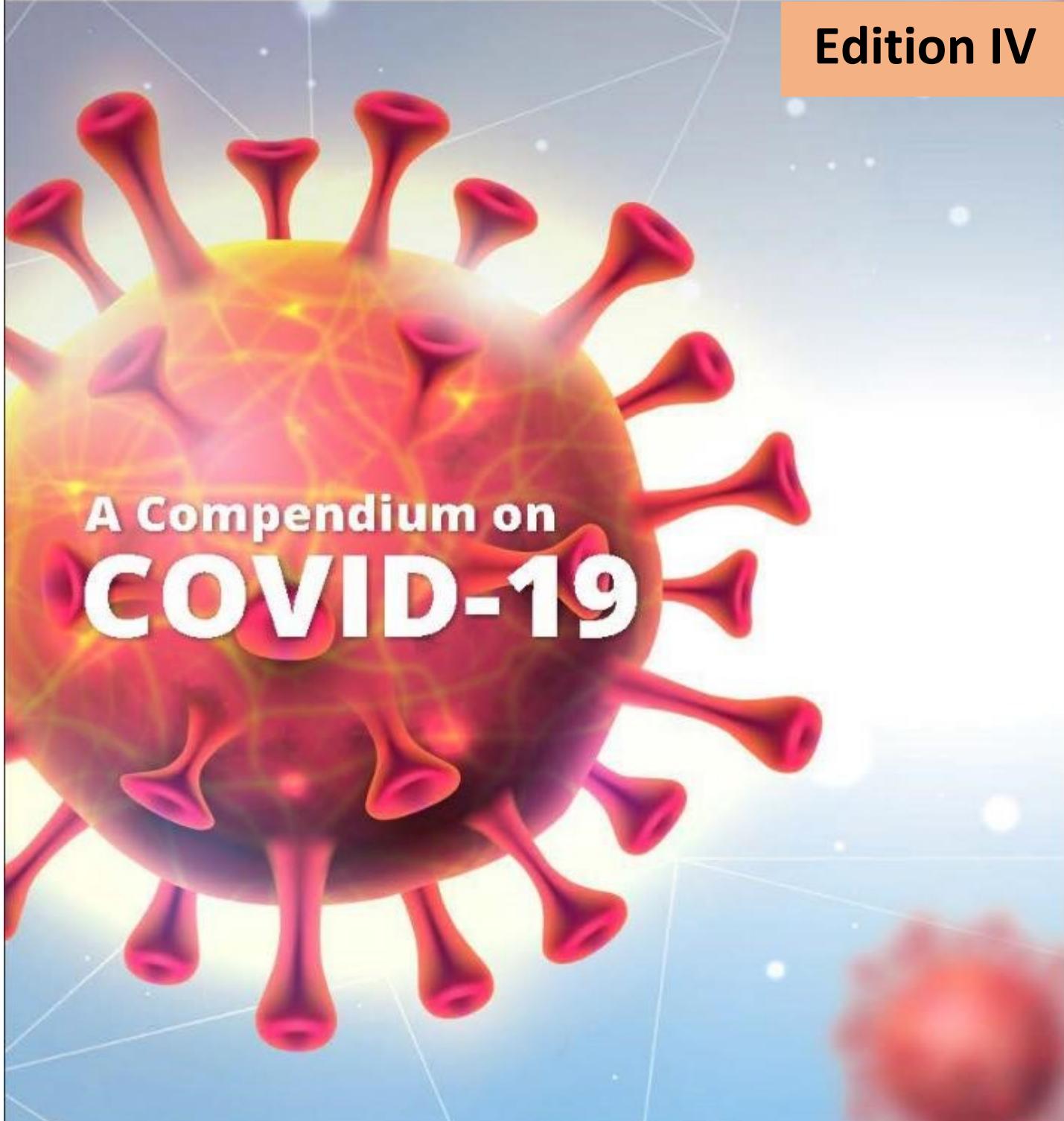




Edition IV



A large, detailed 3D rendering of a COVID-19 virus particle (SARS-CoV-2) dominates the center of the cover. The virus is shown from a slightly elevated angle, revealing its characteristic crown-like spikes. The main body of the virus is a translucent yellow and orange color, while the spikes are a vibrant red. The background behind the virus is a light blue gradient with faint white network lines and small white dots, suggesting a microscopic or digital environment.

**A Compendium on
COVID-19**

Netrika Consulting India Pvt. Ltd.

13 July 2020

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Glossary of Terms

Name	Abbreviation
All India Institute of Medical Science	AIIMS
Building and Other Construction Workers	BoCW
Confederation of Indian Industry	CII
Coronavirus Disease / 2019 Novel Coronavirus	COVID-19
Employee Provident Fund Organization	EPFO
Employee State Insurance Corporation	ESIC
Emergency Medical Teams	EMTs
Federation of Indian Chambers of Commerce & Industry	FICCI
Ministry of Health and Family Welfare	MoHFW
Ministry of Home Affairs	MHA
Ministry of Labour and Employment	MoLE
Ministry of Finance	MoF
Middle East Respiratory Syndrome	MERS
National Housing Bank	NHB
National Centre for Disease Control	NCDC
Original Equipment Manufacture	OEM
Public Health Emergency of International Concerns	PHEIC
Personal Protective Equipment	PPE
Severe Acute Respiratory Syndrome	SARS
Targeted Long-Term Repo Operations	TLTRO
Voice over Internet Protocol	VoIP
World Health Organisation	WHO

1 Introduction

In the previous Edition's we have given an overview of coronavirus, its symptoms, where it originated, etc. In this edition - Edition IV, we have kept the relevant information (at the cost of repetition), such that one does not have to open two documents at a given time.

The¹ novel coronavirus (COVID-19) is challenging the world, with no vaccine and limited medical capacity to treat the disease adding to the woes. Even as medical experts and researchers have joined hands across the globe to develop a cure or vaccine to contain the highly infectious virus, it is unlikely for a vaccine to be ready before early next year. The viral infection, which has its origin in the city of Wuhan in China, has today infected over twelve million people worldwide, and led to deaths of over 556,335 people across the globe. In the US alone, it has already killed more people than 132,683². In India the total active cases now stand at 292,258³ and more than 17,00 people have died from the highly contagious virus. National capital Delhi and financial capital Mumbai account for 40 per cent of the total number of deaths reported in India. Delhi's Covid-19 cases have now exceeded the 80,000 mark, while Maharashtra has recorded over 180,000 cases. The number of recoveries continue to be more than the number of active cases by over 130,000, with the recovery rate being in the region of 62.78⁴ per cent in India.

Most of the impacted nations across the globe have implemented various mitigation measures such as lockdowns, closure of schools and non-essential business, and travel restrictions have also been imposed by most countries to reduce the spread of COVID-19. The pandemic has changed the way people meet and interact, conduct business and go about the business of living. It is critical that the new normal and new culture is adopted for effective containment of the infection. While the lockdowns have helped us to slow down the spread of the viral infection, and also helped us prepare our healthcare infrastructure, undertake capacity building and prepare communities to tackle the outbreak, it is evident that a further rise in COVID-19 infection is expected as the country goes into unlock mode. However, this would require a greater effort from the people/ communities to contain the virus to the maximum extent possible, along with the efforts being put in by the Central and State governments.

1.1. Timeline - Start of Pandemic⁵

The coronavirus disease 2019 (COVID-19) is understood to have surfaced in a Chinese seafood and poultry market (Wuhan City) in Dec, last year, which has spread to at least 216 countries. The World Health Organization (WHO) declared the SARS COV-2 coronavirus outbreak, which originated

¹ <https://covid19.who.int/region/amro/country/us>
https://www.business-standard.com/article/current-affairs/coronavirus-india-live-updates-delhi-maharashtra-tamil-nadu-corona-cases-who-covid-tracker-vaccine-coronavirus-latest-news-120062500115_1.html

<https://indianexpress.com/article/india/india-coronavirus-updates-25-june-cases-deaths-health-ministry-delhi-mumbai-recovery-rate-hospitals-6475485/>

² https://www.who.int/docs/default-source/coronavirus/situation-reports/20200711-covid-19-sitrep-173.pdf?sfvrsn=949920b4_2

³ <https://www.mohfw.gov.in/>

⁴ <https://www.moneycontrol.com/news/india/indiias-covid-19-recoveries-cross-5-lakh-mark-recovery-rate-at-62-78-5536421.html>

⁵ <https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19>, <https://www.mohfw.gov.in/>

in Wuhan, China, a pandemic on January 30, 2020 and as a pandemic on March 11, 2020. A brief timeline of the outbreak of the disease is depicted below: -

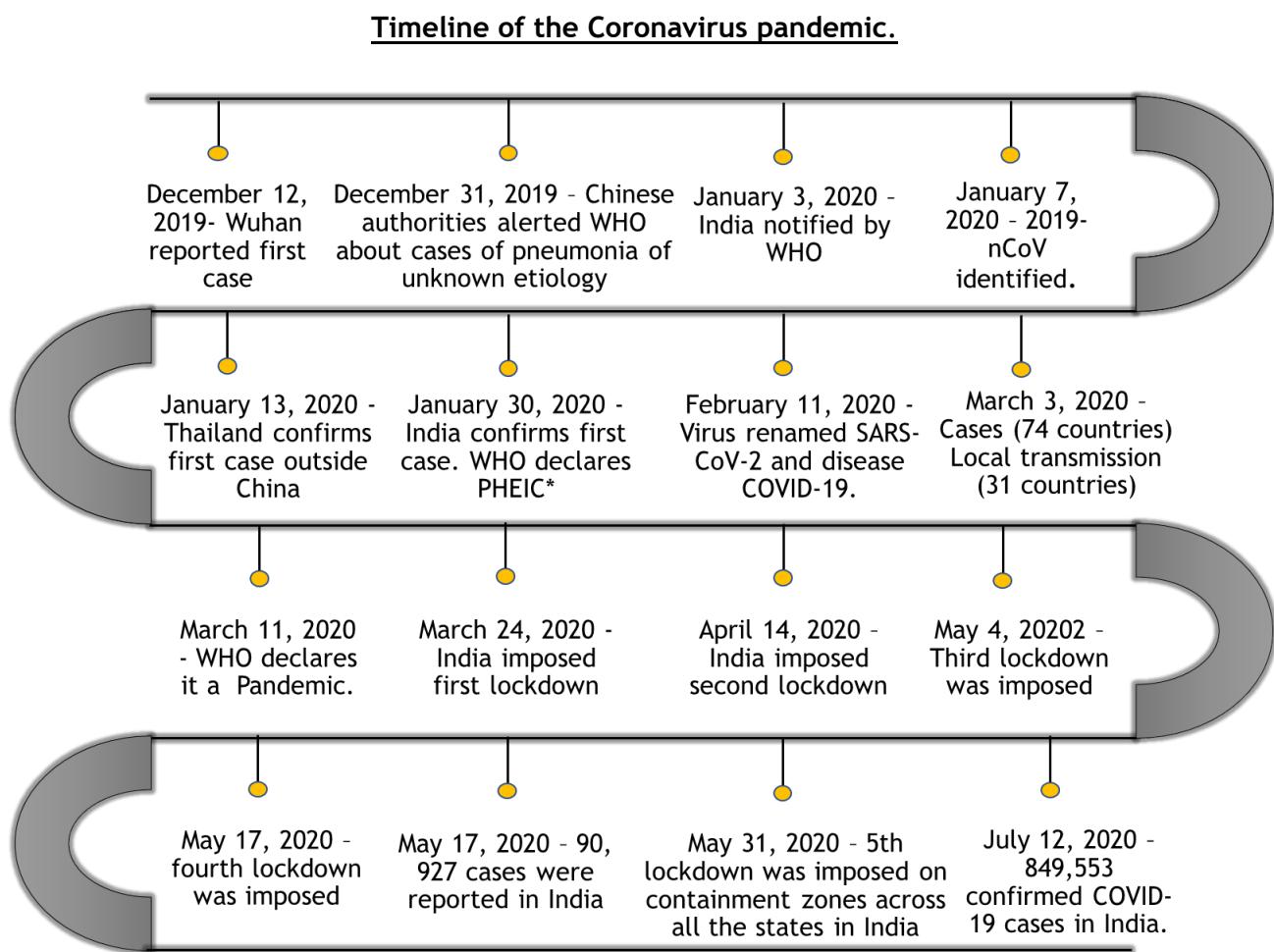


Figure 1: Timeline of Coronavirus

1.2. Transmission

It has been observed that the virus does not spread easily from a contaminated surface and from animals⁶ as it was thought to earlier the mode of transmission has been depicted below: -

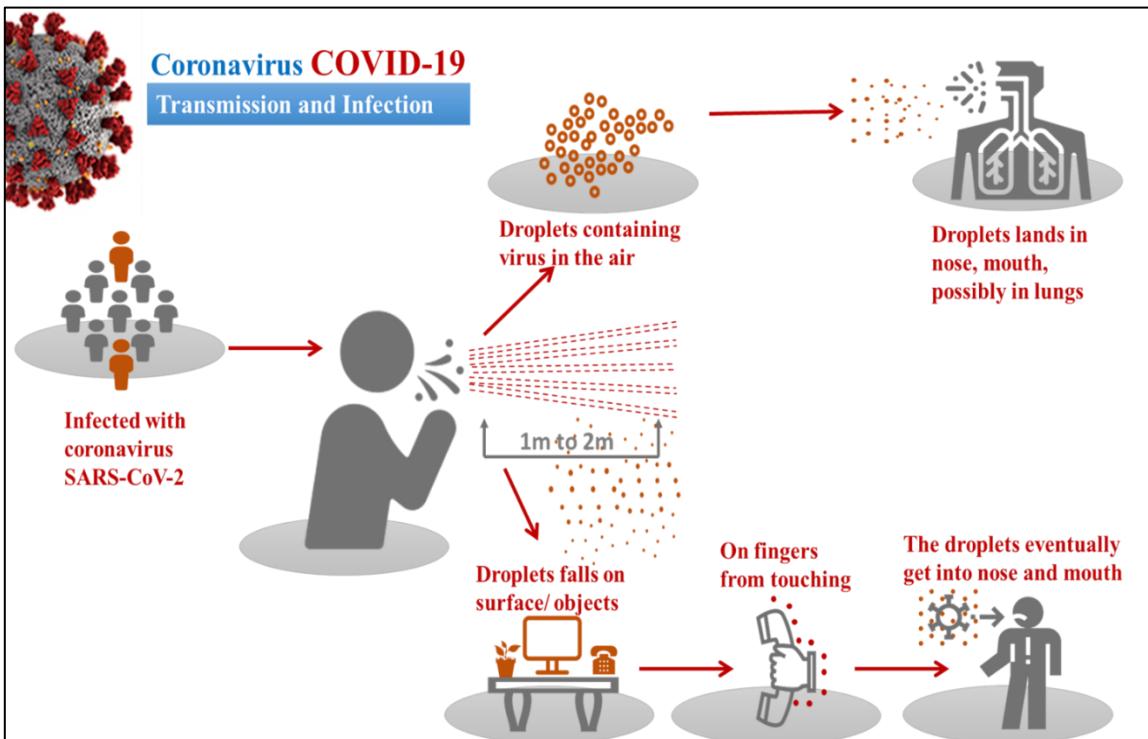


Figure 2: COVID-19 transmission and infection

What you need to know about coronavirus (COVID-19)					
Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.					
Most common symptoms of coronavirus:					
					
Cough	Fever	Chills	Muscle Pain	Difficulty breathing or shortness of breath.	Sore throat
What to Do If You feel Sick					
	Stay home except to get medical care		Cover your coughs and sneezes		
	Separate yourself from other people		Clean your hands often		
	Monitor your symptoms		Avoid sharing personal household items		
	Call ahead before visiting your doctor		Clean all "high-touch" surfaces everyday		
	If you are sick wear a cloth covering over your nose and mouth		For medical emergencies call 911		
Tips for staying healthy					
					
Wash your hands with soap and water for 20 seconds.					
					
Avoid touching your eyes, nose and mouth					
					
Avoid close contact with people who's sick					
					
Cough or sneeze in your bent elbow – not your hands!					
					
Limit social gatherings and time spent in crowded places					
					
Clean and disinfect frequently touched objects and surfaces					
					
Stay informed with accurate information					

Figure 3: Important things to know about Coronavirus

⁶ <https://www.washingtonpost.com/health/2020/05/21/virus-does-not-spread-easily-contaminated-surfaces-or-animals-revised-cdc-website-states/>

1.3. Symptoms

People who have been infected with COVID-19 have been found to show different symptoms. We have already included the detail in our previous editions. As per the new research⁷, CDC has updated its list of symptoms. According to them nausea, congestion or running nose and, diarrhea is also a symptom of COVID-19. COVID-19 symptoms and some vital health tips are depicted below: -

https://www.who.int/health-topics/coronavirus#tab=tab_3

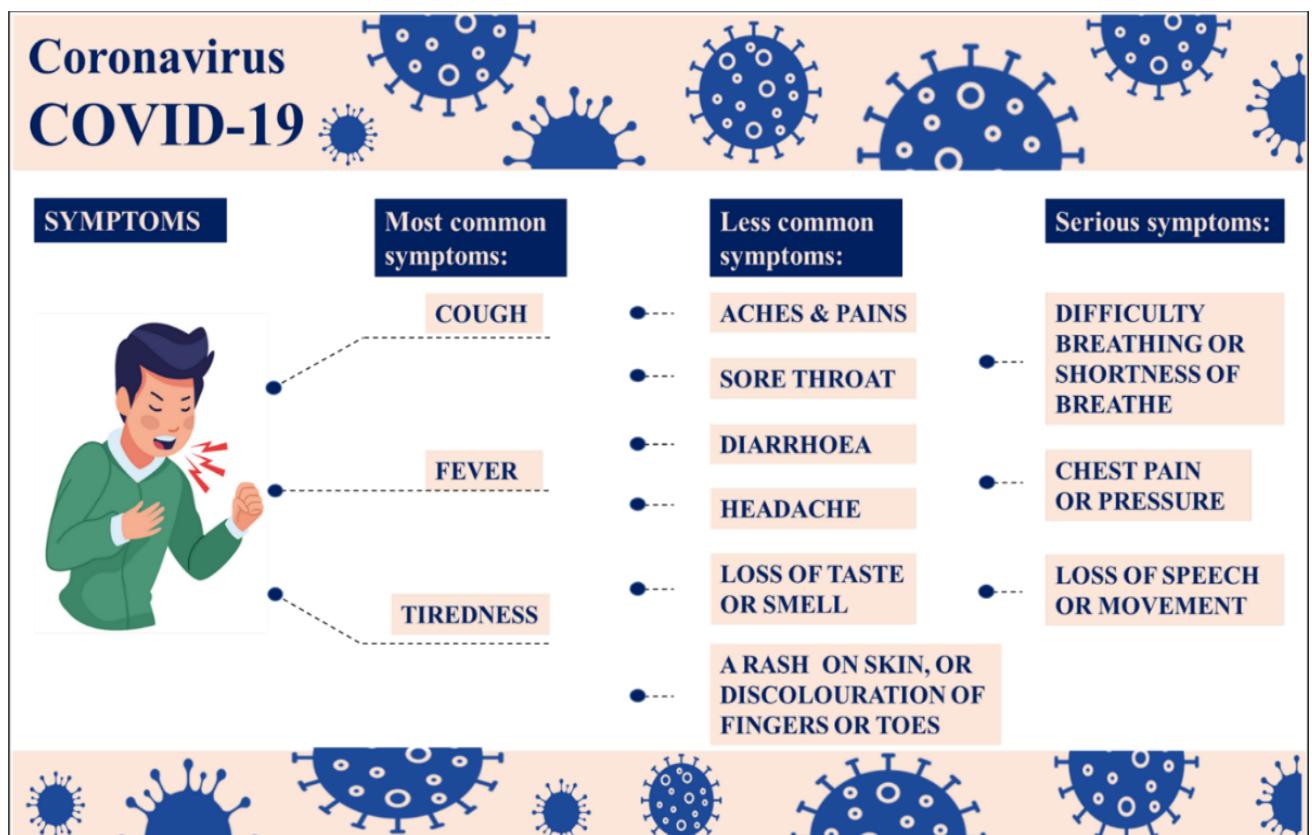


Figure 4: COVID-19, Symptoms and tips to stay healthy ⁸

⁷ <https://m.dailhunt.in/news/india/english/hindustan%20times-epaper-hhtimes/top%20us%20health%20body%20adds%203%20new%20symptoms%20of%20covid19-newsid-n194442866?s=a&uu=0xdb10a204b80e4ba8&ss=pd>

⁸ <https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID19-symptoms.pdf>

2 Covid-19 Status and Statistics

2.1 World⁹

Today many countries are reporting their highest number of cases in a 24-hour period. Latest situation report of WHO says that as on 11 July total of 12,322,395 cases and 556,355 deaths have been reported globally. For detailed information regarding the cases worldwide, please refer Annexure 'I'. US has reported highest death of 132,683 followed by Brazil (69,184), The United Kingdom (44,650), Italy (34,938) and France (29,907).

2.2 India (Graph and Map)¹⁰

According to the Ministry of Health and Family Welfare (MoHFW), as of 12 July 2020, a total of 292,258 active COVID-19 cases have been reported in 35 States/ Union territories making it third worst affected country in the world. Despite the rise in the cases, the mortality rate in India is 3%¹¹ is also a lot more gradual when compared to many other nations devastated by the disease and recovery rate has increased to 62.78^{12%}.

India COVID-19 state wise status (As of 12 July 2020)¹³

S. No	Name of State / UT	Active Cases	Cured/Discharged/ Migrated	Deaths	Total Confirmed cases
1	Andaman and Nicobar Islands	70	93	0	163
2	Andhra Pradesh	12533	14393	309	27235
3	Arunachal Pradesh	214	125	2	341
4	Assam	6351	9150	35	15536
5	Bihar	4557	10685	131	15373
6	Chandigarh	135	413	7	555
7	Chhattisgarh	810	3070	17	3897
8	Dadra and Nagar Haveli and Daman and Diu	245	226	0	471
9	Delhi	19895	87692	3334	110921
10	Goa	928	1428	12	2368

⁹ https://www.who.int/docs/default-source/coronavirus/situation-reports/20200711-covid-19-sitrep-173.pdf?sfvrsn=949920b4_2

¹⁰ <https://www.ndtv.com/india-news/coronavirus-deaths-in-india-jump-by-2-000-for-the-first-time-after-states-update-figures-2247468>,

<https://www.mohfw.gov.in/>, <https://www.hindustantimes.com/india-news/india-s-covid-19-death-toll-nears-12-000-after-backlog-data-reconciled-infection-tally-tops-3-lakh/story-S8biV1q5XMPPlbQkGDiXWO.html>

¹¹ <https://www.hindustantimes.com/india-news/covid-19-latest-govt-highlights-58-recovery-and-3-mortality-rate-as-india-lists-highest-daily-spike/story-SuwefQu1vliA2mCBB0LUP.html>

¹² <https://www.moneycontrol.com/news/india/indiass-covid-19-recoveries-cross-5-lakh-mark-recovery-rate-at-62-78-5536421.html>

¹³ <https://www.mohfw.gov.in/>

11	Gujarat	10260	28649	2032	40941
12	Haryana	4891	15394	297	20582
13	Himachal Pradesh	263	908	11	1182
14	Jammu and Kashmir	4092	5895	169	10156
15	Jharkhand	1347	2243	23	3613
16	Karnataka	20887	14716	613	36216
17	Kerala	3446	3963	29	7438
18	Ladakh	148	928	1	1077
19	Madhya Pradesh	3878	12679	644	17201
20	Maharashtra	99499	136985	10116	246600
21	Manipur	750	843	0	1593
22	Meghalaya	139	66	2	207
23	Mizoram	77	150	0	227
24	Nagaland	435	313	0	748
25	Odisha	4105	8360	61	12526
26	Puducherry	629	690	18	1337
27	Punjab	2352	5040	195	7587
28	Rajasthan	5376	17869	503	23748
29	Sikkim	71	80	0	151
30	Tamil Nadu	46413	85915	1898	134226
31	Telangana	12135	20919	348	33402
32	Tripura	572	1375	2	1949
33	Uttarakhand	653	2718	46	3417
34	Uttar Pradesh	11490	22689	913	35092
35	West Bengal	9588	17959	906	28453
Cases being reassigned to states		3024			3024
Total#		292258	534621	22674	849553

Figure 5: India COVID-19 state wise status (As of 12 July 2020)

2.2.1 Comparative Graph (India and other countries)

A comparative graph of fatalities (as on 11 July 2020) versus total number of cases further substantiates the conclusion that the fatalities percentage is low in India as compared to other countries.

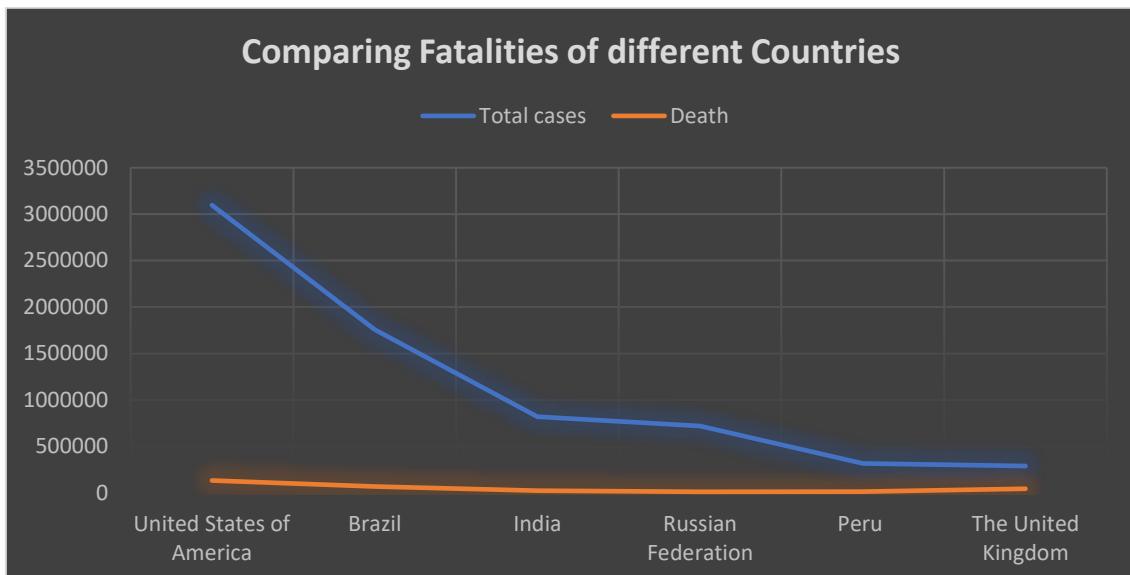


Figure 6: Comparing fatalities of different countries

2.2.2 Comparison of Fatalities between India and Countries with Highest Number of Cases.

(Data as of 11 July 2020)

S. No	Reporting Country/ Territory/Area	Total confirmed cases	Total confirmed new cases	Total deaths	Total new deaths
1	United States of America	3 097 300	58 975	132 683	799
2	Brazil	1 755 779	42 619	69 184	1 220
3	India	742 417	22 752	20 642	482
4	Russian Federation	720 547	6 611	11 205	188
5	The United Kingdom	288 137	512	44 650	48
6	Peru	316 448	3 537	11 314	181

Figure 7: Comparison of fatalities between India and countries with highest number of cases

2.2.3 Countries with Lowest Number of Cases

(Data as of 11 July 2020)

S. No	Reporting Country/ Territory/Area	Total Confirmed Cases	Total Confirmed New Cases	Total Deaths	Total New Deaths
1	Saint Pierre and Miquelon	1	0	0	0
2	Anguilla	3	0	0	0
3	Saint Barthelemy	6	0	0	0
4	Bonaire, Sint Eustatius and Saba	7	0	0	0
5	British Virgin Islands	8	0	0	0

Figure 8: Countries with lowest number of cases

2.3 State and Union Territory

2.3.1 State / Union territory with Highest Number of Cases (Data as of 12 July 2020)

S. No	State /UT	Total confirmed cases	Cured/Discharged/Migrated	Deaths
1	Maharashtra	246600	136985	10116
2	Tamil Nadu	134226	85915	1898
3	Delhi	110921	87692	3334
4	Gujarat	40941	28649	2032
5	Uttar Pradesh	35092	22689	913

A graph depicting the above tabulated data is represented below for ease of comprehension.

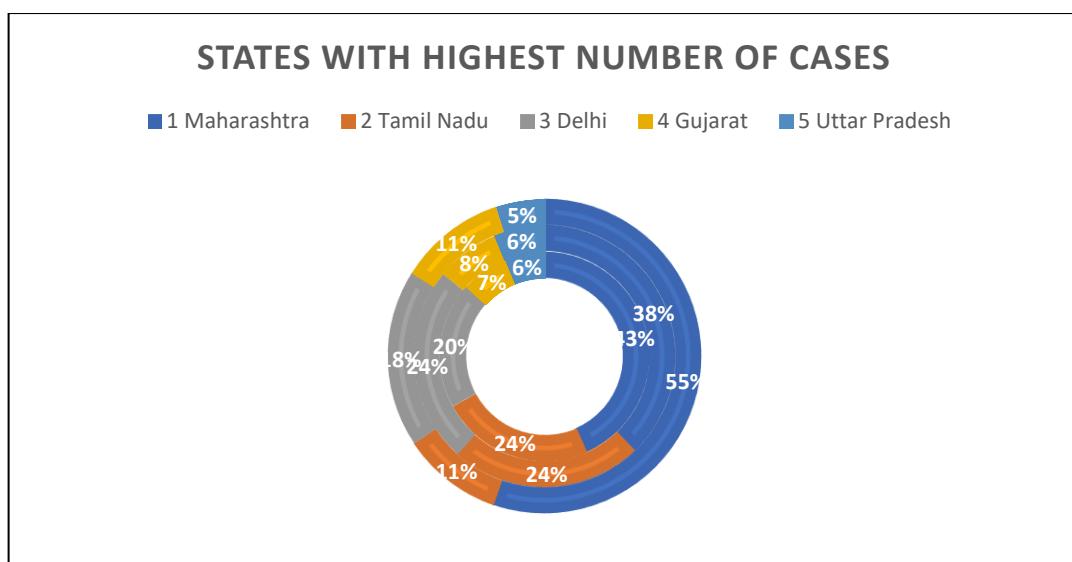


Figure 9: States with highest number of cases

2.3.2 State / Union territory with Lowest Number of Cases (Data as of 12 July 2020)

S. No	State /UT	Total confirmed cases	Cured/Discharged/Migrated	Deaths
1	Meghalaya	207	66	2
2	Sikkim	151	80	0
3	Andaman and Nicobar Islands	163	93	0
4	Mizoram	227	150	0
5	Arunachal Pradesh	341	125	2

A graph depicting the above tabulated data is represented below for ease of comprehension.

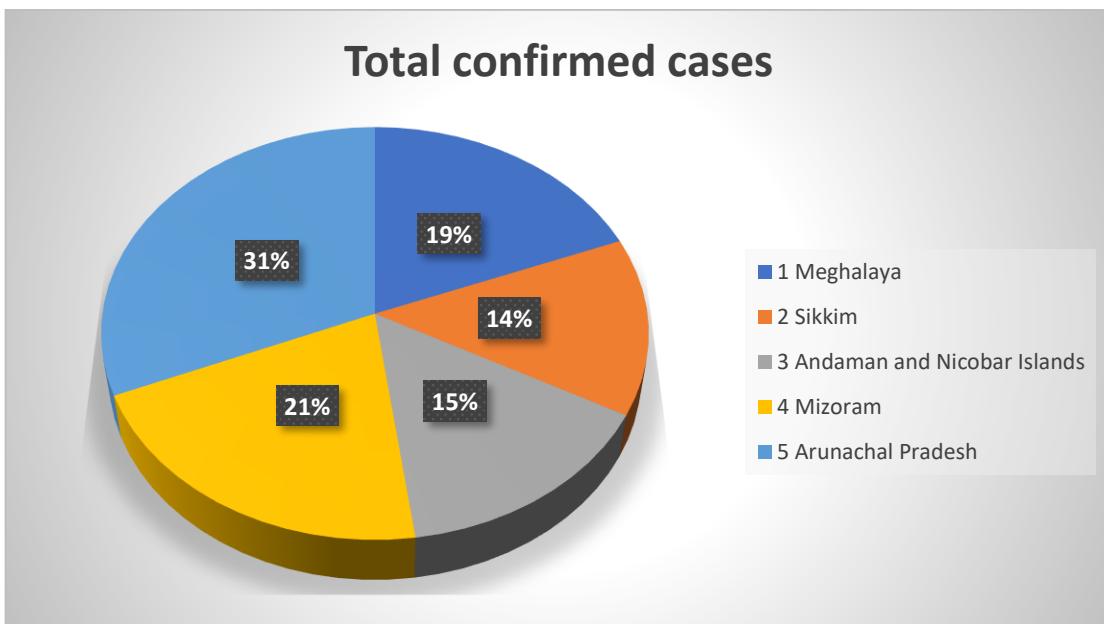


Figure 10: States with lowest number of cases

2.3.3 State Wise Fatality Rates.

The coronavirus cases in India has risen to 8.49 lakh. 28,000¹⁴ cases have been added in the last 24 hours making it third worst affected country in the world. Diagram below shows the active cases and death in different states and UT.

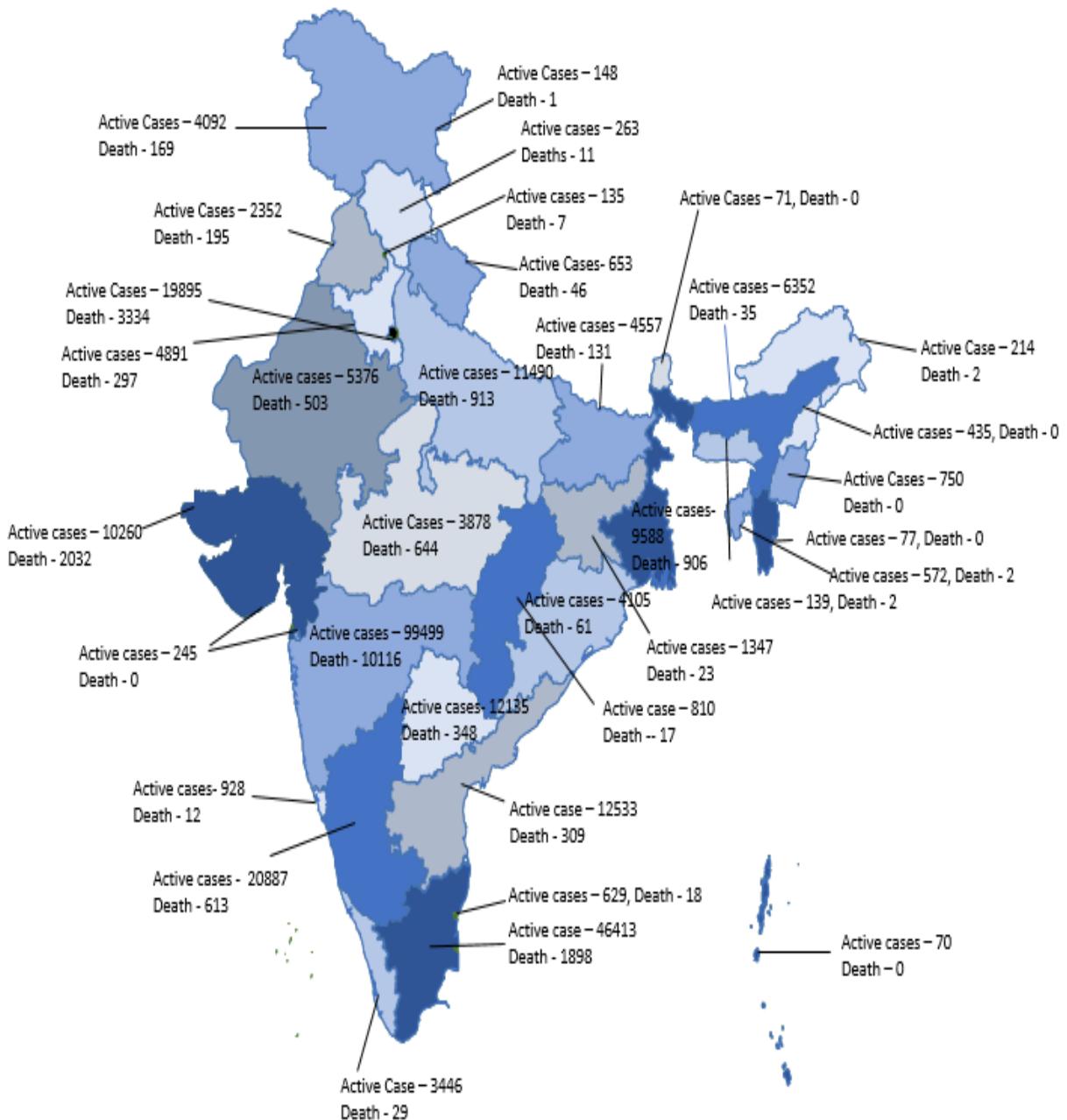


Figure 11: Active and death cases in India

¹⁴ <https://www.ndtv.com/india-news/coronavirus-over-28-000-coronavirus-cases-in-india-in-24-hours-in-biggest-one-day-jump-8-49-lakh-total-cases-so-far-22-674-deaths-2261298>

3 Cure & Treatment

3.1 COVID-19 Vaccines

Various scientist and medical researchers, across the world, are working day in and day out to develop a potential cure/ vaccine for COVID-19 infection. There are more than 160 known entities working on the cure (some details are mentioned in Edition I, II & III) and at least 10 of them have entered the clinical trial phase. There are no proven, knockout treatments and health official's world over say a vaccine could take at least a year to 18 months.

TRACKING COVID-19 VACCINES

Candidate	Subsidize	Trail Phases	Institution
AZD1222	The University of Oxford	Phase 3	The University of Oxford, the Jenner Institute
MRNA-1273	Moderna	Phase 2	Kaiser Permanente Washington Health Research Institute
BNT162	Pfizer, BioNTech	Phase ½	Multiple studies sites in Europe
AD5-NCOV	CanSino Biologics	Phase 2	Tongji Hospital, Wuhan, China
INO-4800	Inovio Pharmaceuticals	Phase 2	Center for Pharmaceuticals, Research, Kansas City. Mo.; University of Pennsylvania, Philadelphia
CORONAVAC	Sinovac	Phase ½	Sinovac Research and Development Co. Ltd.
NVX-COV2373	Novavax	Pre-clinical	Novavax
MRNA-BASED VACCINE	CureVac	Phase 1	CureVac
SELF-AMPLIFYING RNA VACCINE	Imperial London College	Phase 1	Imperial College London
AD26.COV2-S	Johnson & Johnson	Pre-clinical	Johnson & Johnson
COVAXIN	Bharat Biotech	Phase 1	Bharat Biotech and Indian Council of Medical Research

Figure 12: Tracking COVID-19 vaccines

<https://indianexpress.com/article/explained/how-close-are-we-to-coronavirus-covid-19-vaccine-what-is-the-testing-process-6471283/>

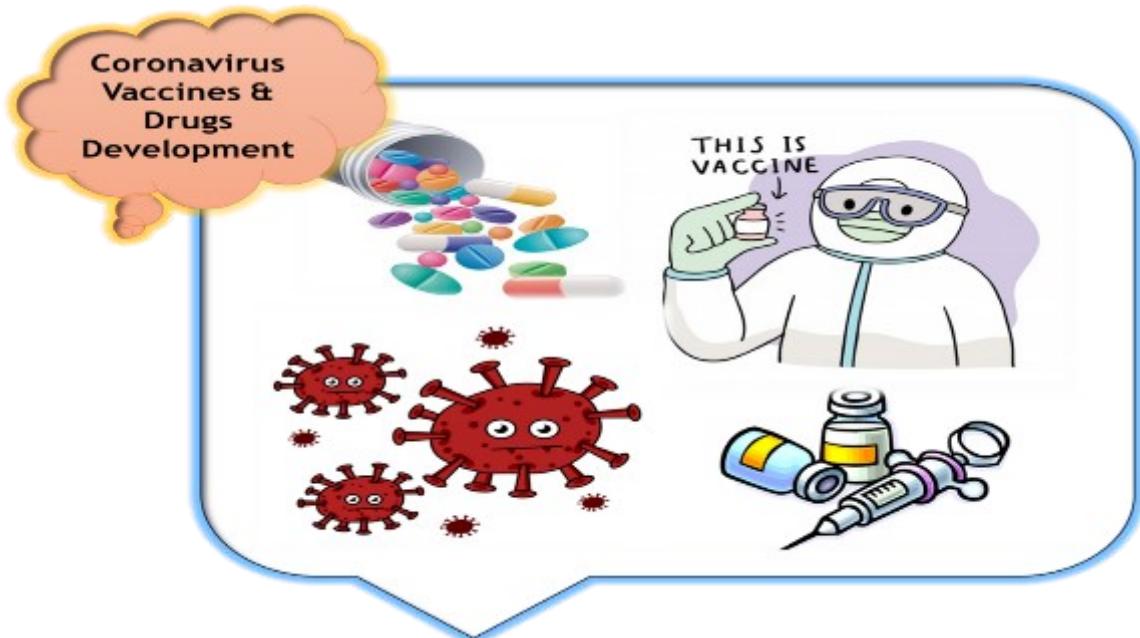


Figure 13: Coronavirus drugs and vaccine

3.1.1 Zydus Cadila Healthcare Ltd

Indian Pharmaceutical company, Ahmedabad based Zydus Cadila received the approval from the Drug Controller General of India (DCGI) to start phase I and phase II of their clinical trials on human participants. The trials will begin this month on over 1,000 patients across multiple sites in India. The company has submitted data to DCGI based on animal trial, they conducted. Animals like- mice, rabbits, guinea pigs, rats were used, and these animals developed antibodies against the virus.

3.1.2 AnGes Inc.¹⁵

Vaccine: DNA Vaccine

The Japanese biopharma venture AnGes Inc. has been developing a vaccine with Osaka University since March 2020. It is expected that the coronavirus vaccine will be ready as early as the first half of 2021. AnGes has completed the phase 1 trial, which has shown the increase in antibodies. It has started first clinical trial on humans of a potential vaccine for the new coronavirus, if the initial phase of the clinical trial confirms the vaccine's safety, it will expand enrolment to around 400. The AnGes candidate is a plasmid DNA vaccine that disables the connection between the protein spikes of the coronavirus and receptors in human cells. Results from tests in mice show increased antibody production, and tests in 30 human volunteers are due to begin in July, with the first results expected in September 2020. If the next stage goes well, it hopes to get government approval between the spring and the fall of next year to produce and sell the vaccine.

<https://mainichi.jp/english/articles/20200630/p2g/00m/0na/111000c>

¹⁵ <https://www.devdiscourse.com/article/health/1086370-covid-19-private-equity-inflow-in-realty-sector-falls-93-pc-to-usd-238mn-in-jan-may>

3.1.3 Moderna¹⁶

Vaccine: mRNA-1273

Moderna is in phase II of its clinical trial, intended to evaluate safety and effectiveness. Moderna, a biotechnology company working with the National Institute of Allergy and Infectious Diseases, intends to enrol 600 healthy volunteers equally divided into two age groups: 18 to 55, and 55 and older. The company announced on June 11, that it will start phase III of its trial in July with 30,000 volunteers. Phase III, the final clinical trial phase, evaluates effectiveness in a much larger group and compares how well the vaccine works compared to a placebo. Moderna is on track to deliver roughly 500 million doses of the vaccine per year, and potentially up to 1 billion doses annually, starting from 2021.

3.1.4 University of Oxford and AstraZeneca¹⁷

Vaccine: AZD1222

AstraZeneca, which is developing AZD1222 vaccine in collaboration with Oxford University, has said it is “on track” to roll out up to two billion doses of coronavirus vaccine in September or October 2020. AZD1222 vaccine is already being used on about 5,000 volunteers in Brazil’s first clinical trial of the Oxford candidate. Simultaneously, it is also undergoing trials in the UK and South Africa. 8,000 volunteers were enrolled for the Phase III of its trial. Phase III of the human trials will assess and monitor how the vaccine works in a large number of people over the age of 18, and how well the vaccine works to prevent people from becoming infected and unwell with COVID-19. If the trial results convince regulators, deliveries would be expected to start by the end of 2020.

https://www.business-standard.com/article/health/coronavirus-vaccine-update-latest-news-on-corona-drug-patanjali-vaccine-current-status-astrazeneca-oxford-moderna-china-india-remdesivir-120062900268_1.html

3.1.5 Pfizer¹⁸

Vaccine: BNT162

Pharmaceutical giant Pfizer, which is co-producing the vaccine called BNT162 with the help of German company BioNTech, has started the process of dosing patients. This trial will evaluate the safety, ability to give immunity, and the optimal dose of the four candidates in a single and continuous study. Initially they are testing the vaccine on people 18 to 55. The data is being shared with scientists in real time. The tests are currently on in Germany and parts of the US. The next

¹⁶ <https://www.forbes.com/sites/greatspeculations/2020/06/15/moderna-races-ahead-finalizes-plans-for-phase-3-trials/#565a77f55d76>

¹⁷ <https://economictimes.indiatimes.com/news/international/world-news/astrazeneca-agrees-to-make-covid-19-vaccine-for-europe/articleshow/76375435.cms>

https://m-timesofindia-com.cdn.ampproject.org/v/s/m.timesofindia.com/life-style/health-fitness/health-news/coronavirus-vaccine-latest-news-update-astrazeneca-ready-to-roll-out-covid-19-vaccine-in-september-and-more-updates-you-need-to-know/amp_etphotostory/76261249.cms?usqp=mq331AQFKAGwASA%3D&js_v=0.1#referrer=https%3A%2F%2Fwww.google.com&tf=From%20%251%24s

<https://www.precisionvaccinations.com/vaccines/azd1222-sars-cov-2-vaccine>

¹⁸ https://www.business-standard.com/article/current-affairs/coronavirus-vaccine-update-latest-news-on-corona-drug-vaccine-current-status-patanjali-ayurveda-china-astrazeneca-more-120061500391_1.html

stage will see the vaccine undergoing trials on 30,000 healthy participants, which is likely to begin in the United States and Europe in late July. BioNTech-Pfizer are gearing up to make up to 100 million doses by the end of 2020 and another 1.2 billion doses by the end of 2021 in Germany and the United States.

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-latest-updates-oxford-astrazeneca-inovio-pfizer-bharat-biotech-6486286/>

3.1.6 Panacea Biotec Limited¹⁹

Delhi-based biotechnology company, Panacea Biotec Limited collaborates with a US-based pharma company, Refana Inc to develop, an experimental COVID-19 vaccine which is currently in the works. The vaccine prototype, which will make use of an inactivated virus strain has shown effective results in the pre-clinical trials conducted in the US. It says animal trials will be conducted in labs across Delhi and Punjab, also the company intends to proceed to human trials in the month of October 2020.

3.1.7 Johnson & Johnson²⁰

The company is expected to start testing its vaccine in people in the second half of July. The vaccine combines genes from the coronavirus with a modified adenovirus. The first trial will include more than 1,000 healthy adults aged 18 to 55 and others 65 and older and will take place in the U.S. and Belgium. If the vaccine works well, the company says it could produce 600 million to 900 million doses by April 2021. The company said it is using the same technologies it used to make its experimental Ebola vaccine, which was provided to people in the Democratic Republic of Congo in late 2019. It involves combining genetic material from the coronavirus with a modified adenovirus that is known to cause common colds in humans.

3.1.8 ICMR - Bharat Biotech International Limited²¹

Vaccine: Covaxin

The Indian council of Medical Research has collaborated with Hyderabad based Bharat Biotech International Ltd. (BBIL) to develop COVID-19 vaccine 'Covaxin' ready for launch by Independence Day on 15 August 2021. ICMR has transferred the virus strain which were kept in National Institute of Virology, Pune to BBIL. Bharat Biotech India Ltd's covid-19 vaccine 'Covaxin' has become the first candidate developed in India to receive the Drug Controller General of India's approval to enter human trials. The DCGI has approved conduct of phase I and II clinical trial of its vaccine candidate 'Covaxin', which it developed in collaboration with the Indian Council of Medical Research's National Institute of Virology (NIV). The ICMR has selected 12 institutes for clinical trial of the country's first indigenous Covid-19 vaccine. Covaxin will be tested on 375 people in Phase I trial and on 750 people in the next phase. The company has set July 13 as the final date of

¹⁹ <https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-vaccine-update-latest-news-patanjali-promises-100-cure-moderna-proceeds-to-critical-stage-3-trial-and-more-you-need-to-know/photostory/76388292.cms?picid=76388555>

²⁰ <https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-vaccine-updates-latest-news-from-possible-availability-of-chinese-covid-19-vaccine-by-2020-end-to-favourable-results-of-eli-lillys-antibody-treatment-everything-you-should-know-about-covid-treatment/photostory/76319082.cms?picid=76334384>

<https://indianexpress.com/article/coronavirus/coronavirus-vaccine-moderna-sinovac-biotech-oxford-johnson-and-johnson-status-check-6458445/>

²¹ <https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-vaccine-status-covid-19-vaccine-latest-news-update-from-modernas-successful-stage-1-trials-to-chinas-new-safe-vaccine-everything-you-should-know-about-covid-19-vaccine-status/photostory/75971106.cms?picid=75971268>

enrolment for the trials. Meanwhile, the process of conducting clinical trials for Covaxin has commenced at the Nizams Institute of Medical Sciences (NIMS) in Hyderabad and it is envisaged to launch the vaccine for public health use latest by 15th August 2020 after completion of all clinical trials.

<https://www.livemint.com/companies/news/covaxin-icmr-pushes-bharat-biotech-to-launch-coronavirus-vaccine-by-15-august-11593759710684.html>

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-latest-updates-oxford-astrazeneca-inovio-pfizer-bharat-biotech-6486286/>

3.1.9 Inovio Pharmaceutical²²

Vaccine: INO-4800

Inovio's vaccine, INO-4800, is a DNA vaccine in phase I clinical trials, with 40 volunteers between 18 to 50 years of age. Results showed that the vaccine was generally safe and well-tolerated in all participants. The technology uses DNA designed to produce a specific immune response. The firm claimed that its INO-4800, triggered an immune response in 94 per cent of volunteers who completed the phase 1 clinical trial, and now plans to start a combined Phase 2/3 trial to assess the efficacy of the vaccine. Inovio made its potential vaccine by adding genetic material of the virus inside synthetic DNA, which researchers hope will cause the immune system to make antibodies against it. The company plans to have 1 million doses of the vaccine by the end of 2020.

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-latest-updates-oxford-astrazeneca-inovio-pfizer-bharat-biotech-6486286/>

3.1.10 CanSino Biologics

Vaccine: Ad5-nCoV

Development Stage: Phase 1 clinical trial complete, proceeded to the phase 2 trial

CanSino Biologics in Tianjin, China, is working with the Beijing Institute of Biotechnology on a coronavirus vaccine and has been listed by WHO as one of the top contenders, using a type of genetically altered adenovirus known as Ad-5. A Chinese experimental coronavirus vaccine has been approved for military use in China. The Ad5-nCoV vaccine, jointly developed by CanSino Biologics and the Beijing Institute of Biotechnology in the Academy of Military Medical Sciences, is one of the eight vaccine candidates being created by Chinese firms and approved to be moved to human trials against the SARS-CoV-2 virus, which causes COVID-19 disease. The Ad5-nCoV vaccine also won approval for human testing in Canada. The Ad5-nCoV vaccine candidate already moved into clinical trials in the month of April and it has cleared the Phase 1 of the trial, in which 108 people got three doses (low, middle, high) of the vaccine and moved to phase 2 of the study in mid-April, with over 500 enrolled. Clinical trials of Ad5-nCoV vaccine in Phase 1 and Phase 2 have shown that the vaccine candidate has the potential to prevent infections caused by the novel coronavirus.

<https://www.ndtv.com/world-news/covid-19-vaccine-cansinos-covid-19-vaccine-candidate-approved-for-military-use-in-china-2253819>

<https://www.webmd.com/lung/news/20200610/covid-19-latest-updates>

²²<http://ir.inovio.com/news-releases/news-releases-details/2020/INOVIO-and-IVI-Partner-with-Seoul-National-University-Hospital-to-Start-Phase-12-Clinical-Trial-of-INOVIOS-COVID-19-DNA-Vaccine-INO-4800-in-South-Korea/default.aspx>

<https://www.webmd.com/lung/news/20200610/covid-19-latest-updates>

3.1.11 Sanofi and GSK²³

Vaccine: Unnamed

Development Stage: Preclinical

Sanofi and GSK announced on April 14 that they had entered into an agreement to jointly create a Covid-19 vaccine by the end of next year. The companies plan to start clinical trials in the second half of 2020 and, if successful, produce up to 600 million doses next year. To make it, Sanofi said it will repurpose its SARS vaccine candidate that never made it to market while GSK will provide pandemic adjuvant technology, which is meant to enhance the immune response in vaccines. Sanofi has stated that it was hopeful of speeding the process of phase I and II from September to December. The company plans to produce 1 billion doses of the efficacy boosters for Covid-19 shots next year. GSK aims to contribute a so-called adjuvant, an efficacy booster that is combined with more traditional vaccines, while the most advanced rival projects use novel genetic technologies and have been accelerated through pre-clinical testing in labs and on animals. GSK says the trial follows preclinical results in animal models which showed a strong neutralising antibody response against SARS-CoV-2, the virus that causes COVID-19, across multiple species.

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-glaxosmithkline-oxford-astrazeneca-moderna-clover-status-check-6469474/>

http://www.pmlive.com/pharma_news/gsk_and_clovers_covid-19_vaccine_starts_clinical_trials_1342637

3.1.12 Sinovac Biotech

Chinese firm Sinovac Biotech has entered into an agreement with a drug maker in Brazil to conduct the final phase of the three-part human testing of its CoronaVac vaccine. Sinovac will collaborate with Instituto Butantan in Brazil to conduct a phase III trial to develop the vaccine for global use. Sinovac will dose nearly 9,000 healthcare professionals working in Covid-19 specialised facilities and start in Jul 2020. Results of a Phase II clinical trial released in June show that the vaccine induced antibodies to neutralize the virus after 14 days in 90% of people who received it. The vaccine requires two injections, given two weeks apart, according to the company. No serious side effects have been reported in either phase I or II trials, which included 743 healthy volunteers. Simultaneously, Sinovac is also preparing a coronavirus vaccine plant, which it hopes will be ready this year and capable of making up to 100 million shots a year.

<https://www.hindustantimes.com/world-news/90-of-people-given-vaccine-by-sinovac-show-promising-results/story-00KjZxzwe3HOu7bVfO1jRM.html>

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccines-latest-news-covaxin-oxford-sinovac-moderna-gsk-sanofi-6494159/>

3.1.13 Novavax²⁴

Vaccine: NVX-CoV2373

Development Stage: Phase 1/II clinical trial

²³ https://m-timesofindia-com.cdn.ampproject.org/v/s/m.timesofindia.com/life-style/health-fitness/health-news/coronavirus-vaccine-latest-news-update-astrazeneca-ready-to-roll-out-covid-19-vaccine-in-september-and-more-updates-you-need-to-know/amp_ephotostory/76261249.cms?usqp=mc331AQFKAGwASA%3D&js_v=0.1#referrer=https%3A%2F%2Fwww.google.com&tfFrom%20251%24s

²⁴ <https://www.thehindu.com/news/international/novavax-gets-us-defense-funding-for-its-covid-19-vaccine/article31753852.ece>

On May 25, the US-based vaccine development company, Novavax, had begun Phase I/II trial of its Covid-19 vaccine candidate in Australia, around 131 volunteers in the age group of 18-59 years were enrolled in Phase-1 trial at two different sites in Australia with preliminary results of phase 1 trials expected in July. The potential vaccine, which is being called NVX-CoV2373, is using adjuvant technology and will attempt to neutralize the so-called spike protein, found on the surface of the coronavirus, which is used to enter the host cell. the U.S. based company will give the late-stage biotech company up to \$60 million to fund the manufacturing of its experimental COVID-19 vaccine which includes the delivery of 10 million doses of its COVID-19 vaccine - NVX-CoV2373 - to the DoD this year.

3.1.14 Indian Council of Medical Research (ICMR)

Representatives from AIIMS, ICMR, NCDC, NDMA, WHO and experts from the central government hospitals have reviewed the use of Hydroxychloroquine (HCQ) and has issued revised advisory on the use of HCQ (in supersession of previous advisory dated 23 March 2020).

The National Task Force constituted by ICMR and Joint Monitoring Group have recommended the prophylactic use of HCQ for the following categories.

- I. All asymptomatic healthcare workers involved in containment and treatment of COVID 19 and asymptomatic healthcare workers working in non-COVID hospitals/non-COVID areas of COVID hospitals/blocks.
- II. Asymptomatic household contacts of laboratory confirmed cases.
- III. Asymptomatic frontline workers, such as surveillance workers deployed in containment zones and paramilitary/police personnel involved in COVID-19 related activities.

https://www.icmr.gov.in/pdf/covid/techdoc/V5_Revised_advisory_on_the_use_of_HCQ_SARS_CoV2_infecti_on.pdf

3.1.15 British American Tobacco (BAT)

Vaccine: Unnamed

Development Stage: Yet to commence Phase 1 trials

London based cigarette company British American Tobacco has also developed a vaccine using protein from tobacco leaves and is ready for a human trial. The company said that its experimental vaccine has shown a positive immune response in pre-clinical trial and now they are waiting for approval from the U.S. Food and Drug Administration (FDA) after which it would proceed to phase 1 trial on humans. According to the company, the method they are using will help generate the vaccine faster as compared to other conventional approaches. They claimed that if everything goes as per the plan, they will be able to produce 1 million to 3 million doses per week. The tobacco giant was expected to start the trial from late June. BAT opponent Philip Morris International Inc. is also testing an immunization based on a virus-like particle.

3.1.16 Imperial College London²⁵

A vaccine developed at Imperial College London will go into the human-trial phase in the hope that it will be available for mass vaccination in the spring of 2021. The Imperial vaccine adopts a new

²⁵ <https://www.hindustantimes.com/world-news/imperial-college-london-s-covid-19-vaccine-human-trial-to-begin-this-week/story-NAgkQPIHYxFhZtVzcHLeKP.html>

approach using synthetic strands of genetic code (called RNA), based on the virus's genetic material. It says that 300 healthy people will be immunized with two doses of the COVID-19 vaccine candidate developed at Imperial and further trial involving 6,000 people is planned for October and if everything goes well, Imperial hopes the vaccine could be distributed in the UK and abroad early next year. The RNA vaccine developed by Imperial College delivers genetic instructions to muscle cells to make the “spike” protein on the surface of coronavirus. The presence of this protein provokes an immune response, offering protection against Covid-19. So far, the vaccine candidate developed by Imperial College London, has only been tested in animals and in the laboratory, where it produced much higher levels of antibodies than would normally be seen in infected people.

3.1.17 CureVac

Germany is investing in biotech firm CureVac, which is developing a vaccine using mRNA technology. It has started human trials of its coronavirus vaccines after getting approval from regulators German biotech firm CureVac is to become the second company in Germany to begin human trials of an experimental coronavirus vaccine. Germany will pay €300 million (\$337.4 million) for a 23% share. CureVac's product is based on an unproven but promising area of pharmaceutical development known as messenger RNA, in which the vaccine teaches the body's cells to identify and attack the virus. The clinical study will include approximately 168 healthy adults, of which 144 are to be given the experimental vaccine.

<https://www.hindustantimes.com/world-news/curevac-coronavirus-vaccine-cleared-for-human-trials-in-germany/story-xDB4p04r7nRRlr1cxhp5GI.html>

3.1.18 Israel Institute for Biological Research²⁶

The Israel Institute for Biological Research has claimed it had completed successful coronavirus vaccine trials on rodents and they hope to have a finished vaccine in a year, or possibly even earlier. A single dose of a SARS-CoV-2 vaccine developed at the Israel Institute for Biological Research provides protection against SARS-CoV-2 proved effective against Covid-19 in Syrian golden hamsters. The vaccine, which was tested on hamsters, “results in rapid and potent induction of neutralizing antibodies against SARS-CoV-2”. The vaccine candidate will now be tested on larger animals and finally on humans.

3.1.19 Measles, Mumps and Rubella (MMR)²⁷

Measles, Mumps and Rubella (MMR) vaccine could serve as a preventive measure to dampen septic inflammation associated with COVID-19. According to the researchers, mortality in COVID-19 cases is strongly associated with progressive lung inflammation and eventual sepsis. A clinical trial with MMR in high-risk populations may provide a low-risk-high-reward preventive measure in saving lives during the COVID-19 pandemic,” said Dr Paul Fidel, Associate Dean for Research at Louisiana State University Health School of Dentistry. “

<https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/heres-why-a-vaccine-for-coronavirus-is-far-away/imperial-college-london/slideshow/75843538.cms>

²⁶ <https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-glaxosmithkline-oxford-astrazeneca-moderna-clover-status-check-6469474/>

²⁷ <https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-glaxosmithkline-oxford-astrazeneca-moderna-clover-status-check-6469474/>

3.2 COVID-19 Drugs

3.2.1 Patanjali Ayurveda Limited²⁸

Patanjali Ayurveda Limited, claimed that the company had developed an Ayurveda medicine Coronil and Swasari that has cured Covid-19 patients within a span of five to 14 days. It says that a trial was conducted on hundreds of Covid-19 patients and that the medicine has yielded 100 per cent favourable results. The company also claimed that the patients also consecutively tested negative for COVID-19. Baba Ramdev says the drug was clinically tried on 280 Covid-19 positive persons out of which 69 per cent were cured within three days. The Ministry of Ayush says that drug for the coronavirus disease (Covid-19) will be given a go-ahead only after the government looks into the report sent by the company. The Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) has asked Patanjali to provide details of the medicines, Coronil and Swasari. All clinical trial documents have been shared with Ayush Ministry. The Ministry of Ayush says Patanjali Ayurveda will not be allowed to sell its medicines with claims of curing Covid-19, though the company can sell its Divya Coronil tablets as an immunity booster and gave it the licenses to make all its three medicines, namely Divya Coronil, Divya SwasariVati and Divya AnuTaila. Also, The Ministry has also directed for the packaging and labelling on the medicines not to claim a cure for Covid-19.

<https://economictimes.indiatimes.com/news/politics-and-nation/patanjali-says-didnt-claim-cure-for-covid-ayush-ministry-says-coronil-is-immunity-booster-cant-be-sold-as-cure/articleshow/76728071.cms>

3.2.2 Arsenicum Album 30²⁹

The Ayush Ministry had on June 10 announced that a clinical trial would be undertaken to test the efficacy of homeopathy medicine Arsenicum Album 30 against coronavirus. The Maharashtra government has approved the use of homeopathy medicine Arsenicum Album 30 as a prophylactic against the novel coronavirus infection and as an immunity booster. However, there is no evidence that Arsenicum Album 30 prevents COVID-19, homeopathy experts generally use the medicine to treat respiratory problems.

3.2.3 Remdesivir³⁰

Development Stage: Late-stage trials

Remdesivir has shown some promise in treating SARS and MERS, which are also caused by coronaviruses. Some health authorities in the U.S., China and other parts of the world have been using Remdesivir, which was tested as a possible treatment for the Ebola outbreak, in hopes that the drug can improve the outcomes for Covid-19 patients. Remdesivir has proved in a study that it has reduced the recovery time of the patients from 15 days to 11 days. The drug has also been authorized for use in India. According to the Ministry of Health and Family Welfare Remdesivir (under Emergency Use Authorization) may be considered in patients with moderate disease (The

²⁸ <https://www.hindustantimes.com/india-news/patanjali-s-covid-19-drug-a-good-thing-but-there-are-rules-ayush-minister-shridhar-naik/story-c079M3mOShnv27CmAtpcZL.html>

<https://timesofindia.indiatimes.com/india/patanjali-claims-covid-drug-coronil-centre-seeks-details-all-you-need-to-know/articleshow/76531990.cms>

²⁹ <https://www.moneycontrol.com/news/coronavirus/maharashtra-government-approves-use-of-homeopathy-medicine-against-covid-19-5399751.html>

³⁰ <https://theprint.in/health/remdesivir-reduces-recovery-time-of-covid-patients-from-15-days-to-11-finds-new-study/427953/?amp#referrer=https%3A%2F%2Fwww.google.com&tf=From%20%251%24s>
<https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19.pdf>

drug is most beneficial for the patient who needs supplemental oxygen during hospitalization) with none of the following contraindications:

- I. AST/ALT > 5 times Upper limit of normal (ULN)
- II. Severe renal impairment (i.e., eGFR < 30ml/min/m² or need for hemodialysis)
- III. Pregnancy or lactating females
- IV. Children (< 12 years of age)

Dose: 200 mg IV on day 1 followed by 100 mg IV daily for 4 days (total 5 days)

<https://www.mohfw.gov.in/pdf/UpdatedClinicalManagementProtocolforCOVID19dated03072020.pdf>

3.2.4 Cipremi³¹

Indian drug-maker Cipla has launched Remdesivir under the brand name Cipremi (remdesivir lyophilised powder for injection 100 mg) and will be marketing and supplying the drug through both government and open market channels. It has been approved for adult and paediatric patients hospitalised due to COVID-19 infection, most affective on those who need oxygen support. The drug is priced at ₹4,000 per 100 mg vial.

<https://www.livemint.com/>

3.2.5 Covifor³²

Hyderabad-based drug maker Hetero has received approval of regulator Drug Controller General of India (DCGI) to manufacture and market investigational antiviral medicine Remdesivir for the treatment of COVID-19 disease. It will be available in 100 mg injectable form, which has to be administered intravenously in a hospital setting under the supervision of a healthcare professional. It is not a drug you can take at home. Hetero has confirmed that Covifor would cost between 5,000 to 6,000 per dose. The COVID-19 treatment by Covifor will cost not more than 30,000 per patient. Six doses of the medicine will be given in this timeframe.

3.2.6 Hydroxychloroquine³³

Development Stage: Various clinical trials

The representatives from AIIMS, ICMR, NCDC, NDMA, WHO and experts from the central government hospitals have reviewed the use of Hydroxychloroquine (HCQ) and has issued revised advisory on the use of HCQ (in supersession of previous advisory dated 23 March 2020).

The National Task Force constituted by ICMR and Joint Monitoring Group have recommended the prophylactic use of HCQ for the following categories.

- I. All asymptomatic healthcare workers involved in containment and treatment of COVID 19 and asymptomatic healthcare workers working in non-COVID hospitals/non-COVID areas of COVID hospitals/blocks
- II. Asymptomatic household contacts of laboratory confirmed cases.

³¹ <https://www.cnbcv18.com/healthcare/cipla-gets-regulators-nod-to-make-generic-verison-of-gileads-covid-19-drug-remdesivir-6178511.htm>

³² <https://www.ndtv.com/business/coronavirus-treatment-drug-hetero-labs-gets-regulatory-nod-to-make-gileads-covid-19-drug-2249884>

³³ <https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19.pdf>

III. Asymptomatic frontline workers, such as surveillance workers deployed in containment zones and paramilitary/police personnel involved in COVID-19 related activities.

The health ministry, experts from the Indian Council of Medical research and the Drug Controller General of India, reviewed the clinical management protocol for Covid-19 on June 13 and limited HCQ's use to management of moderate patients, advising that it be avoided in patients with "severe disease". Several large observational studies have shown no effect on mortality or other clinically meaningful outcomes. As such, the evidence base behind its use remains limited as with other drugs and should only be used after shared decision making with the patients while awaiting the results of ongoing studies. As is the case with other antivirals, this drug should be used as early in the disease course as possible to achieve any meaningful effects and should be avoided in patients with severe disease. An ECG should ideally be done before prescribing the drug to measure QTc interval (and HCQ avoided if QTc is >500 ms).

Dose: 400 mg BD on day 1 followed by 400mg daily for next 4 days.

The detailed revised advisory on the use of HCQ as prophylaxis for Covid-19 infection can be accessed here: -

https://www.icmr.gov.in/pdf/covid/techdoc/V5_Revised_advisory_on_the_use_of_HCQ_SARS_CoV2_infection.pdf

<https://www.mohfw.gov.in/pdf/UpdatedClinicalManagementProtocolforCOVID19dated03072020.pdf>

3.2.7 Dexamethasone³⁴

Dexamethasone has emerged as a life-saving drug on June 17, 2020, as a UK based research conducted found out that low dosages of the drug could help patients suffering from severe COVID-19. UK has claimed that the generic steroid drug dexamethasone reduced deaths by up to one third in severely ill hospitalized patients. In the clinical study 2,104 patients were given dexamethasone and were compared with 4,321 patients who did not receive the drug. The drug is shown to cut the risk of death by a third for patients on ventilators and for those on oxygen, it cuts deaths by a fifth. This drug is widely used in other diseases to reduce inflammation and helps to stop some of the damage that can happen when the body's immune system goes into overdrive as it tries to fight off coronavirus. It is used to treat a range of diseases including rheumatism, asthma, allergies and even to help cancer patients better handle the nausea triggered by chemotherapy. It reduces inflammation, which sometimes develops in Covid-19 patients as the immune system overreacts to fight the infection. However, this drug does not appear to help people with milder symptoms of coronavirus - those who do not need help with their breathing.

3.2.8 Favipiravir³⁵

Optimus Pharma, Hyderabad, has successfully developed and started commercial exports of the Favipiravir formulation, currently being used for COVID-19 treatment. They are the second fastest to develop this COVID-19 drug in India. First manufactured by Japan's Fujifilm Toyama Chemical Ltd., the drug has shown positive results in terms of reducing treatment duration and improved lung conditions in Covid-19 patients. The drug is already being used in countries like Japan, China,

³⁴ <https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/this-2-minute-stomach-massage-is-all-you-need-for-better-digestion/photostory/76409247.cms?picid=76409258>

³⁵ <https://www.expresspharma.in/latest-updates/optimus-launches-covid-19-drug-favipiravir-commences-commercial-export/>

Russia and the UAE. It is currently being used for mild to moderate cases of COVID-19 and has a dosage duration of 4-14 days based on the condition of the patient. Optimus Pharma manufactures the tablets of 200 mg and 400 mg at its US FDA, EUGMP, WHO-GMP and TGA approved Hyderabad facility, which has a capacity of three billion tablets per annum.

3.2.9 FabiFlu³⁶

Favipiravir is a generic version of Avigan of Fujifilm Toyama Chemical, Japan, a subsidiary of Fujifilm Corporation. Glenmark was the first company in India to receive the drug regulator's approval to conduct phase-3 clinical trial of Favipiravir antiviral tablets for the treatment of mild to moderate Covid-19 patients. Favipiravir, which has been approved in Japan since 2014 for the treatment of novel or re-emerging influenza virus infections and has shown clinical improvement of up to 88% in mild to moderate Covid-19 cases. It offers broad spectrum RNA virus coverage with clinical improvement noted in 20-90 plus age group. The drug Favipiravir, under the brand name FabiFlu, will be available as a 200 mg tablet at a maximum retail price (MRP) of Rs 3,500 for a strip of 34 tablets. It is a prescription-based medication, with recommended dose being 1,800 mg twice daily on day one, followed by 800 mg twice daily up to day 14. It can be used for coronavirus patients with co-morbid conditions such as diabetes and heart disease with mild to moderate COVID-19 symptoms.

3.2.10 Kevzara

Development Stage: Clinical trials

Regeneron and Sanofi started clinical trials of rheumatoid arthritis drug Kevzara in Covid-19 patients in March. The drug inhibits a pathway thought to contribute to the lung inflammation in patients with the most severe forms of Covid-19. The companies announced last month that Kevzara showed promise for treating the sickest coronavirus patients in a clinical trial, but it was not beneficial for patients with less-advanced disease, prompting the companies to stop testing the medicine in that group.

3.2.11 Baricitinib³⁷

Development Stage: Phase III clinical trial

Eli Lilly has started patient enrolment for a Phase III clinical trial of baricitinib to treat adults hospitalized due to Covid-19 infection. It will enroll approximately 400 patients across the US, Europe and Latin America. It will recruit patients who do not require invasive mechanical ventilation at the time of entering the study.

3.2.12 Antibody treatments³⁸

Development Stage: Various stages

While some drug makers are looking for vaccines to stop the virus, Eli Lilly, AstraZeneca and Regeneron, among other companies, are working on so-called antibody treatments, which are made to act like immune cells and may provide protection after exposure to the virus. Regeneron

³⁶ <https://www.indiatvnews.com/fyi/glenmark-coronavirus-covid-19-treatment-tablet-fabiflu-favipiravir-price-status-details-dcgi-627855>

³⁷ <https://investor.lilly.com/news-releases/news-release-details/lilly-begins-phase-3-clinical-trial-baricitinib-hospitalized>

³⁸ <https://www.advisory.com/daily-briefing/2020/06/18/antibody-therapies>

Pharmaceuticals started developing Covid-19 antibodies in January, when the disease's genetic sequence became available. Regeneron has stated that the treatment could be available for use by the end of this summer or fall.

3.2.13 Avifavir³⁹

Russia rolled out a drug approved to treat patients suffering from the novel coronavirus. The first deliveries of the new antiviral drug, registered under the name Avifavir, were made to some hospitals and clinics across the country, more than 10 countries had made requests for Avifavir supplies. Production of Avifavir could be increased to two million courses per year if necessary. On May 29 Avifavir received a registration certificate from the Ministry of Health of the Russian Federation and became the first Favipiravir-based drug in the world approved for treatment of COVID-19. The clinical trials were conducted on 330 people and it had cured most of the people in four days. It has shown high efficacy in clinical trials.

3.2.14 Ulinastatin⁴⁰

Bharat Serums and Vaccines Ltd (BSVL) has received approval from the country's drug regulator to conduct clinical trials on existing drug "Ulinastatin" for potential treatment of patients with COVID-19 who are suffering from acute respiratory distress syndrome. It got approval for phase III clinical trials to treat COVID-19 patients to see if it works on patients with acute respiratory distress syndrome (ARDS). It will involve approximately 120 patients who have mild to moderate symptoms of acute respiratory distress syndrome (ARDS). The study is expected to run for 28 days, with data available potentially by the end of the year. The drug is expected to improve recovery time and also mitigate mortality rates.

3.2.15 Ritonavir + lopinavir⁴¹

These antivirals are commonly used to treat HIV patients. They are being investigated in the Solidarity Trial. Some studies suggest they reduce mortality risk in Covid-19 patients; others have found no major improvement. Over a dozen manufacturers supply ritonavir and lopinavir in India. Doctors sometimes use the combination for severely ill patients. Several doctors 'The Indian Express' spoke to found no remarkable impact on the recovery of patients.

3.2.16 Itolizumab⁴²

The Drug Controller General of India (DCGI) has approved Itolizumab, for restricted emergency use on COVID-19 patients with moderate to severe acute respiratory distress syndrome. Itolizumab is already in use to cure skin disorder psoriasis, rheumatoid arthritis, multiple sclerosis, and

³⁹ <https://economictimes.indiatimes.com/news/international/world-news/russian-hospitals-start-receiving-indigenously-made-anti-covid-drugs-mass-production-launched/articleshow/76321491.cms>

⁴⁰ https://www.business-standard.com/article/companies/bharat-serums-sepsis-drug-for-covid-19-patients-to-enter-phase-iii-trials-120060801073_1.html

⁴¹ <https://indianexpress.com/article/explained/the-drugs-india-is-fighting-covid-with-6449377/>

⁴² <https://indianexpress.com/article/explained/the-drugs-india-is-fighting-covid-with-6449377/>

autoimmune disorders. It has been in use since 2013 under the brand name of Alzumab. It is being trialed in Mumbai and Delhi on moderately to severely ill Covid patients. The Drug Controller General of India has approved Itolizumab injection for the treatment of 'cytokine' release syndrome in moderate to severe acute respiratory distress syndrome, in patients, due to COVID-19. After satisfactory result from clinical trials, the drug was approved.

<https://www.hindustantimes.com/india-news/dcgi-approves-limited-use-of-psoriasis-injection-for-covid/story-bkVPzdJ7Y9oaCiX2NJkypO.html>

3.2.17 Convalescent Plasma Therapy⁴³

Plasma therapy is meant for critical patients with low oxygen saturation levels, or those who are suffering a cytokine storm. Patients recovered from severe Covid-19 donate their plasma, which is then injected into other critical patients to boost their immunity. A protocol approved by ICMR is used to select which patient is best suited for plasma therapy. Preference is given to those at risk of cytokine storm, extreme breathlessness with severe pneumonia.

It may be considered in patients with moderate disease who are not improving (oxygen requirement is progressively increasing) despite use of steroids. Special criteria while considering convalescent plasma include:

- I. ABO compatibility and cross matching of the donor plasma
- II. Neutralizing titer of donor plasma should be above the specific threshold (if the latter is not available, plasma IgG titer (against S-protein RBD) above 1:640 should be used)
- III. Recipient should be closely monitored for several hours post transfusion for any transfusion related adverse events
- IV. Use should be avoided in patients with IgA deficiency or immunoglobulin allergy

Dose is variable ranging from 4 to 13 ml/kg (usually 200 ml single dose given slowly over not less than 2 hours

3.2.18 Tocilizumab⁴⁴

This is an immunosuppressant commonly used to treat for rheumatoid arthritis. In Mumbai, more than 100 severely ill Covid patients have been treated with this drug as a preventive against ventilator requirement; government hospitals are giving it free. It may be considered in patients with moderate disease with progressively increasing oxygen requirements and in mechanically ventilated patients not improving despite use of steroids. Long term safety data in COVID 19 remains largely unknown. Special considerations before its use include:

- I. Presence of raised inflammatory markers (e.g., CRP, Ferritin, IL-6)
- II. Patients should be carefully monitored post Tocilizumab for secondary infections and neutropenia

⁴³ <https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19.pdf>, <https://indianexpress.com/article/explained/the-drugs-india-is-fighting-covid-with-6449377/>

⁴⁴ <https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19.pdf>, <https://indianexpress.com/article/explained/the-drugs-india-is-fighting-covid-with-6449377/>

- III. The drug is contraindicated in PLHIV, those with active infections (systemic bacterial/fungal), Tuberculosis, active hepatitis, ANC < 2000/mm³ and Platelet count < 1,00,000/mm³

Dose: 8mg/kg (maximum 800 mg at one time) given slowly in 100 ml NS over 1 hour; dose can be repeated once after 12 to 24 hours if needed.

<https://www.mohfw.gov.in/pdf/UpdatedClinicalManagementProtocolforCOVID19dated03072020.pdf>

3.2.19 Doxycycline + ivermectin⁴⁵

Doxycycline is an antibiotic used to fight infection in the urinary tract, eye, or respiratory tract. Ivermectin is an anti-parasite drug for treatment of scabies, head lice, and filariasis. The combination is used to treat Covid patients with acute symptoms. In mid-May, a Bangladesh Medical College Hospital study found 60 Covid patients given this combination had recovered. It is still in experimental stage.

3.3 Healthcare infrastructure

In the earlier Edition III, we have mentioned the relevant information regarding healthcare facilities, infrastructures, hospitals, and telemedicine.

Countries with rapidly increasing numbers of COVID-19 cases are being forced to expand their critical-care capacity and expansion of healthcare infrastructure should be utmost priority. The efficacy of a nation's healthcare system in safeguarding lives and reducing the current mortality rate due to COVID-19, will build up confidence in their health systems.

Indian Railways has converted coaches into isolation wards for COVID-19 virus patients, 960 isolation coaches across five states--Delhi, Uttar Pradesh, Andhra Pradesh, Telangana and Madhya Pradesh have been prepared. Out of 960 isolation ward coaches, 503 have been deployed in Delhi, 20 in Andhra Pradesh, 60 in Telangana, 372 in Uttar Pradesh and five in Madhya Pradesh. The government says Railways will deploy two liaison officers at the location of coaches to assist State government officials. All efforts are being made to reduce the heat in the coaches in the given weather conditions⁴⁶.

The Health Ministry have been identified hospitals and facilities of the State/UT governments as well as the central government. The detailed list of COVID-19 hospitals earmarked by the States/UTs along with the State specific help line numbers can be accessed here: -

<https://www.mohfw.gov.in/pdf/StatewiseCovidHospitalslink19062020.pdf>

The Delhi government alone has added 22 private hospitals to their list in the recent past, while additional beds are being added at alternative sites such as hotels (adding another 4,000 beds) and stadiums⁴⁷.

⁴⁵ <https://indianexpress.com/article/explained/the-drugs-india-is-fighting-covid-with-6449377/>

⁴⁶ <https://www.livemint.com/news/india/indian-railways-arranges-960-covid-care-coaches-in-five-states-11592402206693.html>

⁴⁷ <https://www.theweek.in/news/india/2020/06/19/health-systems-in-delhi-about-to-get-overwhelmed-by-covid-19-doctors.html>

3.3.1 Designated COVID Hospitals⁴⁸

On May 07, 2020 the Union Health Ministry classified hospitals into three categories i.e. Dedicated COVID hospitals, dedicated COVID healthcare centers and COVID care centers, in order to optimally utilize the resources. They have also ensured enough capacity of beds for moderate to severe cases. Trains have been converted into mobile hospitals/ COVID care centers. The details of hospitals being prepared and allowed to take care of COVID-19 cases is an ongoing process and is made available on MoHFW as well as State medical department websites.

- I. Dedicated COVID Hospitals - The Dedicated Covid Hospitals are hospitals that offer comprehensive care primarily for those who have been clinically assigned as severe. These hospitals shall have fully equipped ICUs, ventilators, and beds with assured oxygen support. These hospitals shall have separate areas for suspect and confirmed cases. Should have good transport facility in case an emergency transfer is needed.
- II. Dedicated COVID healthcare centers - The Dedicated Covid Health Centres are hospitals that offer care for all cases that have been clinically assigned as moderate. The DCHCs shall have separate areas for suspect and confirmed cases. These hospitals shall have beds with assured oxygen support and every DCHC is mapped to one or more Dedicated Covid Hospitals.
- III. COVID care centers - The Covid Care Centres shall offer care only for cases that have been clinically assigned as mild or very mild cases or Covid suspect cases. These facilities which may be set up by the States/UTs in hostels, hotels, schools, stadiums, lodges, etc., both public and private. These facilities shall have separate areas for suspected and confirmed cases.

With Covid-19 cases increasing in India, more hospitals are being geared up to treat infected patients – suggesting that non-Covid healthcare services, that have been badly affected in the pandemic, could get hit further. According to the Union Ministry of Health and Family Welfare, there are 34,479 ICU beds in total in the country dedicated for COVID-19 patients apart from 1,28,589 oxygen supported beds and 11,26,379 isolation beds⁴⁹.

Designated Covid Hospitals		
1.	1039 dedicated COVID Hospitals	1,76,275 isolation beds, 22,940 ICU beds and 77,268 oxygen supported beds
2.	2,398 dedicated COVID Health Centres	1,39,483 Isolation beds, 11,539 ICU beds and 51,321 oxygen supported beds.
3.	8,958 COVID Care Centres	8,10,621 beds
4.	Ventilators available for COVID beds - 21,494	

Figure 14: Designated COVID hospitals

<https://health.economictimes.indiatimes.com/news/diagnostics/8-states-contributed-85-per-cent-covid-19-caseload-87-per-cent-deaths-health-ministry/76661576>

⁴⁸<https://health.economictimes.indiatimes.com/news/hospitals/7740-dedicated-covid-19-health-facilities-in-483-districts-identified-health-ministry/75670863>

⁴⁹<https://www.newindianexpress.com/nation/2020/jun/12/india-may-run-out-of-icu-beds-for-covid-19-patients-by-july-end-study-2155757.html>

3.3.2 Designated COVID Hotels and Other Facilities

Hotels are being designated as quarantine facilities. The updated list is available on State websites.

3.4 Testing Strategy⁵⁰

Indian Council of Medical Research (ICMR) has issued a 'Newer Additional Strategies' for COVID-19 Testing in India (dated June 23, 2020). Expanding the testing criterion for coronavirus, the Indian Council of Medical Research says it should be made widely available to all symptomatic individuals across the country.

The earlier advisories on rapid antibody testing advisories had focused on areas reporting clusters (containment zones), large migration gatherings/evacuees centers and testing of symptomatic ILI individuals at facility level.

Besides, the ICMR on June 23, 2020 also recommends deployment of the rapid antigen detection tests for COVID-19 in combination with RT-PCR tests in all containment zones in the following settings:

- I. All containment zones identified by the State Governments,
- II. All Central & State Government Medical Colleges and Government hospitals
- III. All private hospitals approved by National Accreditation Board for Hospitals & Healthcare (NABH).
- IV. All private labs accredited by National Accreditation Board for Laboratories (NABL) and approved by ICMR as COVID-19 testing labs.

All hospitals, laboratories and state governments intending to perform the point-of-care antigen tests need to register with ICMR to obtain the login credentials for data entry. ICMR advises all state governments, public and private institutions concerned to take required steps to scale up testing for COVID-19 by deploying combination of various tests.

The details about the additional strategies can be accessed here: -

https://www.icmr.gov.in/pdf/covid/strategy/New_additional_Advisory_23062020_2.pdf

https://www.icmr.gov.in/pdf/covid/strategy/Advisory_for_rapid_antigen_test14062020.pdf

3.5 Testing Collection and Facilities⁵¹

India has developed Covid-19 testing to cover more 2 lakh samples a day, while the network of laboratories under the Indian Council of Medical Research (ICMR) has been expanded to 1,194 across the country. As per ICMR, this includes 850 government labs and 344 in the private sector. ICMR Director says the goal was to establish a lab in every district of the country, which they have achieved to a large extent. Guidelines have been issued by the Indian Council of Medical Research for positive sample storage by ICMR approved private labs that are doing COVID-19 testing by Real

⁵⁰ https://www.icmr.gov.in/pdf/covid/strategy/New_additional_Advisory_23062020_2.pdf
https://www.icmr.gov.in/pdf/covid/strategy/Advisory_for_rapid_antigen_test14062020.pdf

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https://www.icmr.gov.in/pdf/covid/labs/Private_Lab_Advisory_11062020.pdf

time RT-PCR/CB-NAAT/True Nat. The detailed guideline and the list of operational laboratories can be accessed here: -

https://www.icmr.gov.in/pdf/covid/labs/COVID_Testing_Labs_11072020.pdf

S. No	Total Operational (initiated independent testing) Laboratories reporting to ICMR	
1	Real-Time RT PCR for COVID-19	624(Govt: 388 + Private: 236)
2	TrueNat Test for COVID-19	472 (Govt: 427 + Private: 45)
3	CBNAAT Test for COVID-19	98 (Govt: 35 + Private: 63)
Total No. of Labs: 1194		

Figure 15: Total operational laboratories reporting to ICMR

3.6 Testing Kits⁵²

As per ICMR, over 97 lakh samples have been tested for COVID-19 across India till July 04 of which 2.4 lakh were examined on July 04, 2020. The number of samples tested every day continues to steadily grow. ICMR recently also approved the use of rapid-antigen test for coronavirus infection that gives results in 30 minutes. It has recommended deployment of rapid antigen detection test for COVID-19 in combination with the RT-PCR test in all containment zones, Central and State government medical colleges and government hospitals, private hospitals approved by the National Accreditation Board for Hospitals and Healthcare (NABH), and all NABL-accredited and ICMR-approved private labs for COVID-19 testing. Presently India is utilizing over 90 percent of its testing capacity for COVID-19.

<https://www.hindustantimes.com/india-news/over-97-lakh-samples-tested-for-covid-19-across-india-2-4-lakh-on-saturday-alone/story-blHBcIGf0XR3Al7q0ESqpO.html>

⁵²<https://economictimes.indiatimes.com/news/politics-and-nation/over-73-5-lakh-samples-tested-for-covid-19-in-india-till-june-23-icmr/articleshow/76553908.cms>

4 Preventive and Safety Measures

The national and public health authority of the country issues regular updates on the coronavirus outbreak and safety measures that should be taken. Post Unlock II, relevant guidelines in respect of preventive and safety measures that should be incorporated have been enumerated in this section.

4.1 Containment Zones

Containment Zone⁵³ is a specific geographical area where positive coronavirus cases have been found. In these zones only essential activities are allowed, such as medical emergencies and supply of essential goods and services. There is strict perimeter established in a containment zone, wherein people are not allowed to move. The Rapid Response Team identifies the containment zone based on number of positive cases, contract tracing history and population density. They define a 3 km radius around the epicenter which is called containment zone.

The list of containment zones is updated every week and can be accessed at the MoHFW as well as respective State websites.

The Central government has issued guidelines for Unlock Phase II starting from 01 July till 31 July where following activities are prohibited outside the containment zones⁵⁴:-

- I. Schools, colleges, educational and coaching institutions will remain closed till 31 July 2020.
- II. Online /distancing learning is encouraged and permitted.
- III. Metro rail
- IV. International air travel, except permitted by MHA
- V. Cinema halls, theatres, gymnasiums, entertainment parks, swimming pools, bars, auditoriums, assembly halls and similar places.
- VI. Social / political / sports / academic /cultural / religious functions / entertainment and other large congregations.

Apart from the above, the movement of individuals will remain strictly prohibited between 10 PM to 5 AM throughout the country, except for essential activities including movement of goods and persons on National and State highways, loading and unloading of cargo and operation of industrial units in multiple shifts. Shops⁵⁵ outside containment zone can now allow more than 5 people at a time. Local authorities are required to issue orders for the entire area under section 144 of CrPC to ensure strict compliance.

State and UTs, outside the containment zones can permit or prohibit activities based on their assessments. In containment zones, only essential activities are allowed with strict perimeter control. Activities and guidelines in these zones should be clearly monitored and implemented by the State /UT authorities. Pregnant women, person with co-morbidities, person above 65 years of age and children below 10 years of age should stay at home except for health purposes and essential requirements.

⁵³ <https://english.jagran.com/india/coronavirus-pandemic-what-is-covid19-containment-zone-how-is-it-created-and-what-restrictions-are-imposed-10010483>

⁵⁴ <https://indianexpress.com/article/india/india-unlock-2-guidelines-rules-what-is-allowed-coronavirus-6482192/>

⁵⁵ <https://economictimes.indiatimes.com/news/politics-and-nation/centre-grants-more-relaxations-in-second-phase-of-unlocking-from-july-1/articleshow/76696125.cms>

Movement of Indian nationals stranded outside the country, passenger trains and shramik special trains, evacuation of foreign nationals, and sign off and sign on of Indian seafarers etc. will be regulated by the standard operating procedures issued.

4.2 Workplace

4.2.1 MoHFW⁵⁶

Offices have resumed with the lockdown opening in different phases. It is important to prevent infection at workplace. The workplaces have shared spaces like corridors, parking places, cafeteria, conference halls, meeting rooms, elevators, stairs etc, which increase the risk of transmission. Extra care thus must be taken to limit the spread of infection.

Basic Preventive Measure

- Employees should be asked to monitor their health and report any illness at the earliest
- Use of face mask, maintaining physical distance of at least 1 meter and frequent hand washing when hands are dirty with soap for 40-60 seconds or with alcohol based sanitizer, should be strictly followed.
- One should strictly follow respiratory etiquettes.

Preventive measures for offices

- Guidelines issued by DoPT should be followed
<https://www.mohfw.gov.in/pdf/PreventivemeasuresDOPT.pdf>
- If any staff suffering from flu like symptoms, should not attend the office and seek medical advice.
- If any staff if diagnosed with suspect/confirmed case, he/she should immediately inform the office authorities.
- If any staff stays in containment zone, he/she should be permitted to work from home.

Measures to be taken on occurrence of case(s)

- When one or few person suffer from COVID-19, then follow the preventive measure mentioned in the link given below
<https://www.mohfw.gov.in/pdf/GuidelinesonpreventivemeasurestocontainspreadofCOVID19inworkplacesettings.pdf>
- If cases are in large numbers then essential principles of risk assessment, isolation, quarantine, case referral and management will remain same but scale of arrangements will be higher.

Figure 16: Preventive measures in offices, workplace etc

4.2.2 WHO Advisory⁵⁷

WHO has also advised on how to prevent the transmission of COVID-19 at workplace in the following situations as appended in the succeeding paragraphs.

⁵⁶ <https://www.mohfw.gov.in/pdf/GuidelinesonpreventivemeasurestocontainspreadofCOVID19inworkplacesettings.pdf>

⁵⁷ https://www.who.int/docs/default-source/coronavirus/getting-workplace-ready-for-covid-19.pdf?sfvrsn=359a81e7_6

2 Ways to prevent spread of COVID-19 in workplace

Employees should take extra care to prevent the spread of the infection in their workplace. This will help them reducing working days they might lose due to illness caused by COVID-19.

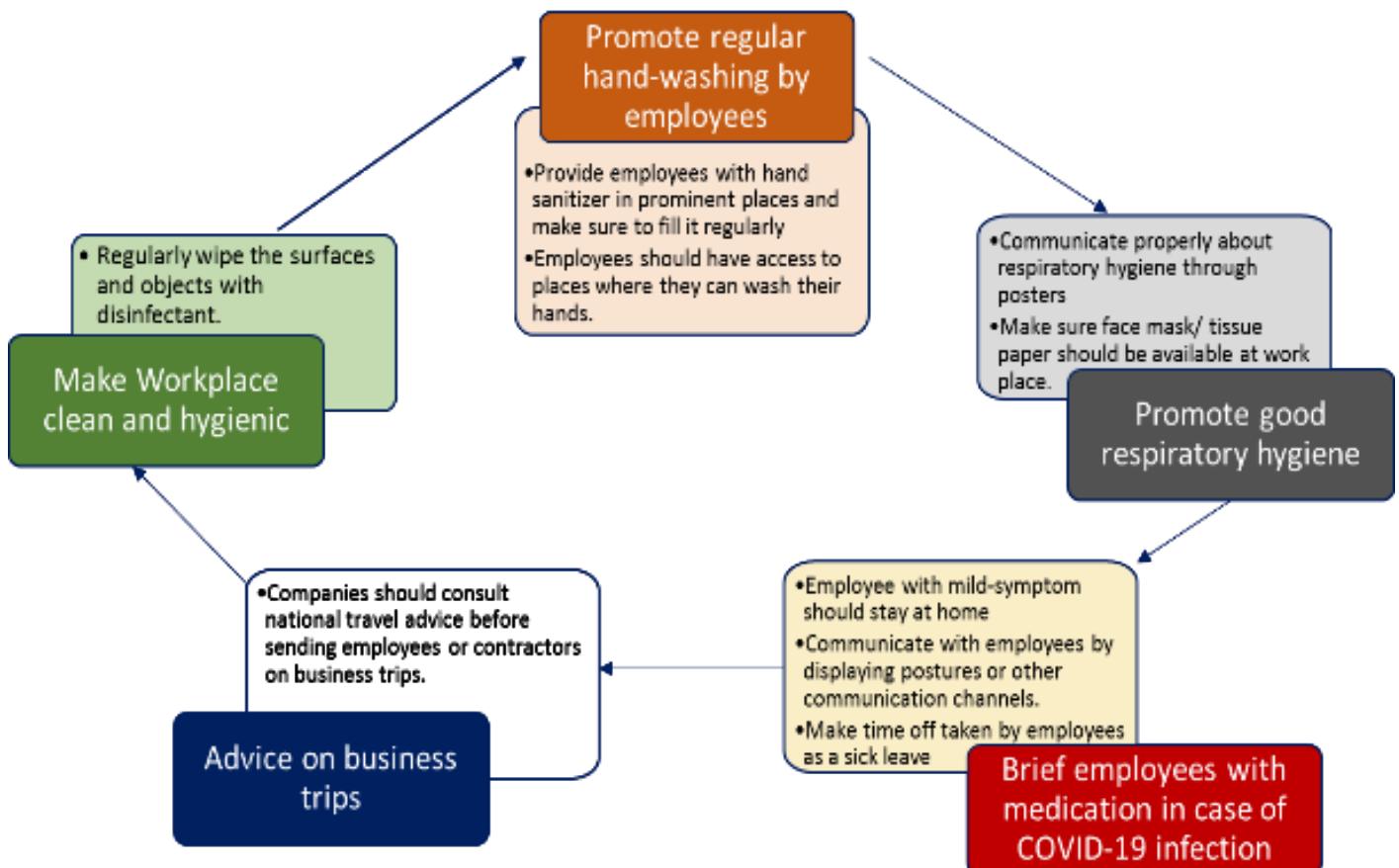


Figure 17:Ways to prevent COVID-19 in workplace

4.2.2.2 Advice given by WHO on the precautions one must take while attending a meeting and after the meeting.



DURING THE MEETING

- Arrange seats in such a way that participants are one meter away.
- Display alcohol based dispensers in the venue.
- Make sure venue is ventilated by opening the doors and windows.
- Be prepared with the plan in case anyone feels unwell
 - I. Check recent travel and keep participant in isolation room
 - II. Offer them mask and send them to either home or to a designated assessment facility.
- Organizers must communicate about the precautions taken to ensure the safe of the participants.
 - I. Encourage participants to follow hand washing etiquettes and cover their face with bend of their elbow while sneezing and coughing. Supply tissue and closed bin to dispose off the tissue.
 - II. Provide details of hotline number so that participants can call for advice

AFTER THE MEETING



- If in the meeting someone is isolated then the organizer must update the participants so that they can monitor the symptoms for 14 days and check their temperature twice a day.
- Organisers must retain the contact details of all the participants for one month. This help authorities to trace people who might have exposed to COVID-19 patient during the events.
- Employees should stay at home if they develop mild cough or low grade fever.

Figure 18: Precautions to take during and after the meeting

4.2.2.3 WHO advisory on the things to consider while travelling and before travelling.



BEFORE TRAVELLING

- Organization should have latest information about the areas where COVID-19 is spreading and keep its employees informed about the same about the benefit and risks related to their travel.
- Avoid sending employee who are at higher risk of infection (older employee with co-morbidities etc.)
- Provide employees with small bottles of alcohol based hand rub.
- Companies should ensure that employees should be briefed about the location with COVID-19, they are travelling to by a qualified professional.

Figure 19: WHO advisory before travelling

WHILE TRAVELLING

Companies should ensure that their employees maintain hand hygiene and social distance of at least one meter from the people who are coughing or sneezing.
 Employee should be informed whom they should contact and what they should do when they feel ill while travelling.
 Companies should ensure that they should comply with the local authorities like any restrictions on gathering, movement and travel.



Figure 20: WHO advisory while travelling



AFTER TRAVELLING

- Employees should monitor themselves for 14 days and check their temperature twice
- In case they have developed mild cough or low grade fever they should consult healthcare service provider and isolate themselves. They should avoid touching their family members

Figure 21: WHO advisory after travelling

4.2.2.4 WHO advise when any COVID-19 case arrives in your community

- I. If someone becomes ill with suspected COVID-19 at workplace, then
 - i. They should be isolated in a separate room in the workplace. Only limited number of people should be allowed to come in contact with them.
 - ii. Companies should inform local public health authority and seek their input.
 - iii. Identify person who might be at risk e.g. the person who might have travelled to COVID-19 area or the person who are at high risk due to co-morbidities.
- II. Organization should promote teleworking.
- III. Organization should develop contingency and business continuity plan for an outbreak in the area where the business operates.
 - i. It will help them prepare for an outbreak in their workplace or in communities.
 - ii. This plan will help organization in a situation when significant number of employees will not be able to come to the office either due to health problems or due to local restrictions.
 - iii. Companies must make their employees aware of the plan by communicating about it. They should lay emphasizes on staying at home even when the employees have mild symptoms. They should also address the importance of good mental health and consequences of a COVID-19 case in the workplace.
 - iv. For small and medium sized businesses, who do not have in-house health staff, should partner with local and social service providers for support in case of any emergency.

4.3 Preventive measure at School⁵⁸

The Coronavirus outbreak has been declared as a Public Health Emergency of International Concern (PHEIC). The virus does not differentiate between age, gender, boundaries, disability status, ethnicities etc. At a time like this, the protection of children is of utmost important. This crisis has given the children an opportunity to cultivate compassion and increase resilience while building a more safe and caring community. It is indeed the responsibility of school administrators, teachers

⁵⁸ https://www.who.int/docs/default-source/coronavirus/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf?sfvrsn=baf81d52_4

and staff, parents, caregivers, and community members to promote a healthy environment and safety at schools.

4.3.1 School Administrators, Teachers and Staff

In order to promote a healthy environment, the schools should follow basic principles to keep students, teachers and staff healthy. Following are the basic points that should be followed: -

- 
- Sick students, teachers and staff should not be allowed to come to school.
- Schools should follow environmental cleaning and decontamination procedure properly and provide proper water, sanitation and waste management facilities.
- Social distancing norm should be followed.
- Schools should daily disinfect and clean surfaces.
- They should enforce proper hand washing techniques with soap. Alcohol rub/sanitizer or chlorine solution.





Figure 22: Basic preventive measures at school

4.3.1.1 Ensure Safe School Operations

WHO has advised schools to disinfect buildings and classrooms especially the surfaces which are frequently touched by the children like lunch tables, sports equipment, door, and window handles. They should develop school emergency and contingency plans and keep updating it. They should make sure that schools are not used as shelters, treatment units etc. and schools should also cancel any community meetings/ events that are held in school. In this pandemic, one has to be extra cautious at each and every steps. They should try providing handwashing stations with soap and water or alcohol-based hand rub at the entrance and exit of the classroom, near lunchrooms and toilets.

Social distancing practices that can be implemented in school include: -

- I. If possible, maintain space of at least one meter between the children's desks.
- II. Avoid unnecessary touching
- III. Avoid crowded situations like events, sports game, and assemblies

4.3.1.2 Establish procedures if someone become sick

School administration should ensure to make separate provisions of separating sick staff and students from the rest. There should be a proper process of informing parents and consulting with health care providers, take appropriate step wherever required and plan ahead with school staff and local authorities to update the emergency contact lists.

4.3.1.3 Promote information sharing

The national health and education authorities' issues guidelines. Follow and share these guidelines with parents, students, and staff. Schools should develop children friendly posters and it should be placed on notice boards, restroom, and other central locations. They should be able to address doubts of children and their concerns.

4.3.1.4 Adapt school policies where appropriate

In this pandemic, schools should discourage perfect attendance awards, rather they should develop flexible attendance and sick leave policies so that the student and staff who are sick can take the benefit of it. They should also make calendar changes in terms of exams and breaks.

4.3.1.5 Monitor school attendance

Schools should track the student and staff absenteeism with the help of proper monitoring system and compare it with actual absenteeism. If there is any increase in the student and staff absenteeism due to respiratory illness, report should be made to the local health authorities.

4.3.1.6 Plan for continuity of learning

In case of sick leave or temporary school closure, support continuous access to education by online classes, radio, podcast, or television broadcasts of academic content, assign teachers to give exercise for home study and follow up with the students weekly or daily. They should keep on developing educational strategies after reviewing it according to the situation.

4.3.1.7 Implement targeted health education

Schools should include activities and lessons related to disease prevention and control and integrate them and make sure that content is age, gender, ethnicity, and disability responsive.

4.3.1.8 Address psychosocial support needs

Encourage students to ask their questions and concerns with the teachers. They should guide students in age appropriate manner, and in such a way that they support peers rather than bullying them. School health workers should help student and staff who are in distress due to COVID-19.

4.3.2 Parents/Caregivers and Community Members

- ❖ Coordinate with school for support related to school safety
- ❖ Monitor child's health and if they are sick, keep them home
- ❖ Teacher's should encourage students to ask questions.
- ❖ Parents/Caregivers should monitor child's health and keep them at home if they are ill.
- ❖ Teachers should ensure that they teach good hygiene practices.
 - Ensure safe drinking water
 - Frequently wash hands with soaps and safe water.
 - Ensure the safe collection, storage and disposition of waste.
 - Cover your face with tissue or elbow while sneezing, also avoid touching your face, eyes, mouth and nose



Figure 23: Basic preventive measures taken parents/caregivers and community members

4.3.3 Students and Children

Information about COVID-19 should be given to students through reputable sources like UNICEF, WHO and national health ministry advisories. They must be made aware of fake news which might circulate through word-of mouth or online sources.

4.3.3.1 Checklist for students and children

1

In a situation like this it is normal to feel sad, worried, confused, scared or angry. Know that you are not alone and talk to someone you trust, like your parent or teacher so that you can help keep yourself and your school safe and healthy.



- Ask questions, educate yourself and get information from reliable sources

2

Protect yourself and others



- Wash your hands frequently, always with soap and water for at least 20 seconds
- Remember to not touch your face
- Do not share cups, eating utensils, food or drinks with others

3

Be a leader in keeping yourself, your school, family and community healthy.



- Share what you learn about preventing disease with your family and friends, especially with younger children
- Sneezing or coughing into your elbow and washing your hands, especially for younger family members

4

Don't stigmatize your peers or tease anyone about being sick; remember that the virus doesn't follow geographical boundaries, ethnicities, age or ability or gender.

5

Tell your parents, another family member, or a caregiver if you feel sick, and ask to stay home.

Figure 24: Checklist for students and children

4.3.3.2 Age specific health education

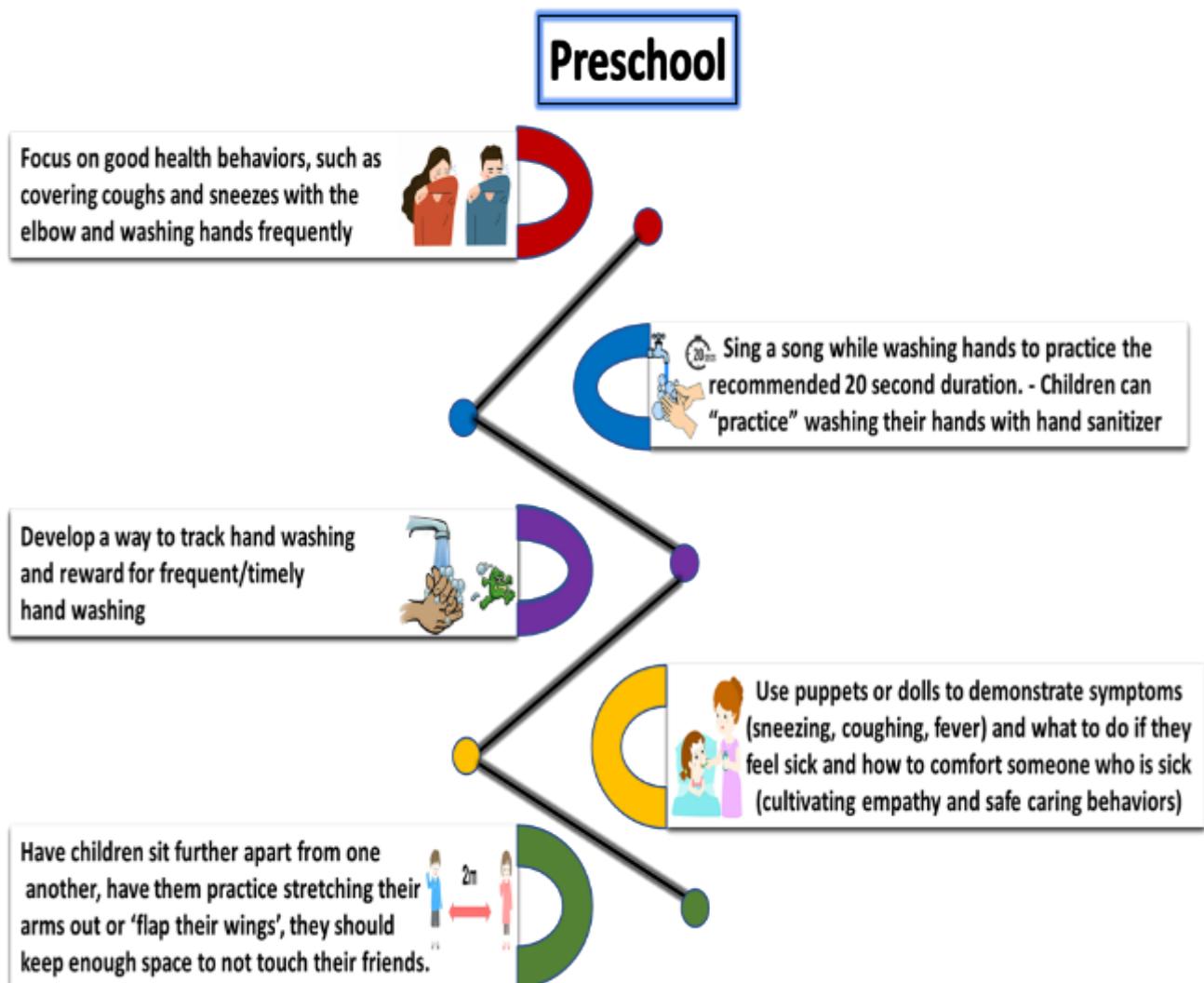


Figure 25: Preventive measures taken at preschool

Primary School

1

Communicate with children

- Make sure to listen to children's concerns and answer their questions in an age-appropriate manner; don't overwhelm them with too much information. Encourage them to express and communicate their feelings. Discuss the different reactions they may experience and explain that these are normal reactions to an abnormal situation.



2

Emphasize that children can do a lot to keep themselves and others safe

- Introduce the concept of social distancing (standing further away from friends, avoiding large crowds, not touching people if you don't need to, etc.)
- Focus on good health behaviors, such as covering coughs and sneezes with the elbow and washing hands



3

Help children understand the basic concepts of disease prevention

- Help children understand disease prevention and control. Use exercises that demonstrate how germs can spread. For example, by putting colored water in a spray bottle and spraying over a piece of white paper. Observe how far the droplets travel.



4

Demonstrate why it is important to wash hands for 20 seconds with soap and water

- Put a small amount of glitter in students' hands and have them wash them with just water, notice how much glitter remains, then have them wash for 20 seconds with soap and water



5

Have students analyze texts to identify high risk behaviors and suggest modifying behaviors

- For example, a teacher comes to school with a cold. He sneezes and covers it with his hand. He shakes hands with a colleague. He wipes his hands after with a handkerchief then goes to class to teach. What did the teacher do that was risky? What should he have done instead?



Figure 26: Preventive measures taken at primary school



Lower Secondary School

Make sure to listen to students' concerns and answer their questions.

Emphasize that students can do a lot to keep themselves and others safe.

- Introduce the concept of social distancing
- Focus on good health behaviors, such as covering coughs and sneezes with the elbow and washing hands
- Remind students that they can model healthy behaviors for their families



Encourage students to prevent and address stigma

- Discuss the different reactions they may experience and explain these are normal reactions to an abnormal situation. Encourage them to express and communicate their feelings



Build students' agency and have them promote facts about public health.

- Have students make their own Public Service Announcements through school announcements and posters



Incorporate relevant health education into other subjects

- Science can cover the study of viruses, disease transmission and the importance of vaccinations
- Social studies can focus on the history of pandemics and evolution of policies on public health and safety
- Media literacy lessons can empower students to be critical thinkers and makers, an effective communicators and active citizens

Figure 27: Preventive measures taken at lower secondary school

Upper Secondary School



1

Make sure to listen to students' concerns and answer their questions

2

Emphasize that students can do a lot to keep themselves and others safe.

3

Incorporate relevant health education into other subjects



4

Have students make their own Public Service Announcements via social media, radio or even local tv broadcasting

5

Media literacy lessons can empower students to be critical thinkers and makers, effective communicators and active citizens.



Figure 28: Preventive measures taken at Upper Secondary School

4.4 Religious places⁵⁹

On June 8, the Unlock Phase 1 allowed the opening of hotels, restaurants, and places of worships outside containment zone. The Ministry of Health and Family Welfare had issued detailed guidelines on the preventive measures that were required to be taken to prevent the coronavirus transmission. People with co-morbidities, pregnant women, and children below 10 years of age, person above 65 years of age were advised to stay at home.

Following are the generic preventive measures issued by the government.

- I. Mandatory use of face masks/covers.
- II. Maintain minimum distance of 6 feet in public areas/ spaces.

⁵⁹ <https://www.mohfw.gov.in/pdf/2SoPstobefollowedinReligiousPlaces.pdf>

- III. Individual must practice hand washing even if hands are not dirty. Use of alcohol-based sanitizer must be made available wherever feasible.
- IV. Follow respiratory etiquettes properly by covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing off used tissues immediately in a proper manner.
- V. Spitting should be strictly prohibited.
- VI. All the individuals should be advised to install and use Aarogya Setu App.

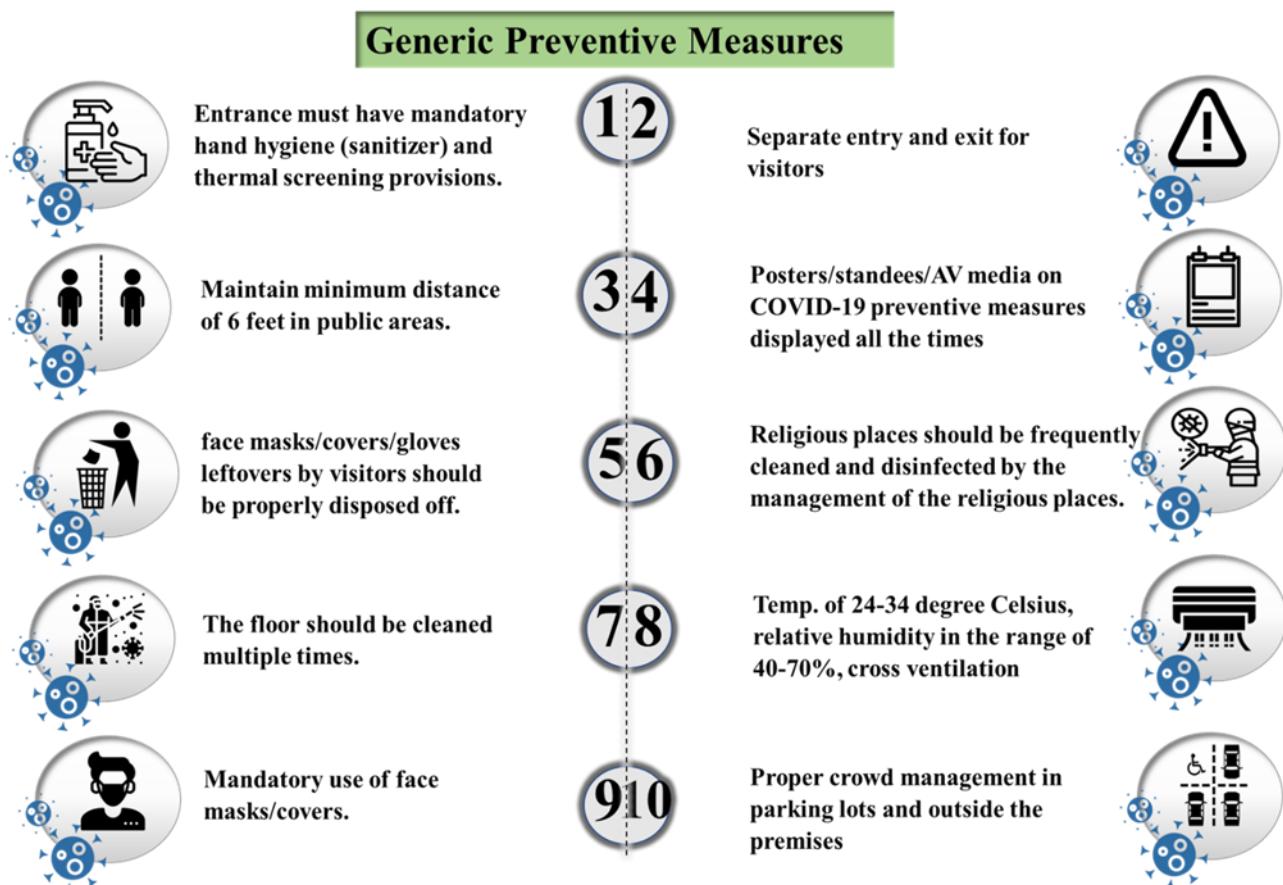


Figure 29: Generic preventive measures at religious places

Religious places have responsibilities to prevent the spread of COVID-19 and are required to incorporate measures to that effect. The guidelines have made a provision of mandatory sanitizer dispensers and thermal screening at the entrance where only asymptomatic persons and individuals wearing face mask/ cover are to be allowed to enter. The premises should have separate markings, with sufficient distance, to allow people to follow social distancing norms. Along with that, there should be separate entry and exit point for visitors.

Following are the other guidelines issued for religious places: -

- I. Entrances must have mandatory hand hygiene (sanitizer) and thermal screening provisions.
- II. Display posters on preventive measures about COVID-19. Audio and video clips to spread the awareness on preventive measures should be regularly played.
- III. If possible, staggering of visitors should be done.

- IV. Individuals should take out shoes/footwear in their own vehicle or if needed there should be separate slot for each individual/ family by the person themselves.
- V. In the parking lots and outside the premises, there should be a proper crowd management by following social distancing norms in an organized manner.
- VI. Shops, Stalls, cafeteria etc. within and outside the premises should also follow social distancing norms.
- VII. Seating arrangement should be made in such a way that social distancing is maintained.
- VIII. As per the guidelines of CPWD, the temperature setting of all the air conditioning devices should be in the range of 24-34 degree Celsius, relative humidity in the range of 40-70%, cross ventilation should be adequate and intake of fresh air should be as much as possible.
- IX. Visitors should not be allowed to touch the idols of statutes/idols/holy books etc.
- X. Large gathering should be prohibited.
- XI. Choir of singing groups should not be allowed instead recorded devotional music/songs should be played.
- XII. Devotees should bring their own prayer mat or piece of cloth and common prayer mat should be avoided.
- XIII. No sprinkling of holy water/ offering or distribution of prasad be allowed. Langars/community kitchens/ann-daan etc. should follow strict social distancing norms.
- XIV. Religious places should be frequently cleaned and disinfected by the management of the religious places. Also, there should be effective sanitation at lavatories, hand, and foot washing stations/areas.
- XV. The floor should be cleaned multiple times.
- XVI. The management of the religious places should ensure that the face masks/covers/gloves leftovers by visitors should be properly disposed of.
- XVII. If in case of any suspect or confirmed case in the premises:
 - i. Place the person in room or area which is isolated from others.
 - ii. Provide the person with a mask/face cover till the time he is examined by the doctor.
 - iii. Immediately inform the nearest hospital/medical facility or call the state or district helpline.
 - iv. Designated public health authority will do a risk assessment and accordingly further action will be initiated regarding management of the case, his/her contacts and need for disinfection.
 - v. Disinfect the premises if the suspected person is found positive.

4.5 Hotels & Restaurants⁶⁰

Hospitality industry has been affected drastically by the spread of COVID-19 infection. With the Unlock phase I, hotels and other accommodation units have been allowed to operate by strictly

⁶⁰ <https://www.mohfw.gov.in/pdf/5SoPstobefollowedinHotelsandotherunits.pdf>

following basic safety norms of social distancing. The travel industry has created a draft guideline by taking inputs from health ministry. The draft cites protocols for check-ins and checkout-outs, room and common area cleaning, room allocation process and in-room provisions, food services etc. Only hotels outside the containment zone are allowed to open.

Generic Preventive Measures

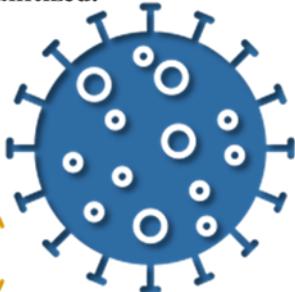
	Entrance must have mandatory hand hygiene (sanitizer) and thermal screening provisions.		Maintain social distancing norms
	Only asymptomatic staff and guest should be allowed to enter.		Temp. of 24-34 degree Celsius, relative humidity in the range of 40-70%, cross ventilation
	Face covers/masks left by staff/guest should be properly disposed.		Regularly deep clean all the washrooms. Each time a guest leave room and other services should be properly sanitized.
	Properly by covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and then dispose off used tissue properly in a dustbin.	   	
	Proper crowd management in parking lots and outside the premises		

Figure 30: General preventive measure at hotels & restaurants

Generic preventive measures for hotels are mentioned below: -

- I. People with co-morbidities, pregnant women, and children below 10 years of age, person above 65 years of age should stay at home, except for essential and healthy purpose.
- II. The generic measures need to be taken care of and to be observed by all the staff and guests in the premises at all time.
 - i. Face covers/ masks should be made mandatory and people should follow social distancing rule as far as possible.
 - ii. Follow respiratory etiquettes properly by covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and then dispose off used tissue properly in a dustbin.
 - iii. Spitting should be strictly prohibited.
 - iv. Individuals should monitor their health properly and in case of any illness should report to state and district helpline.

- v. All should be advised to install Aarogya Setu App.

Hotels and hospitality units have major role in controlling the transmission of COVID-19. They should take extra precaution while providing accommodation and other tourist services by minimizing possible physical contacts between staff and the guest. When it comes to arrangement, hotels should ensure the following measures are met: -

- I. Entrance should have mandatory thermal screening and hand hygiene (hand sanitizer) at the entrance.
- II. Staff and guests should only be allowed to enter only if they are wearing face cover/masks. It should be worn through the time in the hotel. Staff should also wear gloves and take precautionary measure wherever required.
- III. Only asymptomatic staff and guest should be allowed to enter.
- IV. Hotel management should deploy adequate manpower to ensure social distancing norms.
- V. Older employees, pregnant employees and employees who have underlying medical condition should take extra precaution. They should not be exposed to front line worker who are in direct contact with the public. Work from home should be facilitate wherever possible.
- VI. Congregations/ large gathering should be prohibited. There should be a proper crowd management in the hotel as well as outside e.g. parking lot and should follow proper social distancing norms.
- VII. If possible, valet parking should be operational with operating staff wearing face covers/mask and gloves. A proper care should be taken while disinfecting the steering, door handles, keys etc. of the vehicles.
- VIII. There should be a separate entry/exit for guests/staffs and goods/supplies, and it should be organized in such a way by specific markings that the physical distance of 6 feet is maintained while queuing up at entry and exit point.
- IX. Social distancing norms should be followed at elevator also by restricting the number of people. In escalator, one person on alternate step should be encouraged.
- X. Guest must provide details of travel history, medical condition etc. With ID and self-declaration at the reception
- XI. Hotel management should display posters/standees/AV Media on preventive measures about COVID-19.
- XII. Hand sanitizers must be provided to the guest at the reception. They should sanitize their hands before and after filling the forms including A&D register.
- XIII. Contactless processes like QR code, online forms, digital payments like e-wallets etc. must be encouraged.
- XIV. Luggage should be disinfected before sending it to the room. Also, guest who are old, pregnant, or who have underlying medical condition should be advised to take extra precautions.
- XV. Guests should be advised not to visit area which fall under the containment zone.
- XVI. They should take precautions while handling supplies, inventories and good in the hotel. They should also organize disinfection and queue management properly.

- XVII. Hotel management should provide appropriate personal protection gears like face cover/masks, gloves, and hand sanitizers etc. to the staff and the guests.
- XVIII. Hotels should encourage room services or take-away instead of dine-in. The staff for home deliveries should be screened thermally by the authorities before sending them for delivery. They should be advised to keep the packet at the door and not to be handed directly to the customer.
- XIX. In case of room service, there should be a communication through intercom /mobile phone, and it should be provided by maintaining adequate social distance.
- XX. Wherever possible children play areas/gaming arcades should remain closed.
- XXI. As per the guidelines of CPWD, the temperature setting of all the air conditioning devices should be in the range of 24-34 degree Celsius, relative humidity in the range of 40-70%, cross ventilation should be adequate and intake of fresh air should be as much as possible.
- XXII. Premises should be frequently sanitized with particular focus on lavatories, drinking and hand-washing station/areas.
- XXIII. Frequently touched surfaces like doorknobs, elevator buttons, handrails etc. in all guest service area and common areas should be cleaned and disinfect regularly with 1% sodium hypochlorite.
- XXIV. Face covers/masks left by staff/guest should be properly disposed.
- XXV. Regularly deep clean all the washrooms. Each time a guest leave room and other services should be properly sanitized.
- XXVI. Kitchens should sanitize at regular intervals. Staff should be asked to follow social distancing norms.
- XXVII. In case of suspect or confirmed case in the premises.
 - i. Isolate the person by keeping the person in separate room.
 - ii. Till the time he/she is examined by the doctor provide him/her mask.
 - iii. Immediately inform the nearest hospital/clinic or call the state or district helpline.
 - iv. Designated public health authority will do a risk assessment and accordingly further action will be initiated regarding management of the case, his/her contacts and need for disinfection.
 - v. Disinfect the premises if the suspected person is found positive
- XXVIII. Detailed guidelines for the restaurants
 - i. Follow social distancing norm while making sitting arrangement.
 - ii. Encourage use of disposable menus.
 - iii. Use of good quality disposable paper napkins should be encouraged and avoid the use of cloth napkins.
 - iv. People should be advised to use digital mode of payment and contactless mode of ordering.
 - v. Buffet services should follow social distancing norms among guests.

4.6 Shopping Malls⁶¹

Shopping mall is frequently visited by large number of people. The risk of transmission in such a place is high. Government has advised various precautionary measures for shopping malls to stop the transmission of COVID-19. Person with co-morbidities, pregnant women, children, and person above 65 years of age are advised to stay at home.

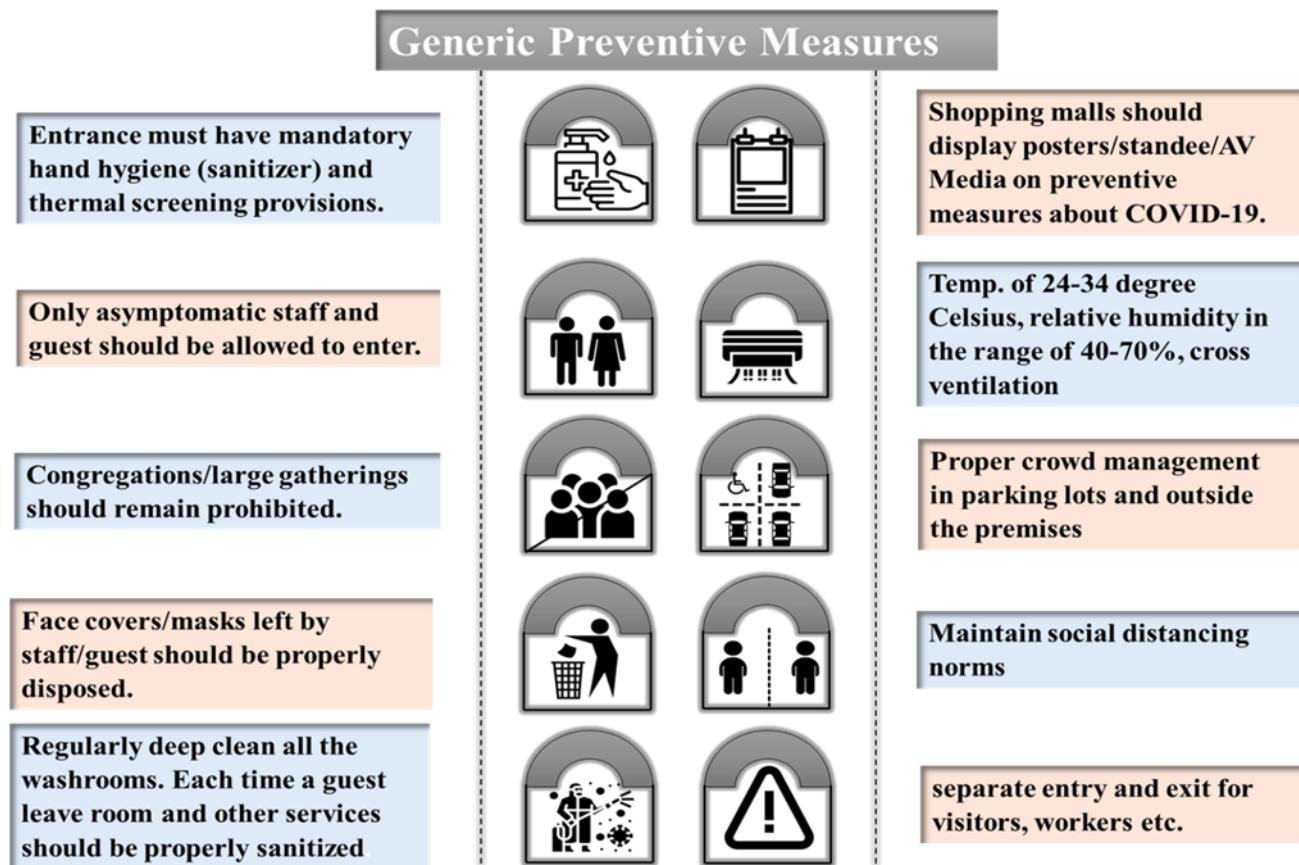


Figure 31: Generic preventive measure at shopping malls

Generic measure are the simple public health measures that should be followed to reduce the risk of COVID-19. Shopping malls are also advised to follow the measures which are mentioned below.

- I. Face covers/masks should be made mandatory and people should follow social distancing rule as far as possible.
- II. Follow respiratory etiquettes properly by covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and then dispose off used tissue properly in a dustbin.
- III. Spitting should be strictly prohibited.
- IV. Individuals should monitor their health properly and in case of any illness should report to state and district helpline.
- V. All should be advised to install Aarogya Setu App.

⁶¹ <https://www.mohfw.gov.in/pdf/4SoPstobefollowedinShoppingMalls.pdf>

Shopping mall should ensure the following arrangements.

- I. Entrance should have mandatory hand hygiene and thermal screening provisions.
- II. Only asymptomatic customer/visitors should be allowed to enter.
- III. All workers/customers/visitors should be allowed to enter only if they are using face cover/mask. The face cover/mask is compulsory to use at all time in shopping mall
- IV. Shopping malls should display posters/standee/AV Media on preventive measures about COVID-19.
- V. Mall management should deploy adequate manpower to ensure social distancing.
- VI. If possible, staggering of visitors should be done.
- VII. Older employees, pregnant employees and employees who have underlying medical condition should take extra precaution. They should not be exposed to front line worker who are in direct contact with the public. Work from home should be facilitate wherever possible.
- VIII. Proper crowd management in the parking lot and outside premises should follow social distancing norms.
- IX. If possible, valet parking should be operational with operating staff wearing face covers/mask and gloves. A proper care should be taken while disinfecting the steering, door handles, keys etc. of the vehicles
- X. Shops, cafeteria, stalls etc. within and outside the premises should follow social distancing norms.
- XI. To ensure social distancing, special marking should be made at sufficient distance to manage the queue
- XII. There should be a separate entry and exit for visitors, workers etc.
- XIII. The shopping mall authorities should screen home deliveries thermally prior allowing them for home deliveries.
- XIV. They must ensure that appropriate precautions must be taken while handling supplies, inventories and good in the shopping mall.
- XV. While queuing up for entry and inside the mall, maintain a proper distance of 6 feet. To ensure the physical distance in the shop, number of customers should be kept at minimum. Also seating arrangement should be made in a way that adequate social distancing is maintained.
- XVI. Social distancing norms should be followed at elevator also by restricting the number of people. In escalator, one person on alternate step should be encouraged.
- XVII. As per the guidelines of CPWD, the temperature setting of all the air conditioning devices should be in the range of 24-34 degree Celsius, relative humidity in the range of 40-70%, cross ventilation should be adequate and intake of fresh air should be as much as possible.
- XVIII. Congregations/large gatherings should remain prohibited.
- XIX. Frequently touched surfaces like doorknobs, elevator buttons, handrails etc. in all guest service area and common areas should be cleaned and disinfect regularly with 1% sodium hypochlorite.

- XX. Face covers/masks left by staff/guest should be properly disposed.
- XXI. Regularly deep clean all the washrooms. Each time a guest leave room and other services should be properly sanitized.
- XXII. In food courts: -
 - i. There should be queue management to ensure social distancing.
 - ii. Not more than 50% capacity should be permitted to sit in food court and restaurants.
 - iii. Food court staff and waiters should wear mask and hand gloves and take other precautionary measures.
 - iv. Seating arrangement should be made in such a way to ensure social distancing norms are followed.
 - v. Workers should sanitize table each time customer leaves.
 - vi. The staff should follow social distancing in kitchen also.
 - vii. People should be advised to use digital mode of payment and contactless mode of ordering.
- XXIII. Gaming arcades, children play areas, cinema halls inside the shopping malls should remain closed.
- XXIX. In case of suspect or confirmed case in the premises.
 - vi. Isolate the person by keeping the person in separate room.
 - vii. Till the time he/she is examined by the doctor provide him/her mask.
 - viii. Immediately inform the nearest hospital/clinic or call the state or district helpline.
 - ix. Designated public health authority will do a risk assessment and accordingly further action will be initiated regarding management of the case, his/her contacts and need for disinfection.
 - x. Disinfect the premises if the suspected person is found positive

4.7 Gatherings and Community Events⁶²

Social distancing and self-isolation are important aspects that need to be kept in mind in any community event or social gathering. In India, different States have imposed different restrictions on the number of people who can attend gatherings like marriage, funeral etc. Community event planners and officials can collaborate with State and local health officials, where they can make adjustment according to the needs and circumstances of the local community. Organizers should continue to assess the situation and based on the current conditions they can postpone, cancel, or reduce the number of attendees as required.

Gathering and community events



Figure 32: Gathering and community events

Guiding Principles for gathering and community events are mentioned below: -

I. Promote healthy behaviors that reduces spread.

Event planners should consider encouraging following behavior, that helps in reducing the spread of COVID-19: -

i. Stay home when appropriate

Educate staff and attendees to stay at home if they have tested positive for COVID-19 or they are showing symptoms of COVID-19. In such a scenario, they should stay at home and

⁶² <https://www.cdc.gov/coronavirus/2019-ncov/community/large-events/considerations-for-events-gatherings.html>

monitor their health. Event planners should devise policies that encourage sick people to stay at home. They should also develop flexible refund policies for attendees that involve participation fee.

ii. Hand hygiene and respiratory etiquette

Event planners should encourage their staff to cover their nose and mouth while sneezing and coughing with a tissue and after wards throw that tissue in a dustbin or garbage can and immediately wash their hands with soap or water for at least 20 seconds. If soaps are not available, hand sanitizer should be provided. This should be made as a practice which should be followed before, during and, after taking tickets. Encourage attendees to use gestures in spite of handshakes, fist bumps and high fives.

iii. Cloth face coverings

Cloth face coverings should be strongly encouraged with proper use, removal and washing of it. It becomes essential when maintaining social distancing is difficult. The staff should also be advised to not to use face cover for babies or children below 2 years of age, person who has trouble breathing, or a person who is unconscious, incapacitated, or a person who cannot remove face cloth without any assistance.

iv. Adequate supplies

Event planners should ensure adequate supply of soap, water, paper towels, hand sanitizer containing 50 percent alcohol, tissues, disinfectant wipes, cloth face coverings and no-touch trash cans.

v. Signs & Messages

On public address system, make regular announcement about how to reduce the spread of COVID-19 which should include messages about behavior that prevent spread of COVID-19. Also, post signs in highly visible location e.g. restrooms, entrance etc. to promote everyday protective measures. People who have limited vision or are blind, deaf, or hard of hearing, in that case event managers should display messages in alternative formats like large print, braille etc.

II. Maintain Healthy environment

Event planners can implement following strategies to maintain a healthy environment: -

Cleaning and Disinfection

- i. Clean and disinfect frequently touched surfaces like door handles, sink handles, hand railings etc. at least daily or as much as possible.
- ii. Clean and disinfect shared objects like table, countertop, bars etc.
- iii. When renting event space, ensure that the other groups follow disinfecting and cleaning routines daily.
- iv. Drivers of transport vehicle should ensure that they follow cleaning protocols daily.
- v. Make sure the safe use and storage of cleaner and disinfectant to avoid any harm to employees and individuals.
- vi. Keep children away from cleaning products. Make sure that there is enough ventilation while using these products to prevent any attendee or themselves from inhaling any toxic vapors.

Restrooms

- i. Do not allow crowds near the restroom and limit the number of people who occupy the restroom and ask them to maintain social distancing.
- ii. Ensure that restrooms are operational with functional toilets, clean and disinfected regularly and, supplies of handwashing - including soap and water or hand sanitizer with 60% alcohol, paper towels, tissues and no-touch trash cans are adequately available.

Ventilation

- i. Make sure to use proper ventilation equipment.
- ii. Take steps to minimize the blow of air from one person directly to another person so that the spread of aerosol containing virus can be reduced.
- iii. Make sure to increase the circulation of outside air by installing proper ventilation system.

Water Systems

In order to minimize the risk of spread of any disease through water make sure all water systems and features are properly working. Encourage staff and attendee to bring their own water to minimize the touching and use of water fountains.

Modified Layouts

- i. Use multiple entrance and exits to limit the crowded waiting areas.
- ii. Maintain social distancing of 6 feet by blocking rows or section of seating, limiting attendance, eliminate lines or queue by providing signs through tapes or chalk marks.
- iii. Try to provide outdoor activities so that social distancing can be ensured as much as possible.

Communal Space

- i. Use physical barriers in place where it is difficult to maintain 6 feet distance.
- ii. Make seating arrangement in such a way that 6 feet distance can be maintained.

Food service

- i. Encourage touchless mode of payments as much as possible. If payments are made through cash or card, ask customer to place them on receipt tray or counter rather than exchanging by hand.
- ii. Clean and disinfect frequently touched areas.
- iii. Provide signs on floors or walls to ensure social distance of 6 feet is maintained.
- iv. If cafeteria or group dining is used keep grab-and-go option or serve individually.
- v. Encourage use of disposable utensils and in case it is not used, handle non-disposable items with gloves and wash it with dish soap, water or in a dishwasher.
- vi. Individuals should wash their hands after handling food service items or after removing their gloves.
- vii. Avoid any self-serve food like buffet, consider pre-packaged boxes only.

Shared objects

- i. People should not share items that are difficult to clean, sanitize or disinfect.

- ii. Should limit the sharing of foods, tools, equipment, or supplies by staff members.
- iii. Minimize the sharing of high-touch materials as much as possible and if they are exchanged clean and disinfect between use.

III. Maintain healthy Operation

Event organizers can consider following strategies to maintain healthy operations: -

- i. Regularly update themselves about local or State regulatory agency policies related to group gatherings and check if events can be held.
- ii. Event manager should protect the staff and attendee who are at higher risk of illness from COVID-19. They should ensure that policies are in place to protect the privacy of people who are at higher risk. Also, they should limit the attendance of staff and attendee to local area only, and if it is open to people from other communities, city, or town then provide them information so that they can make informed decision about attending.
- iii. Make use of flexible worksites and work hours so that the number of employees and staff can be limited, and social distancing can be maintained.
- iv. Designate a person who is responsible for handling COVID-19 concerns. All staff and attendee must be aware, and they should know how to contact them.
- v. Make leave policies and practices that helps employees to stay at home when they are sick or when they are taking care of someone who is sick. They should examine and revise policies for leave, telework, and employee compensation and ensure that it is properly communicated to staff. Create roster of trained back-up staff.
- vi. Develop policies for return-to-work after employee has COVID-19.
- vii. Conduct virtual training on all safety protocols so that social distancing is maintained during training also.
- viii. Conduct daily health check-ups of staff and attendees safely.
- ix. In case any other organization is sharing the same venue, encourage them to follow above considerations.
- x. Ensure proper separation of employees while reconfiguring parking lots and encourage employees to choose transportation option that minimize contact with others. They can also shift to commute at less busy times.
- xi. Attendees should not attend if they are exposed to or have symptoms of COVID-19. Encourage staff and attendee to self-report to event officials in case they have COVID-19 symptoms, or they are exposed to a COVID-19 patient.

IV. Preparing when someone gets sick

- i. In case if someone gets sick, advise that individual to stay at home and not to come to work.
- ii. Staff should immediately inform event planners if they are tested for COVID-19, become sick or exposed COVID-19 patients. They should be separated, sent home and advised to follow basic guidelines.
- iii. Immediately separate staff and attendee with COVID-19 symptoms. Individuals should go home or to a healthcare facility depending on the situation.
- iv. Event planner should work with local officials, healthcare providers, and venue administrators to identify and the isolate area in case any person is identified with COVID-19 symptoms.

- v. Ensure safe transportation of sick person to their home or to a healthcare facility.
- vi. Clean and disinfect the area used by the sick person.
- vii. Notify local health officials, staff, and, attendee by maintaining the confidentiality as required by applicable laws and regulations.

4.8 Parks and recreational facilities⁶³

Parks and recreational facilities like spas, playground equipment, athletic, and other exercise facilities etc. provide an opportunity for physical exercise. People use these spaces to keep themselves physical fit. There is a need to take precautions at these places as there is a high risk of transmission of the virus in such places.

4.8.1 Post Information to Promote Everyday Preventive Actions.

During this pandemic, park administrators should post information or messages to promote visitors to take preventive actions every day. These messages should include following information:-

- I. Do not visit the park if you are sick and follow basic guidelines while taking care of yourself.
- II. Maintain social distance of 6 feet between others in the park. Use tissue or inside of the elbow while coughing and sneezing and dispose the tissue immediately into the trash.

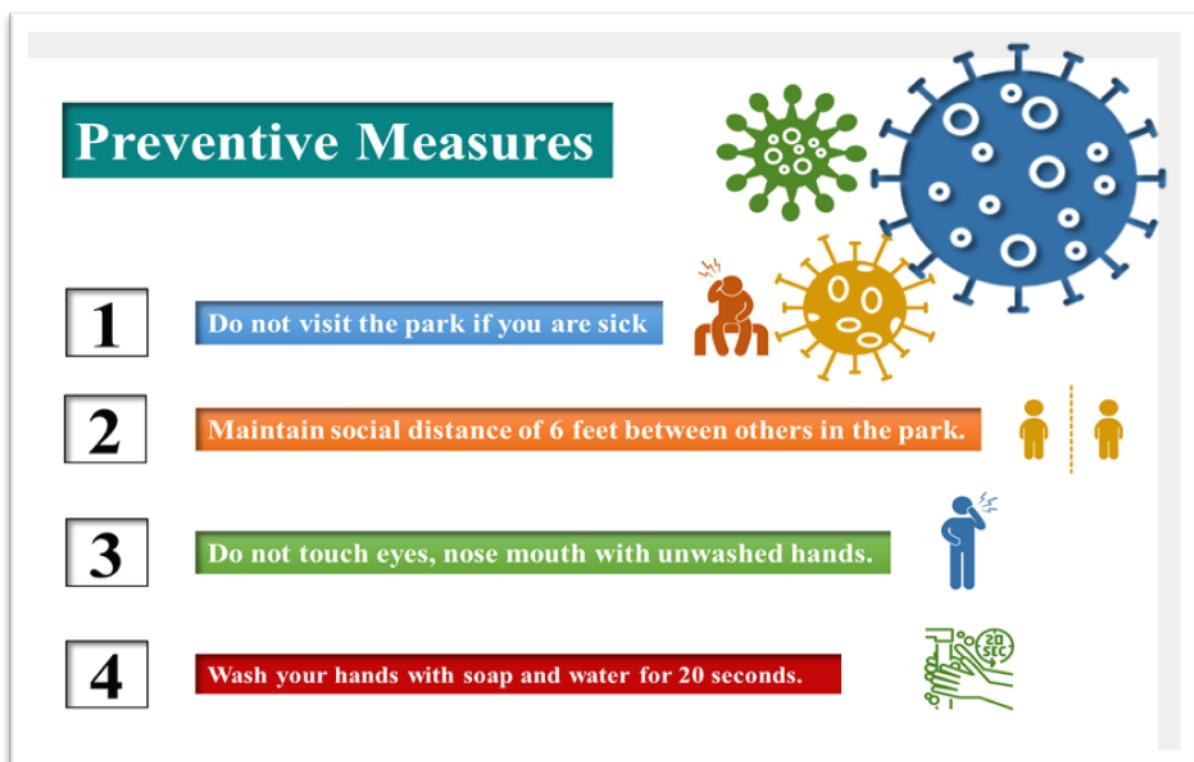


Figure 33: Generic preventive measure at parks & recreational facilities

⁶³ <https://www.cdc.gov/coronavirus/2019-ncov/community/parks-rec/index.html>

- III. Use soap and water or hand sanitizer that contains 60% alcohol to wash their hands after going to the bathroom, coughing, or sneezing, before eating, and, after blowing your nose. supervise young children to use sanitizer safely.
- IV. Do not touch eyes, nose mouth with unwashed hands.
- V. Use cloth face coverings when social distancing is difficult. But remember not to put it on children below 2 years of age, person who has trouble breathing and, anyone who is unconscious and cannot remove cloth face covering without any assistance.

4.8.2 Maintain Public Restrooms

Park administrators should open the restrooms which are operational, clean, disinfect and have handwashing supplies like soap and hand sanitizer. In case if restrooms are closed, notify the visitor in advance. Following are the important things to keep in mind: -

- I. Regularly clean and disinfect the toilets, especially high touch areas like doorknobs, light switches, faucets etc. Operate with functional toilets only.
- II. EPA registered disinfectants are effective against SARS-COV-2 virus. Use these disinfectants to clean the restrooms. Ensure these cleaning products are kept separately and away from children.
- III. Follow the guidelines for cleaning and disinfecting and accordingly plan and perform regular cleanings to reduce the risk of exposure to COVID-19 virus.
- IV. Keep enough stock of soap, paper towels, hand sanitizer with 60% alcohol and, no touch trash cans.
- V. Advise employees to use proper gloves while using disinfectants and follow direction mentioned on the label of the product.

4.8.3 Safety Measures for Staff

- I. Advise staff to stay at home when they are sick
- II. Keep staff attendance and sick leave policies flexible.
- III. Encourage teleworking policies and identify staff who can work from home.
- IV. Revise the duties of staff who are at high risk of illness due to COVID-19.
- V. Keep staff informed about latest update on COVID-19 in the local area and park policies on a regular basis.
- VI. If staff develop symptoms similar to COVID-19 then immediately return them to home as soon as possible.
- VII. If there is a confirmed COVID-19 case in the staff, then inform other staff members about the risk of exposure while maintaining the confidentiality.

4.8.4 Miscellaneous

- I. Though this virus cannot be transferred through water, but extra care must be taken to avoid transmission like social distancing of 6 feet etc.

- II. Guidelines issued by national and local authorities about the limitation on the size of gathering should be monitored properly. Assess the current COVID situation and accordingly postpone, cancel or, reduce the number of gatherings.
- III. Refer State and local regulations to re-open the playgrounds. Disinfect the playground properly especially hard surfaces and objects which are frequently touched by people. Make sure it is dried up before it is open for the children.
- IV. Monitor and close the area where people are likely to gather, to support social distancing norm. Post sign or board that discourage people to gather in large numbers.
- V. If there is any plan to resume camps and sports activities, consult public health officials. They can provide guidance on appropriate timings to resume activities.

4.9 Shared housing and institutions⁶⁴

People living in shared housing and institutions have many challenges. Shared dining, shared equipment, stairs, elevators etc. are the spaces which are commonly used. Thus, social distancing becomes difficult to follow. State, local authorities and public health departments are the best to look up to for updates and accordingly one can incorporate preventive measures. Following measures can also be taken to prevent the spread of COVID-19: -

4.9.1 Encourage residents to take actions to prevent themselves.

- I. Maintain social distancing by staying 6 feet away from others and cover you face with cloth coverings.
- II. Limit non-essential volunteers, visitors in shared areas, staff's entering to residents' rooms unless it is required.
- III. Communicate and aid staff and residents, including persons with disabilities. Suggest them to keep updated list of medications and ensure that there is sufficient supply of prescription and over the counter medicines.
- IV. Make residents aware of the symptoms of COVID-19 and they should know who to ask for help.

4.9.2 Consideration of common spaces, to prevent the spread of COVID-19.

- I. Cancel all public or non-essential group activities and events.
- II. Use multiple strategies to maintain social distancing in the common space of the facility.
- III. During shared meals and other events arrange table and chairs in such a way that they help maintain 6 feet distance between people.
- IV. There must be a good air flow from an air conditioner or an opened window in the shared rooms.
- V. Work with building maintenance staff to determine if building ventilation system can be modified to increase ventilation rates that circulates into the system.

⁶⁴ <https://www.cdc.gov/coronavirus/2019-ncov/community/shared-congregate-house/guidance-shared-congregate-housing.html>

4.9.3 Consideration for shared space

- I. Shared kitchens and dining rooms
 - i. Restrict the number of people in the kitchen so that social distance of 6 feet can be maintained.
 - ii. Do not share eating utensils. Handle non-disposable food items with gloves and wash them with hot water or in a dishwasher.
 - iii. Do not forget to use gloves while handling and disposing trash and removing garbage bags.
- II. Laundry rooms
 - i. Maintain adequate supplies of laundry facilities to help prevention of COVID-19.
 - ii. Restrict the number of people in the laundry to maintain the social distance of 6 feet.
 - iii. Provide resident and staff with disposable gloves, EPA-registered disinfectants to clean and disinfect handles of laundry machines, doorknobs, laundry baskets etc.
- III. Activity and exercise rooms
 - i. Restrict the number of people allowed at one time in activity room to ensure that they keep 6 feet distance between them.
 - ii. Activities and sports that require close contact should not be recommended. It's important to close the exercise rooms.
- IV. Pools

It can be challenging to keep surface clean and disinfected so it's better to close pools and hot tubs or may allow limited access only. Maintaining social distance is paramount and this should be addressed in pool or the hot tub area.
- V. Shared bathrooms
 - i. Shared bathrooms should be cleaned regularly using EPA registered disinfectant twice a day
 - ii. Make sure to have an adequate supply of soap, paper towels, automated hand dryers and hand sanitizers etc.
 - iii. Empty the trash regularly.
 - iv. In bathrooms, provide information about how to wash hand properly.
 - v. Sinks can be a source of infection and residents should be instructed to not keep their toothbrushes on counter surfaces.

5 Government Initiatives

From the announcement of Pradhan Mantri Garib Kalyan Yojana to the launch Atmanirbhar Bharat scheme various initiatives have been undertaken by GOI and RBI to alleviate financial stress due to COVID-19 outbreak (for more details please refer our Compendium Edition I,II and III). In continuation of aforementioned initiatives, the central government has announced following measures to further ease down the financial stress: -

- I. Prime Minister Narendra Modi launched the Gareeb Kalyan Rojgar Abhiyaan⁶⁵ on June 20, 2020. It is aimed to boost employment and livelihood opportunities for migrant workers returning to villages, in the wake of COVID-19 outbreak. An amount of INR 50,000 crores has been earmarked for this scheme. Under the program, works that cover 25 kinds of skillsets and categories have identified. These will help develop the villages of the country. This Abhiyaan will be implemented in a mission mode campaign in 125 days in 116 Districts of 6 States.
- II. PM CARES Fund Trust has allocated INR 2000 crore for supply of 50000 'Made-in-India' ventilators to government run COVID hospitals in all States/ UTs. Further, a sum of INR 1000 crore has been allocated for the welfare of migrant labourers.⁶⁶
- III. Union Cabinet chaired by Prime Minister Narendra Modi has approved a scheme for interest subvention of 2% for a period of 12 months, to all Shishu loan accounts under Pradhan Mantri Mudra Yojana (PMMY) to eligible borrowers. This Scheme is for implementation of one of the measures relating to MSMEs, announced under the Atma Nirbhar Bharat Abhiyan. Under PMMY, loans for income generating activities up to INR 50,000 are termed as Shishu loans.⁶⁷
- IV. On June 30, 2020 Prime Minister announced extension of PM Garib Kalyan Anna Yojana⁶⁸ till November 2020, to provide free ration for three months to more than 80 crore people i.e. providing 5 kg free rice/wheat to each member of the family, along with providing 1 kg pulses to each family, per month.
- V. Cabinet has approved the extension of EPF contribution 24% (12% employees share and 12% employers share) for another 3 months from June to August 2020 under PMGKY/Aatmanirbhar Bharat; with total estimated expenditure of INR 4,860 crore, the move will benefit over 72 lakh employees

<https://economictimes.indiatimes.com/wealth/personal-finance-news/government-to-pay-epf-contributions-of-employees-and-employers-till-aug-2020/articleshow/76853025.cms>

⁶⁵ <https://cdnbbsr.s3waas.gov.in/s3850af92f8d9903e7a4e0559a98ecc857/uploads/2020/06/2020062294.pdf>

⁶⁶ https://www.pmindia.gov.in/en/news_updates/50000-made-in-india-ventillators-under-pm-cares-fund-to-fight-covid-19/?comment=disable

⁶⁷ https://www.pmindia.gov.in/en/news_updates/2-interest-subvention-approved-on-prompt-repayment-of-shishu-loans-under-pradhan-mantri-mudra-yojana-for-a-period-of-12-months/?comment=disable

⁶⁸ https://www.pmindia.gov.in/en/news_updates/pm-addresses-nation-and-announces-extension-of-pradhan-mantri-garib-kalyan-anna-yojana/?comment=disable

6 Government Guidelines & Regulations

The countrywide lockdown, which commenced on 24 Mar 2020 has been lifted w.e.f 08 Jun 2020. We are now in the 'Unlock Phase II'. Government of India has issued series of guidelines and SOPs with a view to contain the spread of COVID - 19 outbreak and at the same time open businesses and offices to business as usual (as far as possible). The subsequent sub-sections cover latest relevant government issued guidelines and their respective links for detailed information.

6.1 Ministry of Health and Family Welfare (MoHFW)

6.1.1 Guidance for General Medical and Specialized Mental Health Care Settings

The National Institute of Mental Health and Neuro-Sciences (NIMHANS) has come out with guidance for general medical and specialized mental health care settings, noting that the COVID-19 outbreak threatens to weaken the already fragile mental health system across the country. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/COVID19Final2020ForOnline9July2020.pdf>

6.1.2 Protocol on Clinical Management Protocol for COVID-19 patients.

The Union Health Ministry issued guidelines (version 5) on clinical management protocol for COVID-19 patients on July 03, 2020. The revised protocol lowered the dosage schedule of investigational drug Remdesivir from six days to five days now. The drug is allowed under emergency use authorization and may be considered in patients with moderate disease (those on oxygen). The drug cannot be administered to a pregnant or lactating mother and children below the age of 12 years. Also, the patient should not have renal problems. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/UpdatedClinicalManagementProtocolforCOVID19dated03072020.pdf>

6.1.3 Guidelines for Home Isolation of Very Mild/ Pre-Symptomatic/ Asymptomatic COVID-19 Cases

The Union health ministry has revised the home isolation guidelines for coronavirus positive cases on July 02, 2020. The fresh guidelines for home isolation now include asymptomatic positive patients in the list of mild or pre-symptomatic coronavirus infection cases. However, patients suffering from immune-compromised status (like HIV, transplant recipients, cancer therapy) are not eligible for home isolation. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/RevisedHomelosationGuidelines.pdf>

6.1.4 Guidelines for Setting Up Isolation Facility/ Ward.

The National Centre for Disease Control, an institute under the Indian Directorate General of Health Services, Ministry of Health and Family Welfare, has issued guidelines on setting up isolation facility/ wards. The guidelines define quarantine as separation of individuals who are not yet ill but have been exposed to COVID-19 and therefore have a potential to become ill. There will be

voluntary home quarantine of contacts of suspect/ confirmed cases. Isolation refers to separation of individuals who are ill and suspected or confirmed of COVID-19. All suspect cases detected in the containment/ buffer zones (till a diagnosis is made), will be hospitalized and kept in isolation in a designated facility till such time they are tested negative. The detailed guidelines can be accessed here: -

<https://ncdc.gov.in/showfile.php?lid=503>

6.1.5 Guidelines for Quarantine Facilities COVID-19

The government has issued guidelines on setting up quarantine facilities amid the COVID-19 pandemic. These facilities should preferably be set up on the outskirts of cities and arrangements should be such that interactions between the quarantined people and healthcare professionals or supporting staff were minimized. During that period, contacts should be monitored at least daily for fever and respiratory symptoms. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/90542653311584546120quarantineguidelines.pdf>

6.1.6 Guidelines for Blood Transfusion Services

The National Blood Transfusion Council of the Ministry of Health and Family Welfare has issued the second interim national guideline for blood transfusion services in the country in the light of COVID-19 pandemic, which stresses on safe functioning of blood transfusion services. The guideline covers various aspects of blood transfusion services, including the functioning of blood banks and volunteering of donors. The guideline directs blood banks for exclusion of donors, who are in the risk category to maintain safety. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/2ndNBTCGuidanceinLightofCOVID19Pandemic.pdf>

6.1.7 Guidelines on Clinical Management Protocol for COVID-19 Patients.

The Union Health Ministry issued guidelines (version 4) on clinical management protocol for COVID-19 patients on June 27, 2020. The health ministry has described the use of investigational therapies-Remdesivir, Convalescent plasma, Tocilizumab, and Hydroxychloroquine (HCQ) on coronavirus patients. The government has included loss of smell and taste as new symptoms of coronavirus; however, they have withdrawn the use of Azithromycin drug in the management of COVID-19 patients. Further, the use of these drugs is subject to limited availability in the country as of now.

<https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19dated27062020.pdf>

6.1.8 Guidelines on COVID Appropriate Behaviors.

In India, COVID-19 pandemic has created lot of challenges which require collective effort support from all. MoHFW has issued guidelines mentioning measures which are led by Central government and State government, which in the long run reinforce the preventive measures and practices to deal with the disease.

The details about guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/Illustrativeguidelineupdate.pdf>

6.1.9 Advisory for Managing Healthcare Workers Working in COVID and Non-COVID Areas of the Hospitals.

Health care workers are the most important resource in this situation. Their health is of utmost importance. The Ministry of Health and Family Welfare has issued guidelines for workers working in COVID and Non-COVID areas of the hospital, the details of which can be accessed here: -

<https://www.mohfw.gov.in/pdf/updatedAdvisoryformanagingHealthcareworkersworkinginCOVIDandNonCOVIDareasofthehospital.pdf>

6.1.10 Guidelines and SOPs on Preventive Measures to Contain Spread of COVID-19 in Hotels.

MoHFW has issued guidelines for hotels on preventive measures to contain spread of COVID-19. The detailed guidelines and SOPs can be accessed here: -

Guidelines:- <https://www.mohfw.gov.in/pdf/HotelsGuidelines11thJune.pdf>

SOPs:- <https://www.mohfw.gov.in/pdf/5SoPstobefollowedinHotelsandotherrunits.pdf>

6.1.11 Guidelines and SOPs on Preventive Measures to Contain Spread of COVID-19 in Offices.

With the lockdown opening in different phases, offices are also resuming. The MoHFW has issued guidelines and SOPs on preventive measures to contain spread of COVID-19. The detailed guidelines and SOPs can be accessed here: -

Guidelines:- <https://www.mohfw.gov.in/pdf/OfficesGuidelines11thJune.pdf>

SOPs:- <https://www.mohfw.gov.in/pdf/1SoPstobefollowedinOffices.pdf>

6.1.12 Guidelines and SOPs on Preventive Measures to Contain Spread of COVID-19 in Religious Places.

Religious places are opened from June 11. In such places people are at high risk of the corona transmission. The MoHFW has issued guidelines and SOPs with a view to prevent the spread of infection, the detailed guidelines and SOPs can be accessed here: -

Guidelines: - <https://www.mohfw.gov.in/pdf/ReligiousPlacesGuidelines11thJune.pdf>

SOPs: - <https://www.mohfw.gov.in/pdf/2SoPstobefollowedinReligiousPlaces.pdf>

6.1.13 Guidelines and SOPs on Preventive Measures to Contain Spread of COVID-19 in Restaurants.

Various State governments have allowed opening of restaurants. In this regards, MoHFW has guidelines and SOPs for restaurants and other hospitality units, advising them to take suitable measures to restrict any further transmission of the virus while providing restaurant services. The detailed guidelines and SOPs can be accessed here: -

Guidelines:- <https://www.mohfw.gov.in/pdf/RestaurantsGuidelines11thJune.pdf>

SOPs: - <https://www.mohfw.gov.in/pdf/3SoPstobefollowedinRestaurants.pdf>

6.1.14 Guidelines and SOPS on Preventive Measures to Contain Spread of COVID-19 in Shopping Malls.

MoHFW has issued guidelines and SOPS on preventive measures to contain spread of COVID-19 in shopping malls. The detailed guidelines and SOPS can be accessed here: -

Guidelines: - <https://www.mohfw.gov.in/pdf/ShoppingMallsGuidelines11thJune.pdf>

SOPs: - <https://www.mohfw.gov.in/pdf/4SoPstobefollowedinShoppingMalls.pdf>

6.1.15 Guidelines for Safe ENT Practice in COVID-19.

The Union Ministry of Health and Family Welfare has issued guidelines for safe ‘Ear, Nose and Throat’ (ENT) practice during the COVID - 19 pandemic. The guidelines are aimed at minimizing the spread of COVID - 19 infection among ENT doctors, nursing staff, support staff, patients, and attendants. The guidelines cover the following areas: -

- I. Protocols and SOPs for ENT OPD
- II. Protocol for ENT and Head & Neck Surgery Ward
- III. Guidelines for Operation Theatre for ENT surgeries

The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/ENTCOVID0306.pdf>

6.1.16 Advisory on Re-Processing and Re-Use of Eye Protection.

PPE Kits are discarded after its use as a bio-medical waste. However, goggles being an important component of PPE Kit can be reused. The guidelines cover the standard operating procedure to re-use them. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/Advisoryonreprocessingandreuseofeyeprotectiongoggles.pdf>

6.1.17 Guidelines for Domestic Travel (Air/Train/Inter-State Bus Travel).

Ministry of Health and Family welfare has issued guidelines for the passengers who are travelling domestically. The guidelines can be accessed here: -

[https://www.mohfw.gov.in/pdf/Guidelinesfordomestictravel\(airortrainorinter-statebustravel\).pdf](https://www.mohfw.gov.in/pdf/Guidelinesfordomestictravel(airortrainorinter-statebustravel).pdf)

6.1.18 Guidelines for International Travel.

MoHFW has also issued guidelines for international travelers. States are advised to set their own protocol with regards to quarantine and isolation as per their assessments.

<https://www.mohfw.gov.in/pdf/Guidelinesforinternationalarrivals.pdf>

6.1.19 Guidelines on Provision of Reproductive, Material, Newborn, Child, Adolescent Health Plus Nutrition (RMNCAH+N) Services during and Post COVID-19 Pandemic.

MoHFW has issued guidelines for safety and ensuring the availability and continuity of RMNCAH +N services, as any denial of these services can have an impact on maternal and newborn mortalities, morbidities as well as health care costs. They also focus on the need to enhance safe abortion services besides post-partum and post abortion practices.

The guidance notes on provision of reproductive, maternal, newborn, child, adolescent health plus nutrition services during and post COVID-19 pandemic elaborates various provided at different levels in accordance with the zonal categorization and beyond these zones.

The guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/GuidanceNoteonProvisionofessentialRMNCAHNServices24052020.pdf>

6.1.20 Guidelines on Preventive Measures to Contain Spread of COVID-19 in Workplace Settings.

To contain the spread of COVID-19, MoHFW has issued fresh guidelines on preventive measures for workplace settings. The guidelines cover the following areas: -

- I. Basic preventive measures to be followed at all times.
- II. Measures specific to offices.
- III. Measures to be taken on occurrence of case(s).
- IV. Disinfection procedures to be implemented in case of occurrence of suspect/confirmed case.

The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/GuidelinesonpreventivemeasurestocontainspreadofCOVID19inworkplacesettings.pdf>

6.1.21 Guideline for RT-PCR based Pooled Sampling for Migrants/Returnees from Abroad/Green zones.

MoHFW has issued guidelines for RT-PCR based pooled sampling for migrants/ returnees from abroad/ green zones of Covid-19. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/GuidelineforrtPCRbasedpoolsamplingFinal.pdf>

6.1.22 Updated Additional Guidelines on Rational Use of Personal Protective Equipment.

On 15 May 2020, Ministry of Health and Family Welfare has issued updated additional guidelines for the rational use of ‘Personal Protective Equipment’ (PPE) in continuation of previous guidelines. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/UpdatedAdditionalguidelinesonrationaluseofPersonalProtectiveEquipmentsettingapproachforHealthfunctionariesworkinginCOVID19areas.pdf>

6.1.23 Updated Containment Plan for Large Outbreaks.

MoHFW has issued updated containment plan for large outbreaks comprising action to be taken for containing a large outbreak, with a view to break the chain of transmission thus reducing the morbidity and mortality due to COVID-19. The detailed plan can be accessed here: -

<https://www.mohfw.gov.in/pdf/UpdatedContainmentPlanforLargeOutbreaksofCOVID19Version3.0.pdf>

6.1.24 Preparedness and Response to COVID-19 in Urban Settlements.

MoHFW has defined focus areas to be addressed by the ‘Urban Local Bodies’ for preparedness in urban settlements for responding to COVID-19. The detailed document can be accessed here: -

<https://www.mohfw.gov.in/pdf/PreparednessandresponsetoCOVID19inUrbansettlements.pdf>

6.1.25 Revised Guidelines for Home Isolation of Very Mild/ Pre-Symptomatic/ Asymptomatic COVID-19 Cases.

On 02 July 2020, Ministry of Health and Family Welfare has issued a revised guideline for home isolation of very mild/ pre-symptomatic/ asymptomatic COVID-19 cases, in supersession of the earlier guidelines issued on 10 May, 2020. The detailed guidelines can be accessed here: -

<https://www.mohfw.gov.in/pdf/RevisedHomelosationGuidelines.pdf>

These guidelines cover the following sections:

- I. Patients eligible for home isolation
- II. When to seek medical attention
- III. Role of State/District Health Authorities
- IV. When to discontinue home isolation
- V. Annexure I - Undertaking on self-isolation
- VI. Annexure II - Instruction for caregivers and instruction for the patient

6.1.26 Guidelines on Disinfection of Common Public Places Including Offices.

These guidelines are issued to provide guidance about the environmental cleaning/ decontamination of common public places including offices in areas reporting COVID-19. Detailed guidelines and can be accessed here: -

<https://www.mohfw.gov.in/pdf/GuidelinestobefollowedondetectionofsuspectorconfirmedCOVID19case.pdf>

6.1.27 Guidelines to be followed on Detection of Suspect/ Confirmed COVID-19 case in a Non COVID Health Facility.

On 20 April 2020, Ministry of Health and Family Welfare has issued guidelines to be followed on detection of suspect/ confirmed COVID-19 case in a non COVID health facility. Detailed guidelines are placed at Annexure 'VI' and can be accessed here: -

<https://www.mohfw.gov.in/pdf/GuidelinestobefollowedondetectionofsuspectorconfirmedCOVID19case.pdf>

These guidelines cover the following sections: -

- I. Institutional arrangement
 - i. Action to be taken on detection of COVID -19 case in non-COVID health facility
 - ii. When a suspect/confirmed COVID-19 HCW is identified
- II. Decision on further /continued use of non-COVID facilities where a single/multiple COVID-19 case has been reported
- III. Follow up actions

6.1.28 Guidelines for Notifying COVID-19 Affected Persons by Private Institutions.

In the wake of the prevailing COVID-19 situation and in order to strengthen the containment measures, it is of utmost importance that each and every case (suspects/ confirmed) of COVID-19 is isolated and provided appropriate treatment and their contacts are traced at the earliest to break the chain of transmission. It is important that support and cooperation of private sector is enlisted, in this regard. Any organization suspecting a person to be infected is required to encourage the person to call the helpline number, who would then be taken through a triaging protocol to ascertain the risk and the nearest facility to visit according to the risk category that the person falls in. Link to find details about the guidelines can be accessed here-

<https://www.mohfw.gov.in/pdf/GuidelinesfornotifyingCOVID-19affectedpersonsbyPrivateInstitutions.pdf>

6.1.29 Additional Guidelines for Quarantine of Returnees from Abroad / Contacts / Isolation of Suspect or Confirmed Cases in Private Facilities.

On May 07, 2020, Ministry of Health & Family Welfare has issued additional guidelines for quarantine of returnees from abroad / contacts / isolation of suspect or confirmed cases in private facilities. Details about the guidelines can be accessed here-

<https://www.mohfw.gov.in/pdf/Additionalguidelinesforquarantineofreturneesfromabroadcontactsisolationofsuspectorconfirmedcaseinprivatefacilities.pdf>.

Further guidelines for quarantine have been issued wherein the travellers are required to make their own arrangement for stays during the quarantine period. The travellers are required to stay in quarantine on payment basis. States have identified hotels for the 'quarantine stay'. List of hotels identified in Mumbai, Delhi, Kolkata, Chennai, Bangalore, and Noida is tabulated below (this is an ongoing process and the tabulated list below may not be up to date).

List of Hotels for Quarantine

Sr. No	City	Hotels
1	Mumbai	The Lalit Mumbai, The Renaissance, Taj Santacruz, Hotel Nirane, Hilton Mumbai International, Hotel Hayatt, Radisson, Hotel JW Marriott, Hotel T24 Retro, Hotel T24 Residency, Lemon Tree Premier, Hotel Suncity Residency, Hotel Mumbai House, Sai Palace Hotel, Keys select Hotel, Hotel Ram Krishna, Hotel Nishita
2	Delhi	Lemon Tree Hotel, Lemon Tree Premier, Red Fox , IBIS Hotel, Mirage Hotel, Hotel Marriott, Hotel Pullman, Hotel Novotel, Hotel Aloft, Holiday Inn, Pride Plaza, Hotel Park Plaza, Hotel Sopan Heights, Hotel Royal Holidays, Hotel Pooja Palace, Hotel C Park, Hotel Kyron, Hotel Grand, Welcome Hotel, Piccadilly Hotel
3	Kolkata	Hotel Red Velvet Inn, Hotel Eco Stay, Hotel Stay Inn, Durbar Guest House, Hotel Lemon Tree, Hotel Ginger
4	Chennai	Oyo Hotel Town House
5	Bangalore	Sabarwal Residency, Emirates Hotel, Empire Hotel, Silicrest, Oyo Amethyst, Ramakrishna Lodge, Hotel Citadel, Likith International, Fortune Park JP Celestial, Arafaa Inn, Lemon Tree Premier, Keys Select, Chalukya Hotel, Sri Lakshmi PG, Trinity Wood Hotel, Keys Select Whitefield
6	Noida	Radisson Blu, Greater Noida. Savoy Suits, Greater Noida, Stellar Gymkhana, Greater Noida, Hotel Hyatt, Fairfield Marriott, Hotel Picadilly, Lemon Tree, Ginger Madgaon, Ginger City Centre

Figure 34: List of hotels for quarantine

6.1.30 Guidelines for Home Quarantine⁶⁹

Ministry of Health & Family Welfare has issued guidelines for home quarantine on March 11, 2020. These guidelines are developed for home quarantine of contacts of a suspect or confirmed case of COVID-19. Details about the guidelines can be accessed here
<https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>

6.1.31 Guidance Document on Appropriate Management of Suspect/ Confirmed Cases of COVID-19: Railway Coaches as COVID-19 Care Centre

MoHFW has taken out guidelines for management of suspect/ confirmed cases of COVID-19. The guidelines also give details of 215 railway stations where the special train coaches can be placed for providing the necessary support. The guidelines can be accessed here:-
<https://www.mohfw.gov.in/pdf/GuidanceDocumentonappropriatemanagementsuspectsconfirmedcasesofCOVID19RailwayCoachesCOVIDCareCenters.pdf>

⁶⁹ <https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>

6.1.32 Guidelines for Stranded Person

6.1.32.1 People Stranded within Country

Guidelines have been issued for stranded persons and can be accessed here - https://www.mha.gov.in/sites/default/files/pressreleaseeng_29042020.pdf

Link to find the contact details of nodal officers is appended below: -



Nodal Officers for
stranded persons.pdf

6.1.32.2 SOP for Movement of Indian Nationals Stranded Outside the Country.

MHA in supersession of order dated 5 May 2020, has issued SOP & protocol for movement of Indian Nationals stranded outside the country and of specified persons to travel abroad.

The SOP can accessed here: -

<https://www.mha.gov.in/sites/default/files/MHAOrderDt24052020forspecifiedpersonstotravelabroad.pdf>

6.1.33 People Stranded (Indian) Outside Country.

Guidelines have been issued for stranded persons (Indian) overseas. Details can be accessed here -

https://www.mha.gov.in/sites/default/files/PR_MHASOPsDt05052020regMovementofIndianNationalsstranded_05052020.pdf

6.2 Movement of Stranded Persons by Shramik Special Trains

On May 02, 2020 Ministry of Railway has issued guidelines regarding operation of Shramik Special Trains, provisioned for the transportation of migrant workers, pilgrims, tourists, students, and other persons stranded at different places in the country, to their respective destinations. Details can be accessed here -

<https://ndma.gov.in/images/covid/Ministry-of-Railways-Guidelines-for-Shramic-Special-Trains.pdf>

6.3 Guidelines for Restarting Manufacturing Industries after Lockdown

In order to minimize the risk and to encourage a successful restart of the industrial units, National Disaster Management Authority (NDMA) has issued guidelines for restarting manufacturing industries post lockdown. Details can be accessed here-

<https://ndma.gov.in/images/covid/Guidelines-for-restarting-industrial-units-after-lockdown.pdf>

6.4 Securities and Exchange Board of India (SEBI)

6.4.1 Guidelines for Order-to-Trade Ratio (OTR) for Algorithmic Trading

SEBI has come up with guidelines on Order-to-trade ratio (OTR) for Algorithmic Trading on June 24, 2020 to all recognized Stock Exchanges (except Commodity Derivatives Exchange and Stock Exchanges in International Financial Services Centre). The guidelines can be accessed here: -

https://www.sebi.gov.in/legal/circulars/jun-2020/guidelines-for-order-to-trade-ratio-otr-for-algorithmic-trading_46925.html

6.4.2 Guidelines on Identification and Selection of Location as a Delivery Centre(s) for Commodity Derivatives Contract

SEBI has issued a circular to all the recognized stock exchanges and 'Clearing Corporations', which have commodity derivative segment. The detailed circular can be accessed here: -

https://www.sebi.gov.in/legal/circulars/may-2020/guidelines-for-identification-and-selection-of-location-as-a-delivery-centre-s-for-commodity-derivatives-contract_46709.html

6.4.3 Advisory on Disclosure of Material Impact of COVID-19 Pandemic on Listed Entities under SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 ('LODR Regulations' / 'LODR')

SEBI has issued a circular to all listed entities on disclosure of material impact of COVID-19 pandemic. The detailed circular can be accessed here: -

https://www.sebi.gov.in/legal/circulars/may-2020/advisory-on-disclosure-of-material-impact-of-covid-19-pandemic-on-listed-entities-under-sebi-listing-obligations-and-disclosure-requirements-regulations-2015_46688.html

6.5 Guidelines for Air Passengers

GoI has issued comprehensive guidelines for air passengers, which covers the following: -

- I. Do's and don'ts to be observed by air passengers from their origin to airport.
 - II. Important instruction to air passengers.
 - III. Guidelines for air passengers at the airport.
 - IV. Guidelines for the air passengers at security check-in.
 - V. Guidelines for air passengers at security hold areas.
 - VI. Guidelines for air passengers while boarding.
 - VII. Guidelines for air passengers while inside the aircraft.
 - VIII. Guidelines for air passengers at arrival, baggage collection, exit for airport
- Detailed guidelines for air passengers can be accessed here: -

https://static.mygov.in/rest/s3fs-public/mygov_159004771751307401.pdf

6.6 Ministry of Civil Aviation (MoCA) - Order

6.6.1 Guidelines for State wise Quarantine

The Ministry of Civil Aviation has issued State wise quarantine regulations. Indian states have announced varied quarantine and self-isolation rules for air passengers travelling from different states to combat coronavirus. The details about the guidelines can be accessed here: -

<https://cdnbbsr.s3waas.gov.in/s3850af92f8d9903e7a4e0559a98ecc857/uploads/2020/06/2020061118.pdf>

6.6.2 SOP for Private Aircraft and Charter Operations on International Sectors in View of COVID-19 Pandemic

The government of India has permitted international charter operations and operations by aircraft through the order dated May 24 2020, to bring back the Indian national who have travelled to different countries for the purpose of employment, studies/internship, tourism, business etc.

The guidelines can be accessed here: -

https://www.civilaviation.gov.in/sites/default/files/SOP_for_Pvt_and_Charter_operations.pdf

6.6.3 Guidelines for Air Passengers after Recommencement of Air Travel from 25 May 2020.

Ministry of Civil Aviation has issued an order for the recommencement of domestic air travel, with a view to ensure the safety passengers due during prevailing circumstances due to COMD-I9 pandemic. The MoCA order cover the following guidelines:

- I. Annexure I: General instructions for commencement of domestic air travel.
- II. Annexure II: The detailed guidelines to be followed by air passenger.
- III. Annexure III: Specific operating guidelines for major stakeholders.

Detailed guidelines can be accessed here: -

https://static.mygov.in/rest/s3fs-public/mygov_159004757451307401.pdf

6.7 Government of India (MyGov)⁷⁰

<https://www.mygov.in/covid-19/>

The government has issued guidelines addressing concerns associated with air conditioning (AC) and ventilation to control the spread of coronavirus in residences, workspaces, and healthcare facilities. These may be accessed here: - <https://www.mygov.in/covid-19/>

⁷⁰ https://www.mha.gov.in/sites/default/files/MHAOrderextension_1752020.pdf

Guidelines for Operating Air Cooling & Air Conditioning Equipments

General Guiding Principles:



Temperature setting of all AC devices to be in the range of 24-30° C



Relative Humidity to be in the range of 40-70%



Intake of Fresh of Air to be maximised & recirculation of air to be avoided



Cross Ventilation to be adequately ensured & replacement of air by use of exhaust fans



Frequent air sanitisation by regular cleaning & sanitisation of filters of indoor unit



Social distancing norms, wear masks, avoid direct contact of air flow & frequent surface decontamination to be ensured



Figure 35: Guidelines for operating air cooling & air conditioning equipment

AC Guidelines for Residences, Standalone Workspaces/ Offices (1/4)



For areas with mild exposure & controlled environment



Air Cooling/ Conditioning Options:



Window fitted desert coolers



ACs (Window/ Split)



Fans



Temperature & Humidity range to be maintained as per general guidelines



Max. fresh air intake by opening of doors/windows & supported by air replacement though exhaust fan facilities

Figure 36: Guidelines for residences, standalone workspaces/offices

AC Guidelines for meeting Rooms, Dispensaries etc. (2/4)



For areas with Moderate Exposure & Concentration



Air Cooling/ Conditioning Options:



Window fitted desert coolers



Room ACs (Window/ Split)



VRV/VRF systems (Indoor Units)



Fans



Temperature & Humidity range to be maintained as per general guidelines



Max. fresh air intake by opening of doors/windows & supported by air replacement through exhaust fan facilities



Figure 37: Guidelines for meeting rooms, dispensaries etc.

AC Guidelines for institution etc (3/4)



For areas with Maximum Exposure & Concentration



Air Cooling/ Conditioning Options:



Window fitted desert coolers



Room ACs/VRV/VRF systems



Fans



Max. fresh air intake by opening of doors/windows supported by exhaust fan facilities



Temperature & Humidity range to be maintained as per general guidelines



Avoid central AC to the extent possible, if not feasible then

- Air handling units to run on max fresh air as possible
- AHUs to run 2 hrs prior & stop 2 hrs after office time

Figure 38: AC Guidelines for institution etc.

AC Guidelines for Hospitals, Isolation Wards etc. (4/4)



For areas with Ultimate Exposure & Concentration



Air Cooling/ Conditioning Options:



- Ensure adequate room ventilation
- For AC rooms, ensure 12 ACPH* & filtering of exhaust air;
- Negative pressure in isolation rooms desirable for patients requiring aerosolization procedures
- These rooms may have standalone AC & not to be a part of central air conditioning



Temperature & Humidity range to be maintained as per general guidelines



If air conditioning is not available, negative pressure to be created through putting up 3-4 exhaust fans driving air out of the room

Figure 39: AC Guidelines for hospitals, isolation wars etc.

6.8 Ministry of Home Affairs (MHA)⁷¹

6.8.1 Unlock Phase 2 Guidelines

The Ministry of Home Affairs has issued guidelines for the Unlock 2.0 phase, which has came into effect from July 1, 2020, the process of phased re-opening has been extended further. Lockdown, however, shall continue to be implemented strictly in containment zones till July 31, 2020, where only essential activities will be allowed in wake of the COVID-19 pandemic. The detailed guidelines can be accessed here: -

https://static.mygov.in/rest/s3fs-public/mygov_159357705551307401.pdf https://www.mha.gov.in/sites/default/files/MHAOrder_29062020.pdf

⁷¹ https://www.mha.gov.in/sites/default/files/MHAOrderextension_1752020.pdf

Unlock 2.0 Guidelines:

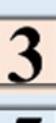
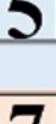
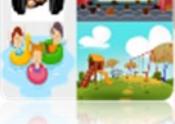
 1 Schools, colleges, educational institutes will remain closed till July 31. Online/distance learning shall continue to be permitted and shall be encouraged	 2 Training institutions of the central and state governments will be allowed to function with effect from July 15 and SOP in this regard will be issued by the Department of Personnel and Training
 3 Metro rail services	 5 International air travel, except as allowed by MHA, will also remain barred
 7 Cinema halls, gymnasiums, swimming pools, entertainment parks, theatres, bars, auditoriums, assembly halls and similar places.	 4 Social/ political/ sports/ entertainment/ academic/ cultural/ religious functions and other large congregations remain prohibited.
 8 Night Curfew shall continue to remain in force, between 10:00 pm and 5:00 am, except for essential activities and other relaxations.	 6 Lockdown shall continue to remain in force in containment zones till July 31st. In containment zones, only essential activities to be allowed.

Figure 40: Unlock 2.0 guidelines

India Fights Coronavirus

TOGETHER WE CAN

Do's	Don'ts
To maintain personal hygiene and physical distancing	Shake hands
To practice frequent hand washing. Wash hands with soap and water or use alcohol-based hand rub. Wash hands even if they are visibly clean	Having a close contact with anyone, if you're experiencing fever and cough
To cover your nose and mouth with handkerchief/ tissue while sneezing and coughing	Touch your eyes, nose and mouth
To throw used tissues into closed bins immediately after use	Sneeze or cough into palms of your hands
To maintain a safe distance from person during interaction, especially with those having flu-like symptoms	Participate in large gathering, including sitting in group at canteens
To sneeze in the inner side of your elbow and not to cough into the palms of your hands	Spit in public
To take their temperature regularly and check for respiratory symptoms. To see a doctor if you feel unwell. While visiting doctor, wear a mask /cloth to cover your mouth and nose	Travel unnecessarily, particular to any affected region
	Visit gyms, clubs and crowded places, etc
	Spread rumours or panic

Figure 41: Do's and don'ts

6.8.2 State Wise Unlock Phase 2 Guidelines

Following States have issued guidelines : -

I. Chandigarh

The detail of prohibited and permitted activities in Chandigarh can be accessed from the link below:-

<http://chandigarh.gov.in/pdf/aa20-6678-0107.pdf>

II. Goa

Goa government has issued guidelines for unlock phase 2 which can be accessed below:-

<https://www.goa.gov.in/wp-content/uploads/2020/06/MHA-order-dated-29.06.2020-on-Unlock-2-guidelines-.pdf>

III. Telangana

The details of the guidelines for unlock phase 2 can be accessed below: -

<https://covid19.telangana.gov.in/wp-content/uploads/2020/07/GOMs93-3062020.pdf>

IV. West Bengal

The details of the guidelines for unlock phase 2, issued by West Bengal government can be accessed through the following link: -

<https://wb.gov.in/COVID-19/Lockdown6.pdf>

Annexure 'I' - Details of COVID-19 Cases Worldwide

Reporting Country/Territory/Area	Total confirmed cases	Total confirmed new cases	Total deaths	Total new deaths	Days since last reported case
Africa					
South Africa	250 687	12 348	3 860	140	0
Nigeria	31 323	575	709	20	0
Ghana	23 463	0	129	0	1
Algeria	18 242	434	996	8	0
Cameroon	14 916	0	359	0	3
Côte d'Ivoire	11 504	0	78	0	2
Kenya	9 448	473	181	8	0
Democratic Republic of the Congo	7 904	59	188	0	0
Senegal	7 882	98	145	2	0
Ethiopia	7 402	282	124	0	0
Guinea	5 969	88	37	1	0
Gabon	5 942	71	46	0	0
Mauritania	5 126	39	144	5	0
Central African Republic	4 200	0	52	0	1
Madagascar	4 143	361	34	1	0
Mali	2 404	34	121	1	0
South Sudan	2 129	0	41	0	1
Malawi	2 069	83	31	2	0
Congo	2 028	0	47	0	1
Zambia	1 895	0	42	0	3
Guinea-Bissau	1 842	52	25	0	0
Sierra Leone	1 613	15	63	0	0
Cabo Verde	1 591	38	19	0	0
Benin	1 285	0	23	0	3
Eswatini	1 257	44	18	1	0
Rwanda	1 252	42	3	0	0
Mozambique	1 111	19	9	0	0
Niger	1 099	2	68	0	0
Equatorial Guinea	1 043	0	12	0	48
Burkina Faso	1 020	15	54	1	0
Uganda	1 006	6	0	0	0

Liberia	963	6	47	5	0
Zimbabwe	942	16	13	1	0
Chad	874	1	74	0	0
Togo	710	6	15	0	0
Namibia	668	53	1	1	0
United Republic of Tanzania	509	0	21	0	64
Angola	462	4	23	0	0
Sao Tome and Principe	407	1	12	0	0
Mauritius	342	0	10	0	4
Botswana	314	0	1	0	4
Comoros	314	1	7	0	0
Burundi	250	31	1	0	0
Eritrea	232	0	0	0	1
Lesotho	184	50	1	0	0
Seychelles	100	0	0	0	1
Gambia	64	0	3	0	1
Territories					
Mayotte	2 711	9	40	0	0
Réunion	571	5	3	0	0
United States of America	3 097 300	58 975	132 683	799	0
Brazil	1 755 779	42 619	69 184	1 220	0
Peru	316 448	3 537	11 314	181	0
Chile	309 274	3 058	6 781	99	0
Mexico	282 283	7 280	33 526	730	0
Colombia	133 973	5 335	4 714	187	0
Canada	106 805	371	8 749	12	0
Argentina	90 693	3 663	1 749	42	0
Ecuador	65 801	783	4 983	44	0
Bolivia (Plurinational State of)	44 113	1 129	1 638	61	0
Panama	42 216	965	839	20	0
Dominican Republic	41 915	1 125	864	22	0
Guatemala	26 658	1 247	1 092	39	0
Honduras	26 384	406	704	10	0
El Salvador	9 142	298	249	6	0
Venezuela (Bolivarian Republic of)	8 372	362	80	5	0
Haiti	6 582	96	130	7	0
Costa Rica	6 485	649	26	2	0
Paraguay	2 736	98	20	0	0
Cuba	2 413	10	86	0	0
Nicaragua	2 411	0	91	0	2

Uruguay	977	3	29	0	0
Jamaica	753	2	10	0	0
Suriname	726	55	17	0	0
Guyana	286	1	16	0	0
Trinidad and Tobago	133	0	8	0	4
Bahamas	107	1	11	0	0
Barbados	98	0	7	0	4
Antigua and Barbuda	73	0	3	0	1
Belize	33	3	2	0	0
Saint Vincent and the Grenadines	29	0	0	0	23
Grenada	23	0	0	0	45
Saint Lucia	22	0	0	0	7
Dominica	18	0	0	0	28
Saint Kitts and Nevis	17	1	0	0	0
Territories					
Puerto Rico	9 137	275	159	0	0
French Guiana	5 704	146	23	1	0
Martinique	249	0	14	0	6
Cayman Islands	201	0	1	0	8
Guadeloupe	190	6	14	0	0
United States Virgin Islands	153	9	6	0	0
Bermuda	149	0	9	0	2
Aruba	105	0	3	0	4
Sint Maarten	78	0	15	0	7
Turks and Caicos Islands	66	11	2	0	0
Saint Martin	44	0	3	0	6
Curaçao	25	0	1	0	10
Falkland Islands (Malvinas)	13	0	0	0	76
Montserrat	12	1	1	0	0
British Virgin Islands	8	0	1	0	56
Bonaire Sint Eustatius and Saba	7	0	0	0	46
Saint Barthélemy	6	0	0	0	102
Anguilla	3	0	0	0	98
Saint Pierre and Miquelon	2	0	0	0	1
Eastern Mediterranean					
Iran (Islamic Republic of)	252 720	2 262	12 447	142	0
Pakistan	246 351	2 755	5 123	65	0

Saudi Arabia	226 486	3 159	2 151	51	0
Qatar	102 630	520	146	4	0
Egypt	80 235	981	3 702	85	0
Iraq	72 460	2 848	2 960	78	0
United Arab Emirates	54 050	473	329	1	0
Oman	53 614	1 889	244	8	0
Kuwait	53 580	740	383	1	0
Afghanistan	34 351	157	975	4	0
Bahrain	32 039	511	104	1	0
Morocco	15 443	364	244	2	0
Sudan	10 204	0	649	0	1
Djibouti	4 968	13	56	0	0
Somalia	3 038	0	92	0	1
Lebanon	2 082	71	36	0	0
Yemen	1 352	24	355	3	0
Libya	1 342	0	38	0	1
Tunisia	1 240	9	50	0	0
Jordan	1 173	4	10	0	0
Syrian Arab Republic	394	22	16	2	0
Territories					
occupied Palestinian territory	6 225	396	35	8	0
Europe					
Russian Federation	720 547	6 611	11 205	188	0
The United Kingdom	288 137	512	44 650	48	0
Spain	253 908	852	28 403	2	0
Italy	242 639	276	34 938	12	0
Turkey	210 965	1 003	5 323	23	0
Germany	198 556	378	9 060	6	0
France	161 275	492	29 907	21	0
Sweden	74 898	565	5 526	26	0
Belarus	64 604	193	454	5	0
Belgium	62 469	259	9 782	1	0
Kazakhstan	56 455	1 708	332	36	0
Ukraine	52 843	800	1 372	27	0
Netherlands	50 785	42	6 127	0	0
Portugal	45 679	402	1 646	2	0
Poland	37 216	265	1 562	11	0
Israel	35 426	1 523	349	3	0
Switzerland	32 605	104	1 685	0	0
Armenia	31 392	489	559	13	0
Romania	31 381	592	1 847	13	0
Ireland	25 589	24	1 744	1	0
Azerbaijan	22 990	526	292	8	0

Republic of Moldova	18 924	258	635	8	0
Austria	18 687	74	706	0	0
Serbia	17 728	386	370	18	0
Czechia	13 062	143	352	0	0
Denmark	12 946	30	609	0	0
Uzbekistan	12 206	483	55	3	0
Kyrgyzstan	9 910	552	125	3	0
Norway	8 965	11	252	0	0
North Macedonia	7 770	198	367	5	0
Finland	7 279	6	329	0	0
Bulgaria	6 672	0	262	0	1
Tajikistan	6 456	47	55	1	0
Bosnia and Herzegovina	6 402	315	215	2	0
Luxembourg	4 777	58	110	0	0
Hungary	4 223	3	593	2	0
Greece	3 732	60	193	0	0
Croatia	3 532	116	117	2	0
Albania	3 371	93	89	4	0
Estonia	2 013	2	69	0	0
Iceland	1 886	4	10	0	0
Slovakia	1 870	19	28	0	0
Lithuania	1 861	4	79	0	0
Slovenia	1 793	17	111	0	0
Latvia	1 154	0	30	0	1
Montenegro	1 077	58	19	0	0
Cyprus	1 013	3	19	0	0
Georgia	981	8	15	0	0
Andorra	855	0	52	0	22
San Marino	713	0	42	0	21
Malta	674	0	9	0	1
Monaco	99	0	1	0	34
Liechtenstein	85	0	1	0	4
Holy See	12	0	0	0	65
Territories					
Kosovo[1]	4 469	205	87	3	0
Isle of Man	336	0	24	0	50
Jersey	325	0	31	0	3
Guernsey	252	0	13	0	69
Faroe Islands	188	0	0	0	3
Gibraltar	180	1	0	0	0
Greenland	13	0	0	0	43
South-East Asia					
India	820 916	27 114	22 123	519	0

Bangladesh	178 443	2 949	2 275	37	0
Indonesia	72 347	1 611	3 469	52	0
Nepal	16 649	118	35	0	0
Thailand	3 216	14	58	0	0
Maldives	2 617	64	13	0	0
Sri Lanka	2 454	104	11	0	0
Myanmar	326	5	6	0	0
Bhutan	82	2	0	0	0
Timor-Leste	24	0	0	0	78
Western Pacific					
China	85 487	42	4 648	0	0
Philippines	52 914	1 160	1 360	42	0
Singapore	45 614	191	26	0	0
Japan	21 129	410	982	0	0
Republic of Korea	13 373	35	288	0	0
Australia	9 359	300	106	0	0
Malaysia	8 696	13	121	0	0
New Zealand	1 193	1	22	0	0
Viet Nam	370	1	0	0	0
Mongolia	227	0	0	0	2
Brunei Darussalam	141	0	3	0	64
Cambodia	141	0	0	0	12
Fiji	21	0	0	0	3
Lao People's Democratic Republic	19	0	0	0	89
Papua New Guinea	11	0	0	0	15
Territories					
Guam	302	0	5	0	1
French Polynesia	62	0	0	0	13
Northern Mariana Islands (Commonwealth of the)	31	0	2	0	8
New Caledonia	21	0	0	0	31
Subtotal for all regions	12 321 654	219 983	556 322	5 286	
Other*	741	0	13	0	-
Grand total	12 322 395	219 983	556 335	5 286	

Annexure ‘II’- Air India Evacuation Schedule Flights

Government of India along with Air India has launched a plan phase IV from 3 July 2020 to 15 July 2020, for the evacuation of stranded person outside India. The details of the timing of schedule of the flights can be accessed from the link given below: -

<http://www.airindia.in/images/pdf/New-format-VBM-Phase-4-updated-27Jun-20-1400-Hrs-converted.pdf>

Annexure 'III' - Important Websites & Twitter Handles

Websites

1. World Health Organization - www.who.int
2. Ministry of Health & Family Welfare - www.mohfw.gov.in
3. Ministry of Finance - www.finmin.nic.in
4. Ministry of Commerce and Industry - www.commerce.gov.in
5. Centers for Disease Control and Prevention - www.cdc.gov
6. Indian Council of Medical Research (ICMR) - <https://www.icmr.gov.in/>
7. MyGov - <https://www.mygov.in/covid-19>
8. Council for Scientific and Industrial Research (CSIR) - <https://www.csir.res.in/>
9. National Centre for Disease Control - Inputs on environmental cleaning, decontamination in quarantine facilities etc
https://dghs.gov.in/content/1407_3_NationalCentreforDiseaseControl.aspx:
10. Federation of Indian Chambers of Commerce and Industry - <http://ficci.in/>
11. Confederation of Indian Industry <https://www.cii.in/>

Twitter Handles

1. World Health Organization - @WHO
2. Ministry of Health & Family Welfare - @MoHFW_INDIA
3. Ministry of Finance - @FinMinIndia
4. Ministry of Commerce and Industry - @CimGOI
5. Centers for Disease Control and Prevention - @CDCgov
6. Indian Council of Medical Research (ICMR) - @ICMRDELHI
7. MyGov - @mygovindia
8. Council for Scientific and Industrial Research (CSIR) - @CSIR_IND
9. Federation of Indian Chambers of Commerce and Industry - @ficci_india
10. Confederation of Indian Industry - @FollowCII

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