available from: <https://ncdc.gov.in/index1.php?lang=1&level=1&sublinkid=143&lid=54>

9. India COVID-19 Emergency Response and Health Systems Preparedness Project.pdf [Internet]. [cited 2020 May 28]. Available from: <http://documents.worldbank.org/curated/en/466861585949433867/pdf/India-COVID-19-Emergency-Response-and-Health-Systems-Preparedness-Project.pdf>
10. MoHFW | Home [Internet]. [cited 2020 May 28]. Available from: <https://www.mohfw.gov.in/>
11. Indian Council of Medical Research, New Delhi [Internet]. [cited 2020 May 28]. Available from: <https://www.icmr.gov.in/>
12. MOHFW G of I. Updates on COVID-19: Mortality analysis [Internet]. 2020 [cited 2020 Jun 16]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1625744
13. Government of India. Press Information Bureau DAILY BULLETIN ON COVID-19 [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1622525
14. Indian Council for Medical Research. COVID_19_Testing_Labs_06052020.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.icmr.gov.in/>
15. Indian Council for Medical Research. Antibody_based_tests_14052020.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.icmr.gov.in/media.html>
16. Indian Council for Medical Research. Testing_Strategy_v5_18052020.pdf [Internet]. [cited 2020 May 28]. Available from: https://www.icmr.gov.in/pdf/covid/strategy/Testing_Strategy_v5_18052020.pdf
17. ICMR ICo for MR. Testing Strategy [Internet]. <https://www.icmr.gov.in/>. [cited 2020 Jun 18]. Available from: <https://www.icmr.gov.in/cteststrat.html>
18. MOHFW G of I. Updates on COVID-19 [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1611676
19. The Hindu. State-wise COVID-19 testing status [Internet]. [cited 2020 May 28]. Available from: <https://www.thehindu.com/data/article31254727.ece/inline/>
20. World Health Organization. WHO Coronavirus Disease (COVID-19) Dashboard [Internet]. [cited 2020 May 28]. Available from: <https://covid19.who.int/>
21. JHU. Mortality Analyses [Internet]. Johns Hopkins Coronavirus Resource Center. [cited 2020 Jun 16]. Available from: <https://coronavirus.jhu.edu/data/mortality>
22. Ahmad T. India: Legal Responses to Health Emergencies [Internet]. 2015 [cited 2020 May 28]. Available from: <https://www.loc.gov/law/help/health-emergencies/india.php>
23. The Epidemic Diseases (Amendment) Ordinance, 2020 [Internet]. PRSIndia. 2020 [cited 2020 May 28]. Available from: <https://www.prsindia.org/billtrack/epidemic-diseases-amendment-ordinance-2020>
24. Delhi Epidemic Diseases Act, COVID-19 Regulations 2020. pdf [Internet]. [cited 2020 May 28]. Available from: <http://health.delhigovt.nic.in/wps/wcm/connect/146af7004d87f91c96a2f7982ee7a5c7/Epidemic+Act.pdf?MOD=AJPERES&lm-od=-762064770&CACHEID=146af7004d87f91c96a2f7982ee7a5c7>
25. Kerala Epidemic Diseases Ordinance 2020.pdf [Internet]. [cited 2020 May 28]. Available from: <https://ksandk.com/wp-content/uploads/2020/03/Government-of-Kerala-Passes-Kerala-Epidemic-Diseases-Ordinance.pdf>
26. Maharashtra COVID-19 Regulations 2020.pdf [Internet]. [cited 2020 May 28]. Available from: <https://arogya.maharashtra.gov.in/pdf/30.pdf>
27. Press Information Bureau G of I. States Briefed on Lockdown Measures and Guidelines including exemptions to contain the COVID-19 Epidemic in the country [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1608012
28. Containment Plan for Large Outbreaks Novel Coronavirus 2019 (COVID-19).pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.mohfw.gov.in/pdf/3ContainmentPlanforLargeOutbreaksofCOVID19Final.pdf>
29. MOHFW G of I. Health Ministry reviews preparedness for Novel Corona Virus(nCoV) [Internet]. [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1599665
30. District level Facility-based surveillance for COVID-19.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.mohfw.gov.in/pdf/DistrictlevelFacilitybasedsurveillanceforCOVID19.pdf>
31. World Health Organization. Coronavirus (COVID-19) events as they happen [Internet]. [cited 2020 May 28]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>
32. Press Information Bureau G of I. Cabinet Secretary holds high level review on Novel Coronavirus [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1601169
33. MOHFW G of I. Cabinet Secretary chairs high level review meeting [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1605899
34. Ministry of Home Affairs G of I. Advisory: Travel and visa restrictions related to COVID-19 [Internet]. 2020 [cited 2020 May 28]. Available from: <https://boi.gov.in/content/advisory-travel-and-visa-restrictions-related-covid-19-0>
35. Covid-19 update: Govt charts mitigation plan in case containment strategy fails. Hindustan Times [Internet]. 2020 May 4 [cited 2020 May 28]. Available from: <https://www.hindustantimes.com/india-news/govt-charts-mitigation-plan-in-case-containment-strategy-fails/story-viw8kuvJIOBv7oyUdju8j.html>
36. MoHFW-Letter-States-reg-containment-of-Hotspots.pdf [Internet]. [cited 2020 May 28]. Available from: <https://ndma.gov.in/images/covid/MoHFW-Letter-States-reg-containment-of-Hotspots.pdf>
37. MOHFW Letter to Chief Secretaries and secretaries of Health, April 30, 2020.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.indiaspend.com/wp-content/uploads/2020/05/Ltr-to-CS-30-april.pdf.pdf>
38. Coronavirus: 80% new cases in first 12 days of May from 114 Red Zone districts. The Indian Express [Internet]. 2020 May 14 [cited 2020 May 28]. Available from: <https://indianexpress.com/article/india/coronavirus-80-new-cases-in-first-12-days-of-may-from-114-red-zone-districts-6408713/>
39. Press Information Bureau G of I. PM gives a clarion call for Atmanirbhar Bharat [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1623391
40. Press Information Bureau G of I. Extension of Lockdown for a further period of Two Weeks with effect from May 4, 2020 [Internet]. [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1620095



41. Mandating use of Aarogya Setu app illegal, says Justice B N Srikrishna | India News, The Indian Express [Internet]. [cited 2020 May 28]. Available from: <https://indianexpress.com/article/india/aarogya-setu-app-mandate-illegal-justice-b-n-srikrishna-6405535/>
42. Aarogya Setu App: A Tale of the Complex Challenges of a Rights-Based Regime. The Wire [Internet]. [cited 2020 May 28]. Available from: <https://thewire.in/tech/aarogya-setu-app-challenges-rights-based-regime>
43. Press Information Bureau G of I. Adequate health infrastructure and health facilities set up for COVID-19 management [Internet]. [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1622631
44. Press Information Bureau G of I. PM addresses nation on combating COVID-19 [Internet]. 2020 [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1607248
45. Ministry of Finance PM Garib Kalyan Yojana Package.pdf [Internet]. [cited 2020 May 28]. Available from: <https://www.mohfw.gov.in/pdf/MoFPMGaribKalyanYojanaPackage.pdf>
46. World Bank. \$1 Billion from World Bank to Protect India's Poorest from COVID-19 (Coronavirus) [Internet]. World Bank. 2020 [cited 2020 May 28]. Available from: <https://www.worldbank.org/en/news/press-release/2020/05/13/world-bank-covid-coronavirus-india-protect-poor>
47. Reserve Bank of India R. COVID-19 Regulatory Package [Internet]. 2020 [cited 2020 May 28]. Available from: <https://www.rbi.org.in/Scripts/NotificationUser.aspx?id=11835&Mode=0>
48. Ministry of Home Affairs DMD. State Disaster Response Fund [Internet]. [cited 2020 May 28]. Available from: <https://www.ndmindia.nic.in/response-fund>
49. COVID-19 | Ayushman Bharat | National Health Authority | GoI [Internet]. [cited 2020 May 28]. Available from: <https://pmjay.gov.in/hospital/covid19>
50. International Monetary Fund. Policy Responses to COVID19 [Internet]. IMF. [cited 2020 May 28]. Available from: <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
51. International Monetary Fund. World Economic Outlook, April 2020: The Great Lockdown [Internet]. IMF. [cited 2020 May 28]. Available from: <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020>
52. Unveiling of Rs 20 lakh crore package begins: Opening beneficiaries MSMEs and NBFCs. The New Indian Express [Internet]. [cited 2020 May 28]. Available from: <https://www.newindianexpress.com/business/2020/may/13/unveiling-of-rs-20-lakh-crore-package-begins-opening-beneficiaries-msmes-and-nbfc-2142939.html>
53. HIGHLIGHTS | FM Sitharaman announces free food grain supply to migrants for two months. The New Indian Express [Internet]. [cited 2020 May 28]. Available from: <https://www.newindianexpress.com/live/2020/may/14/highlights--fm-sitharaman-announces-free-food-grain-supply-to-migrants-for-two-months-2143321.html>
54. FIND. SARS-CoV-2 test tracker [Internet]. FIND. [cited 2020 May 28]. Available from: <https://www.finddx.org/covid-19/test-tracker/>
55. Why Covid-19 testing has been slow to take off - Times of India. The Times of India [Internet]. [cited 2020 May 28]. Available from: <https://timesofindia.indiatimes.com/india/why-covid-19-testing-has-been-slow-to-take-off/articleshow/74859149.cms>
56. Saikia A. Testing is key to fighting coronavirus – so why does India have such a low testing rate? [Internet]. Scroll.in. <https://scroll.in/pulse/957380/testing-is-key-to-fighting-coronavirus-so-why-does-india-have-such-a-low-testing-rate>
57. Yadav P, Mehndiratta A, Chalkidou K, Rupani S, Reddy K. India's COVID-19 Testing Capacity Must Grow by a Factor of 10. 11. Available from: <https://www.cgdev.org/publication/indias-covid-19-testing-capacity-must-grow-factor-10-heres-how-can-happen>
58. Coronavirus lockdown: Many stranded in Delhi without means of sustenance. <https://www.outlookindia.com/newscroll/coronavirus-lockdown-many-stranded-in-delhi-without-means-of-sustenance/1780875>
59. 42 Migrant Workers Died in Road Accidents While Trying to Return Home during Lockdown: Report. News18 [Internet]. 2020 May 7 [cited 2020 May 28]. Available from: <https://www.news18.com/news/india/42-migrant-workers-died-in-road-accidents-while-trying-to-return-to-their-home-states-during-lockdown-report-2609841.html>
60. Biswas S. Sixteen sleeping migrant workers run over by train. BBC News [Internet]. 2020 May 8 [cited 2020 May 28]. Available from: <https://www.bbc.com/news/world-asia-india-52586898>
61. Lee K, Sahai H, Baylis P, Greenstone M. Job Loss and Behavioral Change: The Unprecedented Effects of the India Lockdown in Delhi [Internet]. Rochester, NY: Social Science Research Network; 2020 May [cited 2020 Jun 16]. Report No.: ID 3601979. Available from: <https://papers.ssrn.com/abstract=3601979>
62. Tewary A. 20 migrants escape from Bihar quarantine centre complaining of lack of amenities and food. The Hindu [Internet]. 2020 May 5 [cited 2020 May 28]. Available from: <https://www.thehindu.com/news/national/other-states/20-migrants-skip-quarantine-in-bihar-complaining-of-lack-of-amenities-and-food/article31507688.ece>
63. Biswas GP Soutik. India migrants running away from quarantine camps. BBC News [Internet]. 2020 Apr 15 [cited 2020 May 28]. Available from: <https://www.bbc.com/news/world-asia-india-52276606>
64. Explained: How many migrant workers displaced? A range of estimates. The Indian Express [Internet]. 2020 Jun 8 [cited 2020 Jun 18]. Available from: <https://indianexpress.com/article/explained/coronavirus-how-many-migrant-workers-displaced-a-range-of-estimates-6447840/>
65. India must follow Supreme Court orders to protect 100 million migrant workers: UN rights experts. UN News [Internet]. 2020 Jun 4 [cited 2020 Jun 18]. Available from: <https://news.un.org/en/story/2020/06/1065662>
66. Report of the working group on migration, January 2017. Ministry of Housing and Urban Poverty Alleviation [Internet]. [cited 2020 Jun 18]. Available from: <http://mohua.gov.in/upload/uploadfiles/files/1566.pdf>
67. Privacy, security concerns as India forces virus-tracing app on millions. [cited 2020 Jun 16]. Available from: <https://www.cbsnews.com/news/coronavirus-india-contact-tracing-app-privacy-data-security-concerns-aarogya-setu-forced-on-millions/>
68. Detrixhe J. Government bailouts are beginning: We're keeping track. Quartz [Internet]. [cited 2020 May 28]. Available from: <https://qz.com/1819776/here-are-the-coronavirus-bailouts-being-prepared-around-the-world/>



69. Khaitan NJ Utsav H Gagwani, Shreya. India's COVID19 Financial Package: Rehashed Existing Programmes, Little New Spending [Internet]. 2020 [cited 2020 May 28]. Available from: <https://www.indiaspend.com/indias-covid19-financial-package-rehashed-existing-programmes-little-new-spending/>
70. India's Fiscal Past May Come Back To Haunt It During Covid-19 Fight: Fitch Ratings. [cited 2020 May 28]. Available from: <https://www.bloomberquint.com/economy-finance/indias-fiscal-past-may-come-back-to-haunt-it-during-covid-fight-warns-fitch-ratings>
71. Rajan RS, Gopalan S. COVID-19 and India's fiscal conundrum. The Hindu [Internet]. 2020 May 5 [cited 2020 May 28]. Available from: <https://www.thehindu.com/opinion/op-ed/covid-19-and-indias-fiscal-conundrum/article31504085.ece>
72. International Monetary Fund. Global Debt Database - General Government Debt [Internet]. [cited 2020 May 28]. Available from: https://www.imf.org/external/datamapper/GG_DEBT_GDP@GDD/SWE
73. S R. How covid-19 response disrupted health services in rural India. Livemint [Internet]. 2020 Apr 24 [cited 2020 May 28]. Available from: <https://www.livemint.com/news/india/how-covid-19-response-disrupted-health-services-in-rural-india-11587713155817.html>
74. Shankar A. After the Lockdown Relief Package, What Comes Next for the Indian Economy? [Internet]. The Wire. [cited 2020 Jun 18]. Available from: <https://thewire.in/economy/lockdown-relief-package-economy-what-next>
75. NHA Estimates Report Financial Year 2015-16.pdf [Internet]. [cited 2020 May 28]. Available from: <http://nhsrcindia.org/sites/default/files/NHA%20Estimates%20Report%20-%20November%202018.pdf>
76. Press Information Bureau G of I. Cabinet approves Rs. 15,000 Crore for "India COVID-19 Emergency Response and Health System Preparedness Package" [Internet]. [cited 2020 May 28]. Available from: pib.gov.in/Pressreleaseshare.aspx?PRID=1617070
77. Ministry of Finance Budget speech 2020.pdf [Internet]. [cited 2020 May 28]. Available from: https://www.indiabudget.gov.in/doc/Budget_Speech.pdf
78. World Bank. India COVID-19 Emergency Response and Health Systems Preparedness Project [Internet]. World Bank. [cited 2020 May 28]. Available from: <https://projects.worldbank.org/en/projects-operations/project-detail/P173836>
79. Bank AD. ADB Approves \$1.5 Billion Financing to Support India's COVID-19 Response [Internet]. Asian Development Bank. 2020 [cited 2020 May 28]. Available from: <https://www.adb.org/news/adb-approves-1-5-billion-financing-support-indias-covid-19-response>
80. AIIB Approves USD500M to Support India's Response to COVID-19 - News - AIIB [Internet]. [cited 2020 May 28]. Available from: <https://www.aiib.org/en/news-events/news/2020/AIIB-Approves-USD500M-to-Support-Indias-Response-to-COVID-19.html>
81. USAID Provides \$2.9M to Support India's COVID-19 Efforts | Press Release | India | U.S. Agency for International Development [Internet]. 2020 [cited 2020 May 28]. Available from: <https://www.usaid.gov/india/press-releases/apr-6-2020-usaid-provides-29m-support-india-covid-19-efforts>
82. The United States Provides an Additional \$3 Million to Support India's COVID-19 Response | Press Release | India | U.S. Agency for International Development [Internet]. 2020 [cited 2020 May 28]. Available from: <https://www.usaid.gov/india/press-releases/apr-29-2020-united-states-provides-additional-3-million-support-covid-19-response>
83. Devex. COVID Funding visualization [Internet]. Tableau Software. [cited 2020 May 28]. Available from: https://public.tableau.com/views/COVIDFundingvisualisation/COVID-19funding?%3Aembed=y&%3AshowVizHome=no&%3Adisplay_count=y&%3Adisplay_static_image=y&%3AbootstrapWhenNotified=true
84. Ministry of External Affairs G of I. PM interacts with SAARC leaders to combat COVID-19 in the region [Internet]. [cited 2020 May 28]. Available from: <https://www.mea.gov.in/press-releases.htm?dtl/32539/>
85. PM CARES Fund - PM's Citizen Assistance & Relief in Emergency Situations Fund [Internet]. [cited 2020 May 28]. Available from: <https://www.pmcare.gov.in>
86. Smith O, Naib P, Pulkit K. Sehgal and Sheena Chhabra, National Health Authority. PM-JAY Policy Brief 8: PM-JAY Under Lockdown: Evidence on Utilization Trends June 2020 Available from: https://www.pmjay.gov.in/sites/default/files/2020-06/Policy-Brief-8-PM-JAY-under-Lockdown-Evidence_12-06-20_NHA_WB.pdf

Suggested Citation

Bharali I, Kumar P, Selvaraj S, Mao W, Ogbuoji O, Hille H, Yamey G. *India's policy response to COVID-19*. The Center for Policy Impact in Global Health. Policy Report: June 2020. Available at: <http://centerforpolicyimpact.org/our-work/the-4ds/indias-policy-response-to-covid-19/>

Funding and authorship

This profile was funded through a grant from the Bill & Melinda Gates Foundation to the Duke Center for Policy Impact in Global Health. The Foundation played no role in writing the profile. The profile was written by authors at the Public Health Foundation of India (Preeti Kumar and Sakthivel Selvaraj) and the Duke Center for Policy Impact in Global Health (Ipchita Bharali, Osundu Ogbuoji, Wenhui Mao, Heather Hille, and Gavin Yamey).

Methods

Our research included a desk-based review of websites, strategy documents, grey literature reports, and academic literature. This project was screened for exemption by the Duke University Institutional Review Board as part of the study 'Driving health progress during disease, demographic, domestic finance and donor transitions (the "4Ds")': policy analysis and engagement with transitioning countries.'



This is one in a series of reports focusing on the response of middle-income countries to the COVID-19 pandemic. The briefs are part of a broader study called *Driving health progress during disease, demographic, domestic finance, and donor transitions* led by the [Center for Policy Impact in Global Health](http://centerforpolicyimpact.org).