



# COMPENDIUM OF GUIDELINES, INSTRUCTION AND STANDARD OPERATIVE PROCEDURES FOR COVID-19

Medical Education and Drugs Department  
Government of Maharashtra

**FOURTH EDITION  
VOLUME 3**

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## COMPENDIUM OF GUIDELINES, INSTRUCTION AND STANDARD OPERATIVE PROCEDURES FOR COVID-19

### FOURTH EDITION VOLUME 3

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## **FOREWORD**

As you are aware, COVID – 19 is widely spreading across the country, rising beyond 375000 positive cases in the 21<sup>st</sup> week. In order to manage and contain the spread of COVID – 19 any further, both Centre and State Government and associated departments have come out with Guidelines to be adopted across the country and in each state.

This book is a compilation of instructions issued by Ministry of Health & Family Welfare, National Centre for Disease Control & Indian Council of Medical Research of the Government of India and instructions issued by Public Health Department and Medical Education and Drugs Department of Government of Maharashtra. All the information provided in this Compendium is available in publicly available sources.

We hope that this compilation helps Practitioners, Administrators and all people involved in management of COVID – 19 cases.

This compilation is updated with the relevant information issued till 25<sup>th</sup> June, 2020. The Editorial Board shall be updating this on a regular basis.

We thank you all.

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		9. NCDC Guidelines for Home based care of 2019-nCoV	<a href="https://ncdc.gov.in/WriteReadData/1892s/71854915421580884383.pdf">https://ncdc.gov.in/WriteReadData/1892s/71854915421580884383.pdf</a>	529
		10. WHO Information note on COVID-19 and Non-Communicable Diseases	<a href="https://arogya.maharashtra.gov.in/pdf/covidupload20.pdf">https://arogya.maharashtra.gov.in/pdf/covidupload20.pdf</a>	530-531
		11. PHD Guidelines on Social Stigma related to COVID-19	<a href="https://arogya.maharashtra.gov.in/pdf/covidupload22.pdf">https://arogya.maharashtra.gov.in/pdf/covidupload22.pdf</a>	532-539
E	TRAINING	1. iGOT courses on DIKSHA platform on Covid-19 Pandemic Circular 10.04.2020	<a href="https://www.mohfw.gov.in/pdf/iGOTCovid19Circular(2).pdf">https://www.mohfw.gov.in/pdf/iGOTCovid19Circular(2).pdf</a>	540-543
		2. Onboarding of States & UTs Warriors to iGOT on DIKSHA platform on Covid 19 Dt. 21.4.2020	<a href="https://www.mohfw.gov.in/pdf/OnboardingofStates.pdf">https://www.mohfw.gov.in/pdf/OnboardingofStates.pdf</a>	544-554
		3. MOHFW Resource Material For Capacity Building of Health Care Workers for Containment of Covid-19	<a href="https://www.mohfw.gov.in/pdf/BASEDOCforRESOURCEsrev06042020.pdf">https://www.mohfw.gov.in/pdf/BASEDOCforRESOURCEsrev06042020.pdf</a>	555-564
		4. MEDD iGOT courses on DIKSHA platform on Covid-19 Dt. 08.04.2020	-	565

Ministry of Health & Family Welfare  
Directorate General of Health Services  
EMR Division

**Guidance document on appropriate management of suspect/confirmed cases of COVID-19**

**1. Introduction:** Since its first detection in China, Coronavirus Disease 2019 (COVID-19) has now spread to over 210 countries/territories, with reports of local transmission happening across the world. As per WHO (as of 7<sup>th</sup> April, 2020), there has been a total of 12,14,466 confirmed cases and 67,767 deaths due to COVID-19 worldwide.

In India, as on 7<sup>th</sup> April, 2020, 4421 confirmed cases and 114 deaths reported from 31 States/UTs.

**2. Purpose of this document**

A series of measures have been taken by both the Central and State Governments to break the chain of transmission. One among these is to isolate all suspect and confirmed cases of COVID-19. However, as the number of cases increases, it would be important to appropriately prepare the health systems and use the existing resources judiciously. Available data in India suggests that nearly 70% of cases affected with COVID-19 either exhibit mild or very mild symptoms. Such cases may not require admission to COVID-19 blocks/ dedicated COVID-19 hospitals.

It is important to put in place mechanisms for triaging and decisions making for identification of the appropriate COVID dedicated facility for providing care to COVID-19 patients. The purpose of this document is to put in place such SOPs to ensure optimal utilization of available resources and thereby providing appropriate care to all the COVID-19 patients. This will ensure that available hospital beds capacity is used only for moderate to severe cases of COVID-19. The SOPs specified hereafter also specify the different types of facilities to be set up for various categories of Covid-19 cases.

## Guiding principles

**All the selected facilities must be dedicated for COVID management. Three types of COVID dedicated facilities are proposed in this document. All 3 types of COVID Dedicated facilities will have separate ear marked areas for suspect and confirmed cases. Suspect and confirmed cases should not be allowed to mix under any circumstances.**

**All suspect cases (irrespective of severity of their disease) will be tested for COVID-19. Further management of these cases will depend on their (i) clinical status and (ii) result of COVID-19 testing.**

**All three types of facilities will be linked to the Surveillance team (IDSP)**

**All these facilities will follow strict infection prevention and control practices**

**3. Types of COVID Dedicated Facilities:** There are three types of COVID Dedicated Facilities –

### **(1) COVID Care Center (CCC):**

- 1.1.** The COVID Care Centers shall offer care only for cases that have been clinically assigned as **mild or very mild cases or COVID suspect cases.**
- 1.2. The COVID Care Centers are makeshift facilities. These may be set up in hostels, hotels, schools, stadiums, lodges etc., both public and private. If need be, existing quarantine facilities could also be converted into COVID Care Centers. Functional hospitals like CHCs, etc, which may be handling regular, non-COVID cases should be designated as COVID Care Centers as a last resort. This is important as essential non COVID Medical services like those for pregnant women, newborns etc, are to be maintained.
- 1.3. Wherever a COVID Care Center is designated for admitting both the confirmed and the suspected cases, these facilities **must have separate areas for suspected and confirmed cases with preferably separate entry and exit. Suspect and confirmed cases must not be allowed to mix under any circumstances.**
- 1.4. As far as possible, wherever suspect cases are admitted in the COVID Care Center, preferably individual rooms should be assigned for such cases.
- 1.5. Every Dedicated COVID Care Centre must necessarily be mapped to one or more Dedicated COVID Health Centres and at least one Dedicated COVID Hospital for referral purpose (details

given below).

- 1.6. Every Dedicated COVID Care Centre must also have a dedicated Basic Life Support Ambulance (BLSA) equipped with sufficient oxygen support on 24x7 basis, for ensuring safe transport of a case to Dedicated higher facilities if the symptoms progress from mild to moderate or severe.
- 1.7. The human resource to man these Care Centre facilities may also be drawn from AYUSH doctors. Training protocols developed by AIIMS is uploaded on MoHFW website. Ministry of AYUSH has also carried out training sessions. The State AYUSH Secretary/ Director should be involved in this deployment. State wise details of trained AYUSH doctors has been shared with the States. Their work can be guided by an Allopathic doctor.

## **(2) Dedicated COVID Health Centre (DCHC):**

- 2.1. The Dedicated COVID Health Centre are hospitals that shall offer care for all cases that have been **clinically assigned as moderate**.
- 2.2. These should either be a full hospital or a separate block in a hospital with preferably separate entry\exit/zoning.
- 2.3. Private hospitals may also be designated as COVID Dedicated Health Centres.
- 2.4. Wherever a Dedicated COVID Health Center is designated for admitting both the confirmed and the suspect cases with moderate symptoms, these hospitals **must have separate areas for suspect and confirmed cases. Suspect and confirmed cases must not be allowed to mix under any circumstances**.
- 2.5. These hospitals would have beds with assured Oxygen support.
- 2.6. Every Dedicated COVID Health Centre must necessarily be mapped to one or more Dedicated COVID Hospitals.
- 2.7. Every DCHC must also have a dedicated Basic Life Support Ambulance (BLSA) equipped with sufficient oxygen support for ensuring safe transport of a case to a Dedicated COVID Hospital if the symptoms progress from moderate to severe.

## **(3) Dedicated COVID Hospital (DCH):**

- 3.1. The Dedicated COVID Hospitals are hospitals that shall offer comprehensive care primarily for those who have been **clinically assigned as severe**.
- 3.2. The Dedicated COVID Hospitals should either be a full hospital or a separate block in a hospital with preferably separate entry\exit.

- 3.3. Private hospitals may also be designated as COVID Dedicated Hospitals.
- 3.4. These hospitals would have fully equipped ICUs, Ventilators and beds with assured Oxygen support.
- 3.5. These hospitals **will have separate areas for suspect and confirmed cases. Suspect and confirmed cases should not be allowed to mix under any circumstances.**
- 3.6. The Dedicated COVID Hospitals would also be referral centers for the Dedicated COVID Health Centers and the COVID Care Centers.

**All these facilities will follow strict infection prevention and control practices.**

#### **4. Management of COVID cases**

##### **4.1. Assessment of patients:**

In addition to patients arriving directly through helpline/ referral to above categories of COVID dedicated facilities, in field settings during containment operations, the supervisory medical officer to assess for severity of the case detected and refer to appropriate facility.

States\UTs may identify hospitals with dedicated and separate space and set up Fever Clinics in such hospitals. The Fever Clinics may also be set up in CHCs, in rural areas subject to availability of sufficient space to minimize the risk of cross infections. In urban areas, the civil\general hospitals, Urban CHCs and Municipal Hospitals may also be designated as Fever Clinics. These could be set up preferably near the main entrance for triage and referral to appropriate COVID Dedicated Facility. Wherever space allows, a temporary make shift arrangement outside the facility may be arranged for this triaging.

The medical officer at the fever clinics could identify suspect cases and refer to COVID Care Centre, Dedicated COVID Health Centre or Dedicated COVID Hospital, depending on the clinical severity.

##### **4.2 Categorization of patients**

**Patients may be categorized into three groups and managed in the respective COVID hospitals – Dedicated COVID Care Centre, dedicated COVID Health Centre and dedicated COVID**

## **Hospitals.**

**Group 1:** Suspect and confirmed cases clinically assigned as mild and very mild

**Group 2:** Suspect and confirmed cases clinically assigned as moderate

**Group 3:** Suspect and confirmed cases clinically assigned as severe

### **Group 1: Suspect and confirmed cases clinically assigned as mild and very mild (COVID Care Centres)**

- **Clinical criteria:** Cases presenting with fever and/or upper respiratory tract illness (Influenza Like Illness, ILI).
- These patients will be accommodated in COVID Care Centers.
- The patients would be tested for COVID-19 and till such time their results are available they will remain in the “suspect cases” section of the COVID Care Center preferably in an individual room.
- Those who test positive, will be moved into the “confirmed cases” section of the COVID Care Center.
- If test results are negative, patient will be given symptomatic treatment and be discharged with advice to follow prescribed medications and preventive health measures as per prescribed protocols.
- If any patient admitted to the COVID Care Center qualifies the clinical criteria for moderate or severe case, such patient will be shifted to a Dedicated COVID Health Centre or a Dedicated COVID Hospital.
- Apart from medical care the other essential services like food, sanitation, counseling etc. at the COVID Care Centers will be provided by local administration. Guidelines for quarantine facilities (available on MoHFW website) may be used for this purpose.

### **Group 2: Suspect and confirmed cases clinically assigned as moderate (Dedicated COVID Health Centres)**

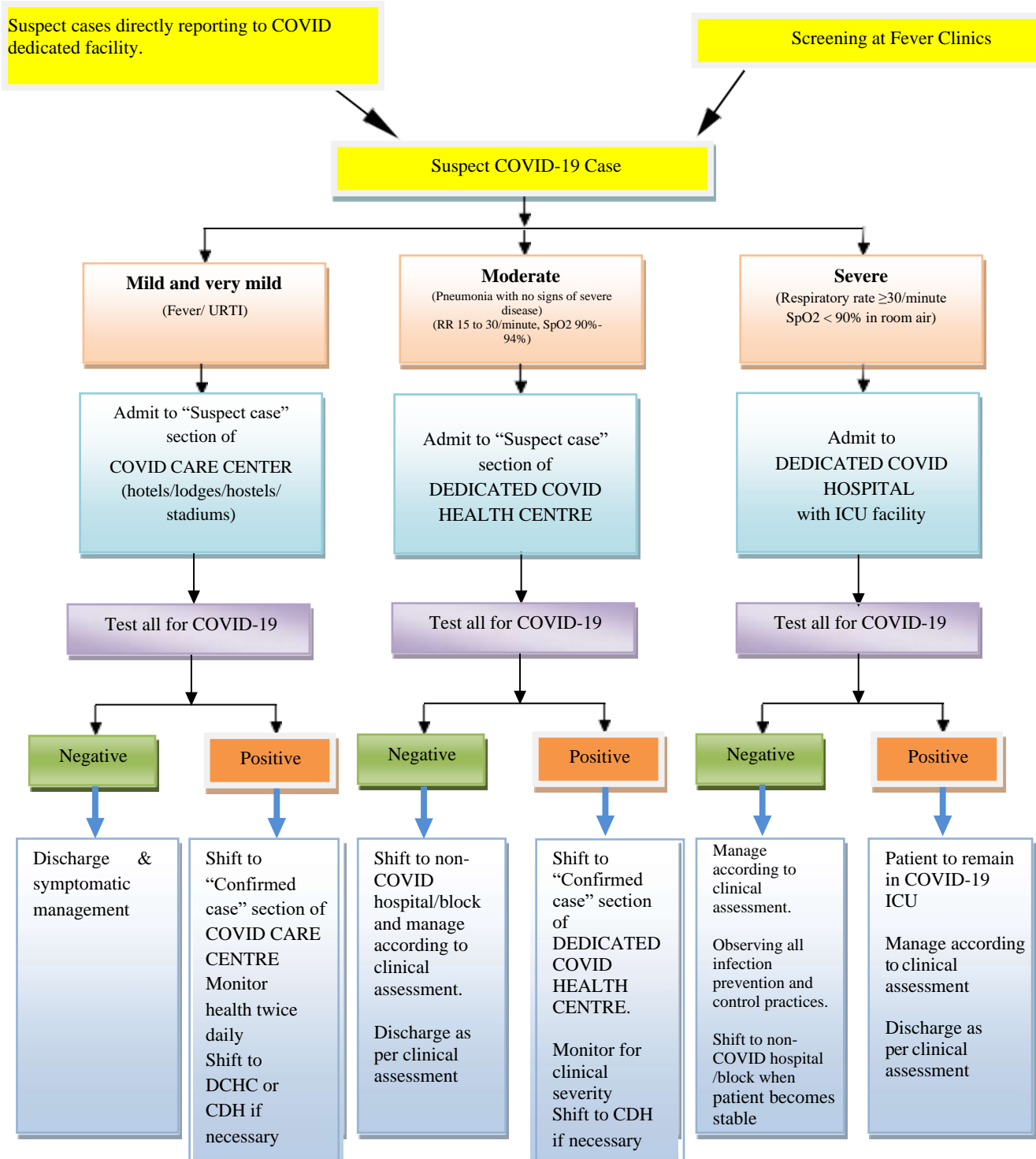
- **Clinical criteria:** Pneumonia with no signs of severe disease (Respiratory Rate 15 to 30/minute, SpO<sub>2</sub> 90%-94%).
- Such cases will not be referred to COVID Care Centers but instead will be admitted to Dedicated COVID Health centres.
- It will be manned by allopathic doctors and cases will be monitored on above mentioned clinical parameters for assessing severity as per treatment protocol (available on MoHFW website).
- They will be kept in “suspect cases” section of Dedicated COVID Health Centres, till such time as their results are not available preferably in an individual room.
- Those testing positive shall be shifted to “confirmed cases” section of Dedicated COVID Health Centre.
- Any patient, for whom the test results are negative, will be shifted to a non-COVID hospital and will be managed according to clinical assessment. Discharge as per clinical assessment.
- If any patient admitted to the Dedicated COVID Health Center qualifies the clinical criteria for severe case, such patient will be shifted to a Dedicated COVID Hospital.

**Group 3: Suspect and confirmed cases clinically assigned as severe (Dedicated COVID Hospital)**

- **Clinical criteria:** Severe Pneumonia (with respiratory rate  $\geq 30$ /minute and/or SpO<sub>2</sub> < 90% in room air) or ARDS or Septic shock
- Such cases will be directly admitted to a Dedicated COVID Hospital’s ICU till such time as test results are obtained.
- If test results are positive, such patient will remain in COVID-19 ICU and receive treatment as per standard treatment protocol. Patients testing negative will be managed with adequate infection prevention and control practices.



## Algorithm for isolation of suspect/confirmed cases of COVID-19



**Ministry of Health & Family Welfare  
Directorate General of Health Services  
EMR Division**

**Guidelines to be followed on detection of suspect/confirmed COVID-19 case in a non-COVID Health Facility**

**1. Background**

There have been some instances of hospitals having closed down as few health care workers (HCW) working there turned out to be positive for COVID -19. Also some non-COVID health facilities have reported confirmation of COVID-19, in patients admitted for unrelated/non-respiratory illness, causing undue apprehension among healthcare workers, sometimes leading to impaired functionality of such hospitals.

Although Ministry of Health & Family Welfare has issued comprehensive guidance to prevent occurrence of Hospital Acquired Infection (HAI) in health facilities, the practice of universal precautions might still be lacking in many of our hospitals. A COVID-19 case with mild/asymptomatic/atypical presentation may go undetected and inadvertently transmit the infection to other patients and healthcare workers, putting these individuals at risk of contracting disease and compromise the functionality of the healthcare facility.

**2. Purpose of document**

This document aims to provide guidance on action to be taken on detection of suspect/confirmed COVID-19 case in a healthcare facility.

**3. Scope**

This document is intended for both (i) COVID-19 healthcare facilities (public and private) which are already receiving or preparing to receive suspected or confirmed COVID-19 patients as well as (ii) Non-COVID healthcare facilities.

**4. Institutional arrangement**

The Hospital Infection Control Committee (HICC) has well-defined composition, roles and responsibilities. This committee is responsible for establishing a mechanism for reporting of development of symptoms suggestive of COVID-19 in HCW. These include surveillance for fever/cough/breathing difficulty through either self-reporting or active and passive screening at the beginning of their shift. The Committee will also monitor patients (who have been admitted for non-COVID illness) for development of unexplained fever/cough/breathing difficulty during their stay.

HICC will ensure that existing IPC guidelines against such high risk situations must be audited, updated and reiterated to all HCW. Further, all IPC guidelines will be strictly

adhered to and followed at all times. As a matter of abundant precautions for hospitals located in proximity/catering to COVID-19 containment zone/s it might be desirable to treat all patients as suspect COVID-19 case until proven otherwise and exercise standard care.

Whenever a non-COVID patient or any healthcare workers is suspected to have COVID like symptoms/tests positive for COVID-19, the HICC will come into action, investigate the matter and suggest further course of action as described below.

#### **4.1 Action to be taken on detection of COVID -19 case in non-COVID health facility**

When a positive COVID-19 patient is identified in a health care facility, not designated as COVID-19 isolation facility:

- Inform the local health authorities about the case
- Assess the clinical status of the patient prior to referral to a designated COVID facility
- The patient should be immediately isolated to another room (if currently being managed in a shared ward/room). If the clinical condition permits, such patients should be masked and only a dedicated healthcare worker should attend this case, following due precautions.
- If the clinical status of the case permits, transfer such case to a COVID-19 isolation facility (Dedicated COVID Health Centre or dedicated COVID Hospital), informing the facility beforehand about the transfer, as per his/her clinical status, test results (if available), with information to local health authority. Complete case records of such patients must be made available to the receiving hospital.
- Follow appropriate standard precautions while transporting the patient
- This should be followed by disinfection procedures at the facility and the ambulance
- All contacts of this patient (other patients being managed in the same room or ward, healthcare workers who have attended to him/her, support staff who may have come in close contact, caretaker/visitors etc.) should be quarantined and followed up for 14 days. Their details must also be shared with the local health authorities.
- All close contacts (other HCWs and supportive staff) of the confirmed case should be put on Hydroxychloroquine chemoprophylaxis for a period of 7 weeks, keeping in mind the contraindications of HCQ.
- If a healthcare worker is suspected to have contacted the disease, the following additional action needs to be performed.

#### **4.2 When a suspect/confirmed COVID-19 HCW is identified**

- HCWs developing respiratory symptoms (e.g. fever, cough, shortness of breath) should be considered suspected case of COVID-19.
- He/she should immediately put on a facemask, inform his supervisor and HICC. He/she should be isolated and arrangement must be made to immediately refer such a HCW

to COVID-19 designated hospital (if not already working in such a facility) for isolation and further management.

- He/she should be immediately taken off the roster
- Rapidly risk stratify other HCWs and other patients that might have been exposed to the suspect HCW and put them under quarantine and follow up for 14 days (or earlier if the test result of a suspect case turns out negative). Their details must also be shared with the local health authorities.
- All close contacts (other HCW and supportive staff) of the confirmed case should be put on Hydroxychloroquine chemoprophylaxis for a period of 7 weeks, keeping in mind the contraindications of the HCQ.
- **All health facilities (HCF) must have a staffing plan in place including a contingency plan for such an event to maintain continuity of operations. E.g. staff in HCF can be divided into groups to work on rotation basis every 14 days and a group of back up staff which is pooled in case some high risk exposure/HCW with suspected COVID-19 infection is detected.**
- Ensure that the disinfection procedures are strictly followed.

Once a suspect/confirmed case is detected in a healthcare facility, standard procedure of rapid isolation, contact listing and tracking disinfection will follow with no need to shut down the whole facility.

#### **5. Decision on further /continued use of non-COVID facilities where a single/multiple COVID-19 case has been reported**

**The likely scenarios could be:**

**- Socio-demographic reasons:**

- a) Hospital's catchment area is a large cluster of COVID-19.
- b) Catchment area is having a population which has a large number of vulnerable individuals having multiple co-morbid condition, poor nutritional status and/or having individuals not able to practice social distancing e.g. slum clusters.

**- Internal Administrative Reasons:**

- a) The health facility is not up to the mark in IPC practices.
- b) Non-fulfilment of guidelines regarding triaging of patients in the outpatient department and emergency.

Based on the scope of the cluster and degree to which the hospital has been affected (HCW patients, and HCW contacts), degree of the risk to the patients visiting the hospital such as those with chronic diseases etc. the decision can be made based on a risk assessment to:

- If the hospital authorities are reasonably satisfied that the source case/s have been identified and isolated, all contacts have been traced and quarantined and adequate disinfection has been achieved, the hospital will continue to function.
- In addition to steps taken above, if the health facility still continues to report new hospital acquired COVID-19 cases in the following days, it would be advisable to temporarily close the defined section of the health facility where the maximum number of HAI is being reported. After thorough cleaning and disinfection it can be put to use again.
- Despite taking the above measures, if the primary source of infection could not be established and /or the hospital is still reporting large number of cases among patients and HCWs a decision needs to be taken to convert the non-COVID health facility into a COVID health facility under intimation to the local health department. In such a scenario, the entire healthcare workers of the facility should be oriented in Infection Prevention and Control practices and other protocols for which guidance is available at [www.mohfw.gov.in](http://www.mohfw.gov.in).

## **6. Follow up actions**

When a non-COVID health facility reports a COVID-19 case, the HICC will ensure the following in order to minimize the possibility of an undetected contact/case amongst other patients/HCWs:

- Ensure that active screening of all staff at the hospitals is done daily (by means of thermal screening especially at the start of shift)
- All healthcare and supportive staff is encouraged to monitor their own health at all the time for appearance of COVID-19 symptoms and report them at the earliest.
- Be on the lookout for atypical presentation (or clinical course) of admitted patients
- Standard precautions to be followed diligently by all
- Follow all guidelines regarding triaging of patients in hospital emergency and outpatient departments.



प्रीति सूदन

सचिव

**PREETI SUDAN**

Secretary



सत्यमेव जयते

भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय

Government of India  
Department of Health and Family Welfare  
Ministry of Health & Family Welfare

D.O. No.Z-20015/127/2019-ME.I(Pt.I)

Dated: 20<sup>th</sup> April, 2020

Dear Colleague,

Doctors and Health Professionals are at the forefront in the fight against COVID-19. Their efforts and spirit is being widely acclaimed at all levels. The skills and spirit of service amongst these professionals places them in a unique position to save people from this disease.

2. It is of utmost importance that adequate measures are taken for ensuring their safety. In this regard, several measures have already been taken from time to time. These are annexed with this letter (Annexure-1). The same may be widely disseminated amongst all the doctors and health professionals in all the government and private hospitals/medical colleges in your State for their information.

*Preeti Sudan*  
Yours sincerely,

*Preeti Sudan*  
(Preeti Sudan)

Encls: As above.

Additional Chief Secretary/Principal Secretary/Secretary (Health/Medical Education) of all States/UTs.

**MEASURES UNDERTAKEN TO ENSURE SAFETY OF HEALTH WORKERS**  
**DRAFTED FOR COVID-19 SERVICES**

Doctors and Health Professionals are at the forefront in the fight against COVID-19. Their efforts and spirit is being widely acclaimed at all levels. The skills and spirit of service amongst these professionals places them in a unique position to save people from this disease.

2. It is of utmost importance that adequate measures are taken for ensuring their safety. In this regard, several measures have already been taken from time to time. Some of these measures are enumerated below:

**Human Resources**

1. Various cadres of personnel and volunteers across sectors and departments that can also be involved in not only COVID related work but also for ensuring maintenance of other essential medical services have been identified. The respective roles of these cadres have also been mapped. An advisory in this regard was issued and is available on the website of the Ministry at <https://www.mohfw.gov.in/pdf/EssentialservicesduringCOVID19updated0411201.pdf>.
2. An Empowered Group (Group 4) has been set up at the National level for augmenting human resource and capacity building. This Group is working on HR and capacity building and has considered the data base of all personnel. This data base is being shared with the States to help them mobilise these cadres and volunteers. A portal with data base of such cadres is also being created.
3. An SoP for allocation of Residents/PG Students and Nursing Students as part of hospital management of COVID-19 has also been issued and placed on the website at <https://www.mohfw.gov.in/pdf/COVID19SOPfordoctorsandnurses.pdf>.

**Medical safety:**

1. Department of Health Research (DHR)/ Indian Council for Medical Research (ICMR) has recommended the use of hydroxy-chloroquine for prophylaxis of SARS-CoV-2 infection for high risk population including all asymptomatic healthcare workers involved in the care of suspected or confirmed cases of COVID-19

2. Nearly 5.11 lakh PPEs have been supplied to various States/Central Hospitals by the Central Government, which have added to the initial stock of 2.75 lakhs available with States. The Ministry has also supplied 30.32 lakh N95 masks to States which is over and above the initial stock of 16.67 lakh N95 masks with them. Since there were no domestic manufacturers of PPEs in the country, the MoHFW in collaboration with Ministry of Textiles worked to encourage domestic production. More than 50 domestic manufacturers have cleared quality tests so far and orders for nearly 1 crore PPEs have been placed with them.
3. Healthcare workers are also being tested for COVID-19, who examined a confirmed case without adequate protection or who are symptomatic.
4. A high level multi-disciplinary team has been deputed to assist States in Cluster containment plan and ICU & Ventilator management.

**Staffing guidelines and timely payments:**

Guidance note released by MoHFW mandates timely payments for frontlines workers such as ASHAs and service providers including those requisitioned from outside of government sector. The same is available on the website of the Ministry at <https://www.mohfw.gov.in/pdf/EssentialservicesduringCOVID19updated0411201.pdf>

**Psychological Support:**

1. A dedicated toll-free helpline-08046110007, for providing psycho-social support for health care workers has been created by using suitable professionals including psychiatry department residents.
2. Health professionals are being encouraged to practice stress management techniques. Training modules have been designed in this regard and available at the website of the Ministry.

**Training/Capacity Building:**

1. To build the capacities of human resources including the medical manpower who help managing patients in hospitals; as well as non-medical personnel, front



line workers, who may be involved in non-medical duties such as logistics, surveillance etc., for COVID-19 management, an 'Advisory for Human Resource Management of COVID-19' has been prepared providing guidance to States/UTs on the human resources that can be mobilized for COVID-19 management along with possible role assignments and their training requirements.

2. The Training Resources for medical and non-medical personnel on infection prevention and control, clinical management including ventilation, logistics etc. is being updated regularly and is available on the website of Ministry of Health & Family Welfare. State Government and institutions are also being encouraged to conduct required training by mobilizing necessary resources.
3. Online training and webinars for Physicians and Nursing personnel is being conducted by AIIMS, Delhi/ INC on management of patients with COVID-19 and Septic Shock, ventilation strategy, management of aerosol generating medical procedures, infection and prevention control practices, psychological care of patients etc. A total of 6 lakh views have been recorded as on 20.04.2020. The AIIMS webinars can be accessed at [https://www.youtube.com/channel/UClhIpqB1ENbKtsWsVk0P\\_vg](https://www.youtube.com/channel/UClhIpqB1ENbKtsWsVk0P_vg)
4. MoHFW has finalized and issued several guidelines and training material for on MoHFW website, such as:
  - a. Frontline health workers including ASHA, ANM and Anganwadi Workers
  - b. Pocket book for frontline health workers
  - c. Facilitator's guide for trainers of frontline workers
  - d. SOPs for transporting a suspect/ confirmed case of COVID-19
  - e. Guidelines for disinfection of public places
  - f. Guidelines for COVID waste disposal
  - g. Advisory to start rapid antibody-based blood test for COVID-19
  - h. Guidelines for specimen collection, packaging and transport for SARS-CoV-2
  - i. Guidelines for COVID-19 testing in private labs in India
  - j. Guidelines for rational use of PPE

- k. Guidelines for setting up of isolation facility/ wards
  - l. Guidelines for management of Severe Acute Respiratory Infection (SARI) in COVID-19 patients
  - m. Guidelines for infection prevention and control in healthcare facilities
  - n. Guidelines for use of IEC for general health facilities and designated hospitals
  - o. Training of incident response system- Basic and Intermediate
  - p. Guidelines for quarantine facilities
5. The Integrated Government Online Training (iGOT)- Diksha platform of the government has been utilised to ensure that uniform trainings can be conducted for healthcare professionals across the country. These can be accessed at <https://igot.gov.in/igot/>.
  6. All health care workers including frontline workers are being trained in standard protocols for Infection Prevention Control and advised consistently to adhere to guidelines issued for infection prevention, personal protection and physical distancing norms, for facility level care, outreach visits or home-based care.
  7. Currently, there are 12 courses in different languages which have been uploaded under the MoHFW tab on the website including courses on topics like-
    - a. Basics of COVID-19
    - b. Quarantine and isolation
    - c. Infection prevention through PPE
    - d. Psychological care of patients with COVID-19
    - e. Infection prevention and control
    - f. Laboratory sample collection and testing
    - g. Clinical management of COVID-19
    - h. Management of COVID-19
    - i. ICU Care and Ventilation Management
  8. Courses are updated based on evolving guidelines, and newer content on diverse topics are being uploaded on the platform on everyday basis. Each course content is being uniquely designed, mapped and aligned to the requirements of various categories of professionals, such as Doctors, Nurses, AYUSH, Allied and Healthcare Professionals, Frontline line workers as well as non-health Volunteers.
  9. Till date, more than 1.77 lakh enrollments have been made for various programs on the platform which comprises more than 95,000 unique candidates. All the

key stakeholders such as State Governments, statutory bodies, professional associations, among others are being encouraged to disseminate the information at various levels.

10. State Government and institutions are also being encouraged to conduct required training by mobilizing necessary resources.
11. A dashboard is also being prepared, for mapping all available workforce, the trainees and volunteers, trainings undertaken by different bodies to enable a more robust communication channel.

#### **12. Life Insurance Cover:**

1. Under the Pradhan Mantri Gareeb Kalyan Package, the Government has announced an Accidental insurance cover of Rs 50 Lakhs for 22.12 lakh healthcare workers who may be drafted for services for COVID-19 patients. The Scheme covers loss of life due to COVID 19 and accidental death on account of COVID 19 related duty. The scheme has been sanctioned and premium paid to the insurance company.
2. Under the scheme, claimant of any person providing services for CoVID-19 can claim the compensation if the service provider sustains loss of life due to COVID 19 and accidental death on account of COVID -19 related duty.
3. The insurance is free for the beneficiaries and the premium has been paid by the Government for these beneficiaries.

**Ministry of Health and Family Welfare**  
**Directorate General of Health Services**  
**[Emergency Medical Relief]**

**Novel Coronavirus Disease 2019 (COVID-19): Guidelines on rational use of Personal Protective Equipment**

**1. About this guideline**

This guideline is for health care workers and others working in points of entries (POEs), quarantine centers, hospital, laboratory and primary health care / community settings. The guideline uses setting approach to guide on the type of personal protective equipment to be used in different settings.

**2. Introduction**

Coronaviruses are a large family of viruses, some causing illness in people and others that circulate among animals, including camels, cats and bats. Rarely, animal coronaviruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS.

The outbreak of Novel coronavirus disease (now named COVID-19) was initially noticed from a seafood market in Wuhan city in Hubei Province of China in mid-December, 2019, has spread to more than 185 countries/territories worldwide including India.

The causative agent for COVID-19, earlier termed provisionally as novel Coronavirus has been officially named as SARS-CoV-2.

**3. Mode of transmission**

There is clear evidence of human-to-human transmission of SARS-CoV-2. It is thought to be transmitted mainly through respiratory droplets that get generated when people cough, sneeze, or exhale. SARS-CoV-2 also gets transmitted by touching, by direct touch and through contaminated surfaces or objects and then touching their own mouth, nose, or possibly their eyes. Healthcare associated infection by SARS-CoV-2 virus has been documented among healthcare workers in many countries.

The people most at risk of COVID-19 infection are those who are in close contact with a suspect/confirmed COVID-19 patient or who care for such patients.

**4. Personal Protective Equipment (PPE)**

Personal Protective Equipments (PPEs) are protective gears designed to safeguard the health of workers by minimizing the exposure to a biological agent.

**4.1 Components of PPE**

Components of PPE are goggles, face-shield, mask, gloves, coverall/gowns (with or without aprons), head cover and shoe cover. Each component and rationale for its use is given in the following paragraphs:

#### 4.1.1 Face shield and goggles

Contamination of mucous membranes of the eyes, nose and mouth is likely in a scenario of droplets generated by cough, sneeze of an infected person or during aerosol generating procedures carried out in a clinical setting. Inadvertently touching the eyes/nose/mouth with a contaminated hand is another likely scenario. Hence protection of the mucous membranes of the eyes/nose/mouth by using face shields/ goggles is an integral part of standard and contact precautions. The flexible frame of goggles should provide good seal with the skin of the face, covering the eyes and the surrounding areas and even accommodating for prescription glasses.

#### 4.1.2 Masks

Respiratory viruses that includes Coronaviruses target mainly the upper and lower respiratory tracts. Hence protecting the airway from the particulate matter generated by droplets / aerosols prevents human infection. Contamination of mucous membranes of the mouth and nose by infective droplets or through a contaminated hand also allows the virus to enter the host. Hence the droplet precautions/airborne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19/performing aerosol generating procedures.

Masks are of different types. The type of mask to be used is related to particular risk profile of the category of personnel and his/her work. There are two types of masks which are recommended for various categories of personnel working in hospital or community settings, depending upon the work environment:

1. Triple layer medical mask
2. N-95 Respirator mask

##### 4.1.2.1 Triple layer medical mask

A triple layer medical mask is a disposable mask, fluid-resistant, provide protection to the wearer from droplets of infectious material emitted during coughing/sneezing/talking.

##### 4.1.2.2. N-95 Respirator mask

An N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit.

Such mask should have high fluid resistance, good breathability (preferably with an expiratory valve), clearly identifiable internal and external faces, duckbill/cup-shaped structured design that does not collapse against the mouth.

If correctly worn, the filtration capacity of these masks exceeds those of triple layer medical masks. Since these provide a much tighter air seal than triple layer medical masks, they are designed to protect the wearer from inhaling airborne particles.

#### 4.1.3 Gloves

When a person touches an object/surface contaminated by COVID-19 infected person, and then touches his own eyes, nose, or mouth, he may get exposed to the virus. Although this is not thought

to be a predominant mode of transmission, care should be exercised while handling objects/surface potentially contaminated by suspect/confirmed cases of COVID-19.

Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine. There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Non-powdered gloves are preferred to powdered gloves.

#### 4.1.4 Coverall/Gowns

Coverall/gowns are designed to protect torso of healthcare providers from exposure to virus. Although coveralls typically provide 360-degree protection because they are designed to cover the whole body, including back and lower legs and sometimes head and feet as well, the design of medical/isolation gowns do not provide continuous whole-body protection (e.g., possible openings in the back, coverage to the mid-calf only).

By using appropriate protective clothing, it is possible to create a barrier to eliminate or reduce contact and droplet exposure, both known to transmit COVID-19, thus protecting healthcare workers working in close proximity (within 1 meter) of suspect/confirmed COVID-19 cases or their secretions.

Coverall and gowns are deemed equally acceptable as there is a lack of comparative evidence to show whether one is more effective than the other in reducing transmission to health workers. Gowns are considerably easier to put on and for removal. An apron can also be worn over the gown for the entire time the health worker is in the treatment area. Coveralls/gowns have stringent standards that extend from preventing exposure to biologically contaminated solid particles to protecting from chemical hazards.

#### 4.1.5 Shoe covers

Shoe covers should be made up of impermeable fabric to be used over shoes to facilitate personal protection and decontamination.

#### 4.1.6. Head covers

Coverall usually cover the head. Those using gowns, should use a head cover that covers the head and neck while providing clinical care for patients. Hair and hair extensions should fit inside the head cover.

The specifications for all the PPEs are at **Annexure-A**.

## 5. Rational use of PPE

The PPEs are to be used based on the risk profile of the health care worker. The document describes the PPEs to be used in different settings.

### 5.1. Point of Entry

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Health Desk	Provide information to travellers	Low risk	Triple layer medical mask Gloves	Minimum distance of one meter needs to be maintained.
2	Immigration counters, customs and airport security	Provide services to the passengers	Low risk	Triple layer medical mask Gloves	Minimum distance of one meter needs to be maintained.
3	Temperature recording station	Record Temperature with hand held thermal recorder.	Low risk	Triple layer medical mask Gloves	
4	Holding area/ Isolation facility of APHO/ PHO	Interview & Clinical examination by doctors/ nurses	Moderate Risk	N-95 masks Gloves	
5	Isolation facility of APHO	Clinical management (doctors, nurses)	Moderate Risk	N-95 masks Gloves	
		Attending to severely ill passenger	High risk	Full complement of PPE	When aerosol generating procedures are anticipated
5	Sanitary staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask Gloves	
6	Administrative staff	Providing administrative support	No risk	No PPE	No contact with patients of COVID-19. They should not venture into areas where suspect COVID-19 cases are being managed.

## 5.2. Hospital Setting

### 5.2.1. Out Patient Department (Respiratory Clinic / Separate screening area)<sup>#</sup>

S. No	Setting	Activity	Risk	Recommended PPE	Remarks
1	Triage area	Triaging patients  Provide triple layer mask to patient.	Moderate risk	N 95 mask  Gloves	Patients get masked.
2	Screening area help desk/ Registration counter	Provide information to patients	Moderate risk	N-95 mask  Gloves	
3	Temperature recording station	Record temperature with hand held thermal recorder	Moderate Risk	N 95 mask  Gloves	
4	Holding area/ waiting area	Nurses / paramedic interacting with patients	Moderate Risk	N 95 mask  Gloves	Minimum distance of one meter needs to be maintained.
5	Doctors chamber	Clinical management (doctors, nurses)	Moderate Risk	N 95 mask  Gloves	No aerosol generating procedures should be allowed.
6	Sanitary staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask  Gloves	
7	Visitors accompanying young children and elderlies	Support in navigating various service areas	Low risk	Triple layer medical mask	No other visitors should be allowed to accompany patients in OPD settings. The visitors thus allowed should practice hand hygiene

# All hospitals should identify a separate triage and holding area for patients with Influenza like illness. If there is no triage area / holding area for patients due to resource constraints, such hospitals will follow the above guidance for general OPD.

### 5.2.2. In-patient Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Individual isolation rooms/ cohorted isolation rooms	Clinical management	Moderate risk	N 95 mask  Gloves	Patient masked. Patients stable. No aerosol generating activity.
2	ICU/ Critical	Critical care	High risk	Full complement of	Aerosol generating



	care	management		PPE	activities performed.
3	ICU /critical care	Dead body packing	High risk	Full complement of PPE	
4	ICU/ Critical care	Dead body transport to mortuary	Low Risk	Triple Layer medical mask Gloves	
5	Sanitation	Cleaning frequently touched surfaces/ floor/ changing linen	Moderate risk	N-95 mask Gloves	
6	Other Non-COVID treatment areas of hospital	Attending to infectious and non-infectious patients	Risk as per assessed profile of patients	PPE as per hospital infection prevention control practices.	No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas.
7	Caretaker accompanying the admitted patient	Taking care of the admitted patient	Low risk	Triple layer medical mask	The caretaker thus allowed should practice hand hygiene, maintain a distance of 1 meter

### 5.2.3. Emergency Department

S.No	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Moderate risk	N 95 mask Gloves	When aerosol generating procedures are anticipated
2		Attending to severely ill patients of SARI	High risk	Full complement of PPE	Aerosol generating activities performed.

### 5.2.4. Pre-hospital (Ambulance) Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ambulance Transfer to designated hospital	Transporting patients not on any assisted ventilation	Moderate risk	N-95 mask Gloves	
		Management of SARI patient while transporting	High risk	Full complement of PPE	When aerosol generating procedures are anticipated
		Driving the ambulance	Low risk	Triple layer medical mask Gloves	Driver helps in shifting patients to the emergency

### 5.2.5. Other Supportive/ Ancillary Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1.	Laboratory	Sample collection and transportation	High risk	Full complement of PPE	
		Sample testing	High risk	Full complement of PPE	
2	Mortuary	Dead body handling	Moderate Risk	N 95 mask Gloves	No aerosol generating procedures should be allowed. No embalming.
		While performing autopsy	High Risk	Full complement of PPE	No post-mortem unless until specified.
3	Sanitation	Cleaning frequently touched surfaces/ Floor/ cleaning linen in COVID treatment areas	Moderate risk	N-95 mask  Gloves	
4	CSSD/Laundry	Handling linen of COVID patients	Moderate risk	N-95 mask  Gloves	
5	Other supportive services	Administrative Financial Engineering Security, etc.	No risk	No PPE	No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas.

### 5.3. Health Workers in Community Setting

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	ASHAs/ Anganwadi and other field staff	Field Surveillance	Low Risk	Triple layer mask  Gloves	Maintain distance of one meter. Surveillance team to carry adequate triple layer masks to distribute to suspect cases detected on field surveillance
2	Doctors at supervisory level conducting field investigation	Field surveillance Clinical examination.	Medium risk	N 95 mask  Gloves.	

#### 5.4 Quarantine facility

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Persons being quarantined		Low Risk	Triple layer mask	
2	Healthcare staff working at quarantine facility	Health monitoring and temperature recording	Low Risk	Triple layer mask Gloves	
		Clinical examination of symptomatic persons	Moderate Risk	N-95 masks Gloves	
3	Support staff		Low Risk	Triple layer mask Gloves	

#### 5.5 Home Quarantine

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Persons being quarantined		Low Risk	Triple layer mask	
2	Designated family member	Taking care of person being quarantined	Low Risk	Gloves	While cleaning commonly touched surfaces or handling soiled linen
3	Other family		No Risk	No PPE required	Maintain a distance of at least 1 meter from person under home quarantine. Senior citizens in the household should stay away from such persons under home quarantine.

#### Points to remember while using PPE

1. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
2. Always (if possible) maintain a distance of at least 1 meter from contacts/suspect/confirmed COVID-19 cases
3. Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MoHFW.

**Personal Protection Equipment (PPE) - Specifications**

**(for Contact & Airborne precautions)**

- 1.** PPE Kit
- 1.1** Gloves
  - Nitrile
  - Non-sterile
  - Powder free
  - Outer gloves preferably reach mid-forearm (minimum 280 mm total length)
  - Different sizes (6.5 & 7)
  - Quality compliant with the below standards, or equivalent:
    - a. EU standard directive 93/42/EEC Class I, EN 455
    - b. EU standard directive 89/686/EEC Category III, EN 374
    - c. ANSI/SEA 105-2011
    - d. ASTM D6319-10
- 1.2** Coverall (medium and large)\*
  - Impermeable to blood and body fluids
  - Single use
  - Avoid culturally unacceptable colors e.g. black
  - Light colors are preferable to better detect possible contamination
  - Thumb/finger loops to anchor sleeves in place
  - Quality compliant with following standard
    - a. Meets or exceeds ISO 16603 class 3 exposure pressure, or equivalent
- 1.3** Goggles
  - With transparent glasses, zero power, well fitting, covered from all sides with elastic band/or adjustable holder.
  - Good seal with the skin of the face
  - Flexible frame to easily fit all face contours without too much pressure
  - Covers the eyes and the surrounding areas and accommodates for prescription glasses
  - Fog and scratch resistant
  - Adjustable band to secure firmly so as not to become loose during clinical activity
  - Indirect venting to reduce fogging
  - May be re-usable (provided appropriate arrangements for decontamination are in place) or disposable
  - Quality compliant with the below standards, or equivalent:
    - a. EU standard directive 86/686/EEC, EN 166/2002
    - b. ANSI/SEA Z87.1-2010

1.4. N-95 Masks

- Shape that will not collapse easily
- High filtration efficiency
- Good breathability, with expiratory valve
- Quality compliant with standards for medical N95 respirator:
  - a. NIOSH N95, EN 149 FFP2, or equivalent
- Fluid resistance: minimum 80 mmHg pressure based on ASTM F1862, ISO 22609, or equivalent
- Quality compliant with standards for particulate respirator that can be worn with full- face shield

1.5. Shoe Covers

- Made up of the same fabric as of coverall
- Should cover the entire shoe and reach above ankles

1.6. Face Shield

- Made of clear plastic and provides good visibility to both the wearer and the patient
- Adjustable band to attach firmly around the head and fit snugly against the forehead
- Fog resistant (preferable)
- Completely covers the sides and length of the face
- May be re-usable (made of material which can be cleaned and disinfected) or disposable
- Quality compliant with the below standards, or equivalent:
  - a. EU standard directive 86/686/EEC, EN 166/2002
  - b. ANSI/SEA Z87.1-2010

3. Triple Layer Medical Mask

- Three layered medical mask of non-woven material with nose piece, having filter efficiency of 99% for 3 micron particle size.
  - a. ISI specifications or equivalent

4. Gloves

- Nitrile
- Non-sterile
- Powder free
- Outer gloves preferably reach mid-forearm (minimum 280mm total length)
- Different sizes (6.5 & 7)
- Quality compliant with the below standards, or equivalent:
  - 1. EU standard directive 93/42/EEC Class I, EN 455
  - 2. EU standard directive 89/686/EEC Category III, EN 374
  - 3. ANSI/SEA 105-2011
  - 4. ASTM D6319-10

## 5. **Body Bags - Specifications**

- 1) Impermeable
- 2) Leak proof
- 3) Air sealed
- 4) Double sealed
- 5) Disposable
- 6) Opaque
- 7) White
- 8) U shape with Zip
- 9) 4/6 grips
- 10) Size: 2.2 x 1.2 Mts
- 11) Standards:
  - a) ISO 16602:2007
  - b) ISO 16603:2004
  - c) ISO 16604:2004
  - d) ISO/DIS 22611:2003

All items to be supplied need to be accompanied with certificate of analysis from national/ international organizations/labs indicating conformity to standards

All items: Expiry 5 years

\* Due to scarcity of coveralls, and risk versus benefit, that as an emergency temporary measure in larger public interest, in present given circumstances, the fabric that cleared/passed 'Synthetic Blood Penetration Resistance Test' (ISO 16603) and the garment that passed 'Resistance to penetration by biologically contaminated solid particles (ISO 22612:2005) may be considered as the benchmark specification to manufacture Coveralls.' The Coveralls should be taped at the seams to prevent fluid/droplets/aerosol entry.

The test for these two standards (ISO 16603 and ISO 22612:2005), which can be performed in Indian laboratories are as per WHO Disease Commodity Package (Version 4.0)

**Ministry of Health and Family Welfare  
Directorate General of Health Services  
[Emergency Medical Relief]**

**Novel Coronavirus Disease 2019 (COVID-19): Additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas)**

**1. About this guideline**

This guideline is for health care workers and others working in Non COVID hospitals and Non-COVID treatment areas of a hospital which has a COVID block. These guidelines are in continuation of guidelines issued previously on ‘Rational use of Personal Protective Equipment’ (<https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>). This guideline uses “settings” approach to guide on the type of personal protective equipment to be used in different settings.

**2. Rational use of PPE for Non COVID hospitals and Non-COVID treatment areas of a hospital which has a COVID block**

The PPEs are to be used based on the risk profile of the health care worker. The document describes the PPEs to be used in different settings.

2.1. Out Patient Department

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Help desk/ Registration counter	Provide information to patients	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	Physical distancing to be followed at all times
2	Doctors chamber	Clinical management	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	No aerosol generating procedures should be allowed.
3	Chamber of Dental/ENT doctors/ Ophthalmology doctors	Clinical management	Moderate risk	<ul style="list-style-type: none"> <li>▪ N-95 mask</li> <li>▪ Goggles</li> <li>▪ Latex examination gloves</li> </ul> <p>+ face shield</p>	<p>Aerosol generating procedures anticipated.</p> <p>Face shield, when a splash of body fluid is expected</p>
4	Pre- anesthetic check-up clinic	Pre-anesthetic check-up	Moderate risk	<ul style="list-style-type: none"> <li>▪ N-95 mask</li> <li>▪ Goggles*</li> <li>▪ Latex examination gloves</li> </ul>	* Only recommended when close examination of oral cavity/dentures is to be done
5	Pharmacy counter	Distribution of drugs	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	Frequent use of hand sanitizer is advised over gloves.

6	Sanitary staff	Cleaning frequently touched surfaces/ Floor	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
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#All hospitals should identify a separate triage and holding area for patients with Influenza like illness so that suspect COVID cases are triaged and managed away from the main out-patient department.

2.2. In-patient Department (Non-COVID Hospital & Non-COVID treatment areas of a hospital which has a COVID block)

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ward/individual rooms	Clinical management	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	Patients stable. No aerosol generating activity.
2	ICU/ Critical care	Critical care management	Moderate risk	<ul style="list-style-type: none"> <li>▪ N-95 mask</li> <li>▪ Goggles</li> <li>▪ Nitrile examination gloves</li> </ul> +Face shield	Aerosol generating activities performed.  Face shield, when a splash of body fluid is expected
3	Ward/ICU /critical care	Dead body packing	Low Risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
4	Ward/ICU/ Critical care (Non-COVID)	Dead body transport to mortuary	Low Risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
5	Labor room	Intra-partum care	Moderate Risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Face shield</li> <li>▪ Sterile latex gloves</li> </ul> N-95 mask*	Patient to be masked in the Labor room  *If the pregnant woman is a resident of containment zone
6	Operation Theater	Performing surgery, administering general anaesthesia	Moderate Risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Face shield (- wherever feasible)</li> <li>▪ Sterile latex gloves</li> </ul> + Goggles	Already OT staff shall be wearing  For personnel involved in aerosol generating procedures



				N-95 mask*	*If the person being operated upon is a resident of containment zone
7	Sanitation	Cleaning frequently touched surfaces/ floor/ changing linen	Low Risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	

### 2.3. Emergency Department (Non-COVID)

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple Layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	No aerosol generating procedures are allowed
2		Attending to severely ill patients while performing aerosol generating procedure	High risk	<ul style="list-style-type: none"> <li>▪ Full complement of PPE (N-95 mask, coverall, goggle, Nitrile examination gloves, shoe cover)</li> </ul>	

### 2.4. Other Supportive/ Ancillary Services

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1.	Routine Laboratory	Sample collection and transportation and testing of routine (non-respiratory) samples	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
		Respiratory samples	Moderate risk	<ul style="list-style-type: none"> <li>▪ N-95 mask</li> <li>▪ Latex examination gloves</li> </ul>	
2	Radio-diagnosis, Blood bank, etc.	Imaging services, blood bank services etc.	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
3	CSSD/Laundry	Handling linen	Mild risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination</li> </ul>	

				gloves	
4	Other supportive services incl. Kitchen	Administrative Financial Engineering** and dietary** services,etc.	Low risk	<ul style="list-style-type: none"> <li>▪ Face cover</li> </ul>	** Engineering and dietary service personnel visiting treatment areas will wear personal protective gears appropriate to that area

### 2.5. Pre-hospital (Ambulance) Services

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ambulance Transfer to designated hospital	Transporting patients not on any assisted ventilation	Low risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	
		Management of SARI patient	High risk	<ul style="list-style-type: none"> <li>▪ Full complement of PPE (N-95 mask, coverall, goggle, latex examination gloves, shoe cover)</li> </ul>	While performing aerosol generating procedure
		Driving the ambulance	Low risk	<ul style="list-style-type: none"> <li>▪ Triple layer medical mask</li> <li>▪ Latex examination gloves</li> </ul>	Driver helps in shifting patients to the emergency

### **Points to remember while using PPE**

1. Standard precaution to be followed at all times
2. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
3. Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MoHFW.

In addition, patients and their attendants to be encouraged to put on face cover.

In case a COVID-19 patient is detected in such Non-COVID Health facility, the MoHFW guidelines for the same has to be followed (Available at: <https://www.mohfw.gov.in/pdf/GuidelinestobefollowedondetectionofsuspectorconfirmedCOVID19case.pdf>)

## **Guidelines for screening centres and isolation facilities in hospitals**

Fundamental principles of isolation are (i) Standard precautions (ii) droplet precautions (iii) airborne precautions and (iv) contact precautions. An isolation facility needs to follow these precautions to ensure that the hospital is not a source of infection to the hospital patients with in and the community. A brief note on each of these precautions is at Annexure-I.

All hospitals indented to screen and admit patients with influenza H1N1 should conform to these guidelines. Identified hospitals would have a separate screening area to screen outdoor patients and an isolation facility to admit those requiring indoor treatment. For clarity, these guidelines are in six parts: (i) Generic Guidelines (ii) Guidelines for pre hospital care (iii) Guidelines for the screening centre (iv) Guidelines for isolation facility and (v) Guidelines for critical care (vi) Mortuary care.

### **(i) Generic guidance**

- Standard Precautions to be followed at all patient care areas : hand hygiene, Gloves and use of personal protective equipment (PPE) to avoid direct contact with patient's blood, body fluids, secretions and non-intact skin, prevention of needle stick/sharp injury and cleaning and disinfection of the environment and equipment.
- Droplet precautions to be followed when caring for patients with influenza AH1N1 (masks, respirators and eye shield) in isolation facilities.
- Airborne and Contact Precautions should complement Standard Precautions while managing case of Pandemic influenza AH1N1 in critical care facilities.
- Hospitals should been following the hospital waste management protocols as per the hospital waste management rules.
- Dead body should be handled using full cover of PPE.

## **(ii) Guidelines for Pre Hospital Care**

- All identified hospitals to have advanced life support ambulance.
- Designated paramedic and driver for the ambulance
- The ambulance staff should follow standard precautions while handling the patient and airborne precautions if aerosol generating procedures are done.
- Triple layer surgical masks should be available and worn during transport
- As far as possible the movements should be restricted.
- During transport, optimize the vehicle's ventilation to increase the volume of air exchange (e.g. opening the windows). When possible, use vehicles that have separate driver and patient compartments.
- Aerosol generating procedures to be avoided to the extent possible.
- Disinfect the ambulance after shifting patient.
- Notify the receiving facility as soon as possible before arrival that a patient.

## **(iii) Guidelines for setting up Screening Centre**

Purpose of the Screening Centre is to:

- Attend to patients of influenza like illness in a separate area as to avoid these patients further infecting other patients in Out Patient Department.
- To facilitate implementing standard and droplet precautions
- To triage the patients
- Collect samples.

The screening area would have:

- A waiting area of about 2000 sq feet to accommodate 50-100 patients
  - Preferably stand alone building with separate entry.

- Well ventilated to ensure frequent air changes. If air-conditioned, then independent from central air conditioning. Exhaust air to be filtered through HEPA filter (desirable).
- Patient's seating to have at least one meter clearance on all sides. Avoid overcrowding of patients.
- Will have cabins for registration, clinical examination chambers, sample collection rooms and drug distribution centre.
- The waiting area should be adequately cleaned and disinfected.
- Source control (e.g. use of tissues, handkerchiefs, piece of cloth or triple layer surgical masks to cover nose and mouth ) of the patient in the waiting room when coughing or sneezing, and hand hygiene after contact with respiratory secretions.
- Facility for hand wash. / Wash rooms etc

**(iv) Guidelines for setting up isolation facility / ward**

- Patients should be housed in single rooms, whenever possible.
- However, if sufficient single rooms are not available, beds could be put with a spatial separation of at least 1 m (3 feet) from one another.
- To create a 10 bed facility, a minimum space of 2000 sq feet area is required clearly segregated from other patient-care areas.
- There should be double door entry with changing room and nursing station. Enough PPE should be available in the changing room with waste disposal bins to collect used PPEs.
- Place a puncture-proof container for sharps disposal inside the isolation room/area.
- Keep the patient's personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene within the patient's reach.
- Non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff, and sphygmomanometer) should be dedicated to the patient, if possible. Any patient-care equipment that is required for use by other patients should be thoroughly cleaned and disinfected before use.
- Dedicated hand washes and wash room facilities.
- If room is air-conditioned, ensure 12 air changes/ hour and filtering of exhaust air. A negative pressure in isolation rooms is desirable for patients requiring aerosolization procedures (intubation, suction nebulisation) . These rooms may have stand alone air-conditioning. These areas should not be a part of the central air-conditioning.

- If air-conditioning is not available negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.
- In District hospital, where there is sufficient space, natural ventilation may be followed. Such isolation facility should have large windows on opposite walls of the room allowing a natural unidirectional flow and air changes. The principle of natural ventilation is to allow and enhance the flow of outdoor air by natural forces such as wind and thermal buoyancy forces from one opening to another to achieve the desirable air change per hour.
- Avoid sharing of equipment, but if unavoidable, ensure that reusable equipment is appropriately disinfected between patients.
- Ensure regular cleaning and proper disinfection of common areas, and adequate hand hygiene by patients, visitors and care givers.
- Visitors to the isolation facility should be restricted. For unavoidable entries, they should use PPE according to the hospital guidance, and should be instructed on its proper use and in hand hygiene practices prior to entry into the isolation room/area.
- Doctors, nurses and paramedics posted to isolation facility need to be dedicated and not to be allowed to work in other patient-care areas.
- Consider having designated portable X-ray equipment
- Corridors with frequent patient transport should be well-ventilated.
- All health staff involved in patient care should be well trained in the use of PPE.
- A telephone or other method of communication should be set up in the isolation room/area to enable patients or family members/visitors to communicate with nurses.

**(V) Guidelines for Critical Care facility**

- At least one identified hospital may have a 10 bed dedicated intensive care facility at State Capital.
- The critical care facility requires to follow all the guidelines as mentioned above for infection control.
- Also have than or equal to 12 air changes and maintain negative pressure of 40 psi.

- Should have dedicated equipments. It should also have additional equipments to ventilate at least 10 patients manually.
- A telephone or other method of communication should be set up in the isolation room/area to enable patients or family members/visitors to communicate with nurses inside the facility.
- Would have an information board outside to update relatives on the clinical status.

**(vi) Mortuary care**

- Mortuary staff should apply Standard Precautions i.e. perform proper hand hygiene and use appropriate PPE (use of gown, gloves, facial protection if there is a risk of splashes from patient's body fluids/secretions onto staff's body and face).
- Embalming, if required should be conducted according to usual procedures, subject to local regulations/legislation.
- Hygienic preparation of the deceased (e.g. cleaning of body, tidying of hair, etc) also may be done using standard precautions.

## **Fundamentals of Isolation Precautions**

### **1. Standard Precautions**

Use Standard Precautions, or the equivalent, for the care of all patients. The standard precautions are:

#### **1.1 Hand washing**

Wash hands after touching blood, body fluids, secretions, excretions, and contaminated items, whether or not gloves are worn. Wash hands immediately after gloves are removed, between patient contacts, and when otherwise indicated to avoid transfer of microorganisms to other patients or environments. It may be necessary to wash hands between tasks and procedures on the same patient to prevent cross-contamination of different body sites.

#### **1.2 Gloves**

Wear gloves (clean, non-sterile gloves are adequate) when touching blood, body fluids, secretions, excretions, and contaminated items. Put on clean gloves just before touching mucous membranes and non-intact skin. Change gloves between tasks and procedures on the same patient after contact with material that may contain a high concentration of microorganisms. Remove gloves promptly after use, before touching non-contaminated items and environmental surfaces, and before going to another patient, and wash hands immediately to avoid transfer of microorganisms to other patients or environments.

#### **1.3 Mask, Eye Protection, Face Shield**

Wear a mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.



#### 1.4 Gown

Wear a gown (a clean, non sterile gown is adequate) to protect skin and to prevent soiling of clothing during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Select a gown that is appropriate for the activity and amount of fluid likely to be encountered. Remove a soiled gown as promptly as possible, and wash hands to avoid transfer of microorganisms to other patients or environments.

#### 1.5 Patient- Care Equipment

Handle used patient-care equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and environments. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

#### 1.6 Environmental Control

Ensure that the hospital has adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bed rails, bedside equipment, and other frequently touched surfaces and ensure that these procedures are being followed.

#### 1.7 Linen

Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures and contamination of clothing, and that avoids transfer of microorganisms to other patients and environments.

## 1.8 Occupational Health and Blood borne Pathogens

Take care to prevent injuries when using needles, scalpels, and other sharp instruments or devices; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing of used needles. Never recap used needles, or otherwise manipulate them using both hands, or use any other technique that involves directing the point of a needle toward any part of the body; rather, use either a one-handed "scoop" technique or a mechanical device designed for holding the needle sheath. Do not remove used needles from disposable syringes by hand, and do not bend, break, or otherwise manipulate used needles by hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers, which are located as close as practical to the area in which the items were used, and place reusable syringes and needles in a puncture-resistant container for transport to the reprocessing area. Use mouthpieces, resuscitation bags, or other ventilation devices as an alternative to mouth-to-mouth resuscitation methods in areas where the need for resuscitation is predictable.

## 1.9 Patient Placement

Place a patient who contaminates the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control in a private room. If a private room is not available, consult with infection control professionals regarding patient placement or other alternatives.

## 2. Airborne Precautions

In addition to Standard Precautions, use Airborne Precautions, or the equivalent, for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residue {5  $\mu$ m or smaller in size} of evaporated droplets containing microorganisms that remain suspended in the air and that can be dispersed widely by air currents within a room or over a long distance).

## 2.1 Patient Placement.

Place the patient in a private room that has (1) monitored negative air pressure in relation to the surrounding area, (2) 12 air changes per hour, and (3) appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital. (23) Keep the room door closed and the patient in the room. When a private room is not available, place the patient in a room with a patient who has active infection with the same microorganism, unless otherwise recommended, (23) but with no other infection. When a private room is not available and cohorting is not desirable, consultation with infection control professionals is advised before patient placement.

## 2.2 Respiratory Protection

Wear respiratory protection (three layered surgical mask / N 95 respirator) when entering the room of a patient.

## 2.3 Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient, if possible.

# 3. Droplet Precautions

In addition to Standard Precautions, use droplet precautions, or the equivalent for a patient known or suspected to be infected with microorganisms transmitted by droplets (large-particle droplets {larger than 5 um in size} that can be generated by the patient during coughing, sneezing, talking, or the performance of procedures).

## 3.1 Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has

active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 ft between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open.

### 3.2 Mask

In addition to standard precautions, wear a mask when working within 3 ft of the patient. (Logistically, some hospitals may want to implement the wearing of a mask to enter the room.)

### 3.3 Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient, if possible.

## **4. Contact Precautions**

In addition to Standard Precautions, use Contact Precautions, or the equivalent, for specified patients known or suspected to be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct contact with the patient (hand or skin-to-skin contact that occurs when performing patient-care activities that require touching the patient's dry skin) or indirect contact (touching) with environmental surfaces or patient-care items in the patient's environment.

### 4.1 Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s), who has active infection with the same microorganism but with no other infection (cohorting).

## 4.2 Gloves and Hand Washing

In addition to wearing gloves as outlined under Standard Precautions, wear gloves (clean, non-sterile gloves are adequate) when entering the room. During the course of providing care for a patient, change gloves after having contact with infective material that may contain high concentrations of microorganisms (fecal material and wound drainage). Remove gloves before leaving the patient's environment and wash hands immediately with an antimicrobial agent or a waterless antiseptic agent. After glove removal and hand-washing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of microorganisms to other patients or environments.

## 4.3 Gown

In addition to wearing a gown as outlined under Standard Precautions, wear a gown (a clean, non-sterile gown is adequate) when entering the room if you anticipate that your clothing will have substantial contact with the patient, environmental surfaces, or items in the patient's room.

## 4.4 Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If the patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment.

## 4.5 Patient-Care Equipment

When possible, dedicate the use of non critical patient-care equipment to a single patient (or cohort of patients infected or colonized with the pathogen requiring precautions) to avoid sharing between patients. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient.

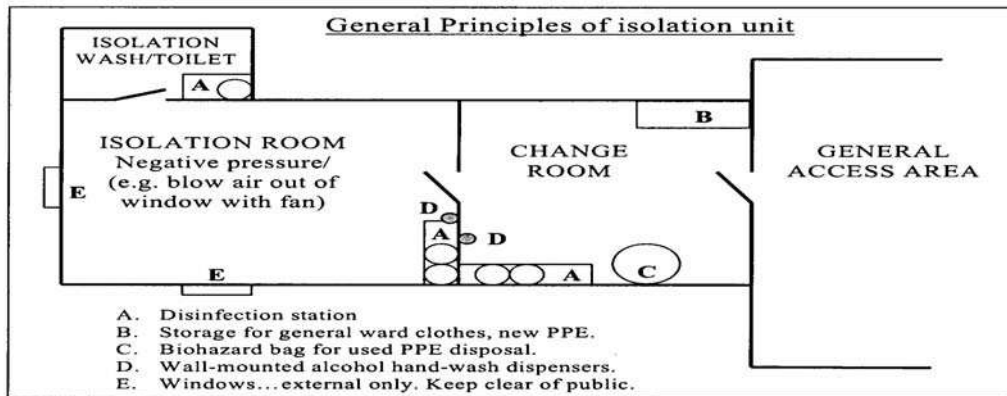
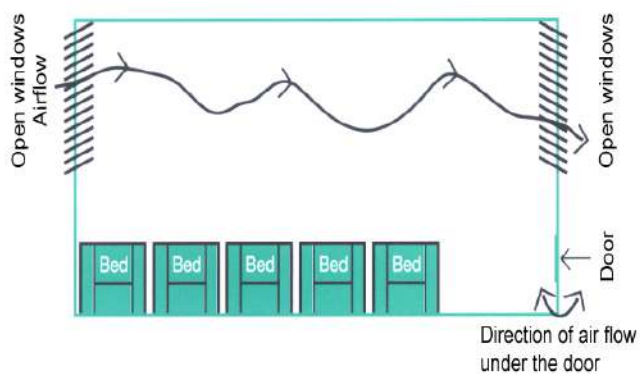


Figure 2. Natural ventilation; free flow of ambient air in and out through open windows.







## MINISTRY OF HEALTH AND FAMILY WELFARE

### Detailed Guidelines for Infection Prevention Control for suspected cases of 2019-nCoV Acute Respiratory Disease

Clinical triage includes early recognition and immediate placement of patients in separate area from other patients (source control). Triage Station-Offer mask, follow hand hygiene and respiratory etiquettes. Minimize the waiting time at triage station. A self-declaration form should be filled up for all suspected cases reporting to the hospital. All individuals, including family members, visitors and HCWs should apply standard, contact and droplet precautions. Place patients in adequately ventilated single rooms. When single rooms are not available, cohort patients suspected of 2019-nCoV acute respiratory disease together with minimum distance between two patients to be 1 meter.

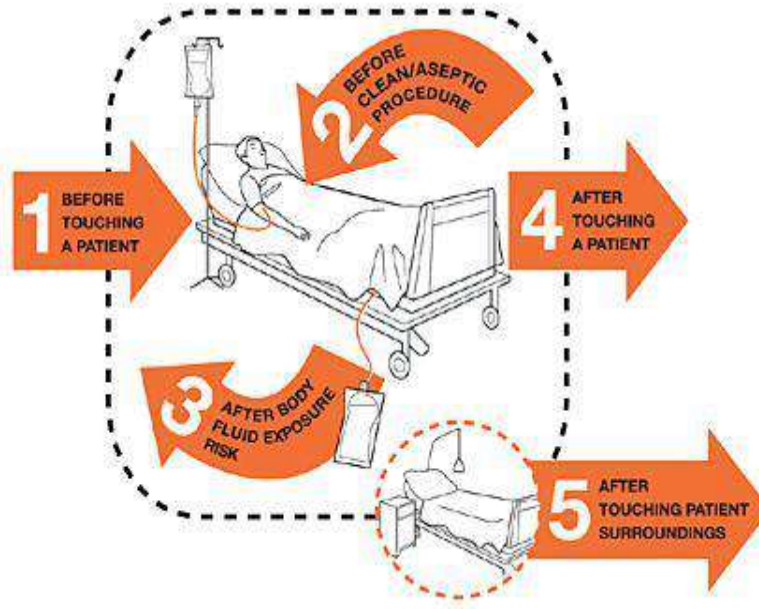
IPC strategies to prevent or limit infection transmission in health-care settings include the following:

- 1. Standard Precautions**
  - 1.1 Hand hygiene
  - 1.2 Respiratory hygiene
  - 1.3 Personal protective equipment (PPE)
- 2. Additional Precautions**
- 3. Bio Medical waste management**
- 4. Laundry management**
- 5. Sample collection, storage and transportation**
- 6. Monitor health of HCWs providing care to cases of 2019-nCoV Acute Respiratory Disease**
- 7. Hospital Disinfection (Environmental)**



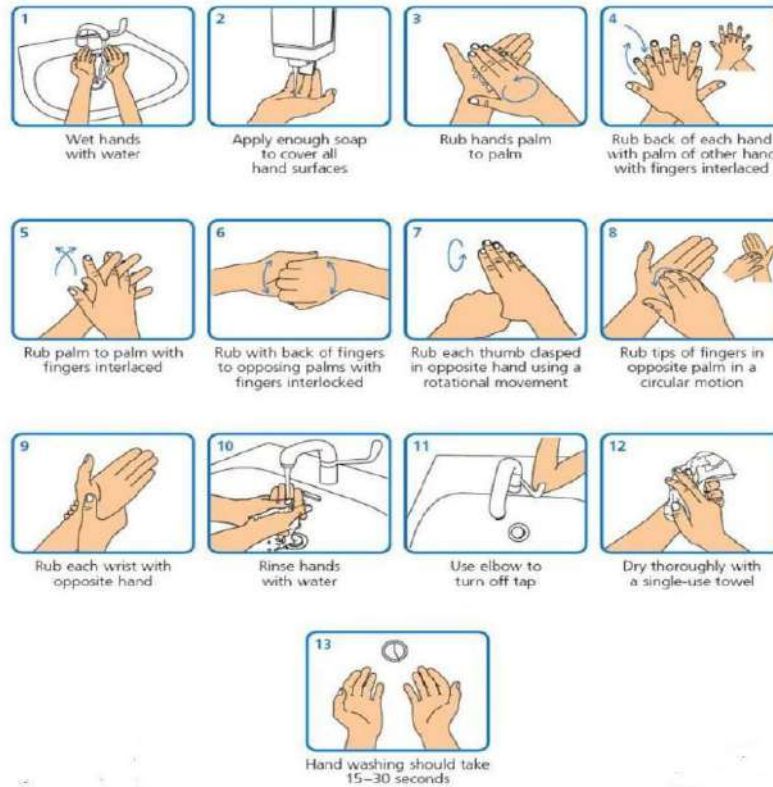
# 1.1 Hand Hygiene

## Moments of Hand Hygiene



## Steps of Hand Hygiene

### Hand-washing technique with soap and water



## 1.2 Respiratory Hygiene

Offer a medical/surgical mask for suspected 2019-nCoV acute respiratory disease case for those who can tolerate it.

Cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others.

Perform hand hygiene after contact with respiratory secretions.

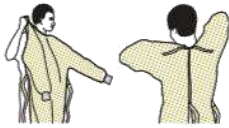



## 1.3 Personal Protective Equipment (PPE)

PPE includes shoe cover, gown, mask, eye protection & gloves.

Shoe cover should always be worn before entering the patient care area (Isolation ward etc.).

If gowns are not fluid resistant, use a waterproof apron for procedures with expected high fluid volumes that might penetrate the gown.

**Donning & Doffing procedures should be diligently & carefully followed as given below.**

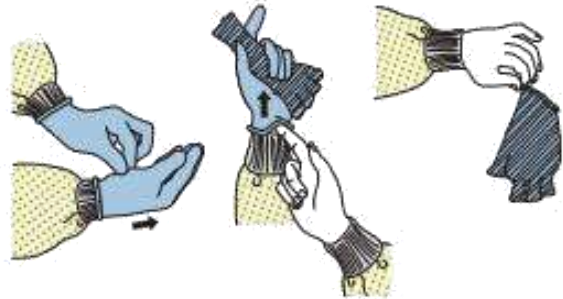
<p><b>SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)</b></p> <p>The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.</p> <p><b>1. GOWN</b></p> <ul style="list-style-type: none"><li>Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back</li><li>Fasten in back of neck and waist</li></ul>  <p><b>2. MASK OR RESPIRATOR</b></p> <ul style="list-style-type: none"><li>Secure ties or elastic bands at middle of head and neck</li><li>Fit flexible band to nose bridge</li><li>Fit snug to face and below chin</li><li>Fit-check respirator</li></ul>  <p><b>3. GOGGLES OR FACE SHIELD</b></p> <ul style="list-style-type: none"><li>Place over face and eyes and adjust to fit</li></ul>  <p><b>4. GLOVES</b></p> <ul style="list-style-type: none"><li>Extend to cover wrist of isolation gown</li></ul>  <p><b>USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION</b></p>	<p>Keep hands away from face Limit surfaces touched Change gloves when torn or heavily contaminated Perform Hand Hygiene</p>
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# HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

## 1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



## 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



## 3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

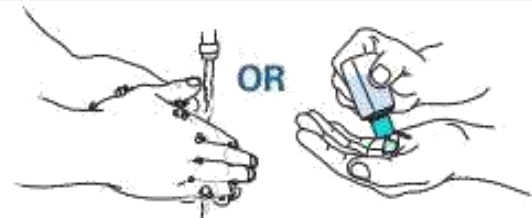


## 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



## 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME  
CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**

## 2. Additional precautions

Cohort HCWs to exclusively care for cases to reduce the risk of spreading transmission.

Place patient beds at least 1m apart;

Perform procedures in an adequately ventilated room; i.e. at least natural ventilation with at least 160 l/s/patient air flow or negative pressure rooms with at least 12 air changes per hour (ACH) and controlled direction of air flow when using mechanical ventilation

Limit the number of persons present in the room to the absolute minimum required for the patient's care and support.

Use either single use disposable equipment or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect between each patient use (e.g. ethyl alcohol 70%);

Refrain from touching eyes, nose or mouth with potentially contaminated hands;

Some **aerosol generating procedures** have been associated with increased risk of transmission of coronaviruses such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation and bronchoscopy. Ensure that HCWs performing aerosol-generating procedures use PPE with particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent. When putting on a disposable particulate respirator, always perform the seal-check. Note that if the wearer has facial hair (beard) this can prevent a proper respirator fit.

Avoid the movement and transport of patients out of the room or area unless medically necessary.

Use designated portable X-ray equipment and/or other important diagnostic equipment.

If transport is required, use pre-determined transport routes to minimize exposures to staff, other patients and visitors and apply medical mask to patient;

Ensure that HCWs who are transporting patients wear appropriate PPE as described in this section and perform hand hygiene;

Notify the receiving area of necessary precautions as soon as possible before the patient's arrival;

Routinely clean and disinfect patient-contact surfaces;

Limit the number of HCWs, family members and visitors in contact with a patient with suspected 2019 nCoV- Acute Respiratory Disease;

Maintain a record of all persons entering the patient's room including all staff and visitors.

Duration of contact and droplet precautions for 2019 nCoV- Acute Respiratory Disease Standard precautions should always be applied at all times. Additional contact and droplet precautions should continue until the patient is asymptomatic.

### **3. Bio Medical Waste Management from suspected case of nCoV**

Bio medical waste generated must be segregated at source and discarded as per biomedical waste management Rules 2016 (amendment 2018,2019)

### **4. Laundry**

All soiled clothing bedding and linen should be gathered without creating much motion / fluffing.

Do not shake sheets when removing them from the bed.

Always perform hand hygiene after handling soiled laundry items.

Laundry should be disinfected in freshly prepared 1% bleach and then transported to laundry in tightly sealed and labeled plastic bag.

### **5. Sample collection, storage and transportation**

Collection and handling of laboratory specimens from patients with suspected 2019 nCoV- Acute Respiratory Disease. All specimens collected for laboratory investigations should be regarded as potentially infectious, and HCWs who collect, or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure to pathogens.

Ensure that HCWs who collect specimens use appropriate PPE (eye protection, medical mask, long-sleeved gown, gloves).

If the specimen is collected under aerosol generating procedure, personnel should wear a particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent

Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures (As per Hospital Policy).

**Samples to be collected:**

Nasopharyngeal swab / Nasal Swabs – 2

Throat Swab

Before collecting the samples, it requires to be ensured that neck is in extended position. Nasopharyngeal swab will be collected with the per nasal swab provided in the kit, after taking out the swab it is passed along the floor of nasal cavity and left there for about five second and transferred into VTM and transported to the designated lab at 4 degree Celsius as soon as possible (same day).

For collection of samples from throat area the other sterilized swab is swabbed over the tonsillar area and posterior pharyngeal wall and finally transferred into VTM and stored and transported to the designated lab at 4 degree Celsius as soon as possible (same day).

Other respiratory material like endotracheal aspirated / broncho-alveolar lavage in patients with more severe respiratory disease can also be collected and transported in the same way.

Place specimens for transport in leak-proof specimen bags /Zip lock pouch (secondary container) with the patient's label on the specimen container (primary container), and a clearly written laboratory request form.

Ensure that health-care facility laboratories adhere to appropriate biosafety practices and transport requirements according to the type of organism being handled.

Deliver all specimens by hand whenever possible.

Document patients full name, age / date of birth of suspected 2019-nCoV case of potential concern clearly on the accompanying laboratory request form.

Notify the laboratory as soon as possible that the specimen is being transported.

## **6. Monitor health of HCWs providing care to cases of 2019-nCoV Acute Respiratory Disease**

HCWs and housekeeping staff providing care to cases of 2019-nCoV acute respiratory diseases cases shall be monitored daily for development of any symptoms as per the suspect case definition including charting of their temperature twice daily for 14 days after last exposure. If they develop any symptoms then standard protocol laid down for management of suspect case of 2019-nCoV acute respiratory disease shall be followed.

## **7. Hospital Disinfection (Environmental)**

Environmental surfaces or objects contaminated with blood, other body fluids, secretions or excretions should be cleaned and disinfected using standard hospital detergents/disinfectants e.g. freshly prepared 1% Sodium Hypochlorite or 5% Lysol. Spray the surface with 0.5% to 1% solution of Sodium Hypochlorite. The contact period of the chemical with the surface should be min. of 30 Minutes.

Disinfect all external surfaces of specimen containers thoroughly (using an effective disinfectant) prior to transport. E.g. Sodium hypochlorite at 1%, 500 ppm available chlorine (i.e. 1:100 dilution of household bleach at initial concentration of 5%) or 5% Lysol

Environmental surfaces or objects contaminated with blood, other body fluids, secretions or excretions should be cleaned and disinfected using standard hospital detergents/disinfectants e.g. freshly prepared 1% Sodium Hypochlorite or 5% Lysol

Do not spray (i.e. fog) occupied or unoccupied clinical areas with disinfectant. This is a potentially dangerous practice that has no proven disease control benefit.

Wear gloves, gown, mask and closed shoes (e.g. boots) when cleaning the environment and handling infectious waste. Cleaning heavily soiled surfaces (e.g. soiled with vomit or blood) increases the risk of splashes. On these occasions, facial protection should be worn in addition to gloves, gown and closed, resistant shoes. Wear gloves, gown, closed shoes and goggles/ facial protection, when handling liquid infectious waste (e.g. any secretion or excretion

with visible blood even if it originated from a normally sterile body cavity). Avoid splashing when disposing of liquid infectious waste.

Clean and disinfect mattress impermeable covers.

Non-critical instruments /equipment (that are those in contact with intact skin and no contact with mucous membrane) require only intermediate or low level disinfection before and after use.

Intermediate Level disinfectant: Alcohols, chlorine compounds, hydrogen Peroxide, chlorhexidine,

Low level disinfectants: Benzalkonium chloride, some soaps

#### LIQUID SPILL MANAGEMENT:

Promptly clean and decontaminate spills of blood and other potentially infectious materials.

Wear protective gloves.

Using a pair of forceps and gloves, carefully retrieve broken glass and sharps if any, and use a large amount of folded absorbent paper to collect small glass splinters. Place the broken items into the puncture proof sharps container.

Cover spills of infected or potentially infected material on the floor with paper towel/ blotting paper/newspaper. Pour 0.5% freshly prepared sodium hypochlorite.

Leave for 30 minutes for contact

Place all soiled absorbent material and contaminated swabs into a designated waste container.

Then clean the area with gauze or mop with water and detergent with gloved hands

#### References

Infection Prevention Control Guidelines for suspected cases of Novel Coronavirus (nCoV) Atal Bihari Vajpayee Institute of Medical Sciences & Dr Ram Manohar Lohia Hospital, New Delhi-110001

Infection prevention and control during health care when novel coronavirus (2019-nCoV) infection is suspected Interim guidance January 2020 WHO/2019-nCoV/IPC/v2020.1

CDC guidelines on PPE <https://www.cdc.gov/HAI/pdfs/ppe/PPEslides6-29-04.pdf>





## Ministry of Health & Family Welfare

### 2019-nCoV Acute Respiratory Disease Prevention and Control Guidelines

#### Ambulance Transfer

When a suspect case of **2019 nCoV- Acute Respiratory Disease** patient has to be transported, the following precautions should be taken by ambulance personnel accompanying the patient:

#### **On arrival to the healthcare facility from where the patient is to be transferred**

**A. Decontaminate hands (alcohol gel/rub) (Fig 1, 2)**

**B. Don Personal Protective Equipment (PPE): (Fig 3)**

A patient requiring Aerosol Generating Precaution: N95 mask with respirator, gloves, long sleeved fluid repellent gown and goggles (Annexure donning PPE)

**C. Inform the hospital of the admission/transfer of a potentially infectious person**

#### **Before leaving the house/healthcare facility**

- Request patient to wear a surgical mask (if tolerated) and advise on Respiratory Hygiene and Cough Etiquette
- A patient with suspected or confirmed **2019 nCoV- Acute Respiratory Disease** should not travel with other patients

#### **In ambulance**

- Remove gloves, decontaminate hands and put on new gloves before touching the patient and before a clean or aseptic procedure, if required. Wearing gloves does not replace hand hygiene.
- Use single use or single patient use medical equipment where possible
- Use disposable linen if available

## Arrival to the referral hospital

- Before the patient leaves the ambulance ensure arrangements are in place for receipt of the patient
- Transfer patient to the care of hospital staff
- After transfer of patient remove PPE (Fig 4)
- Perform hand hygiene

## Before ambulance is used again

- **Cleaning and disinfecting** (PPE as outlined above should be worn while cleaning)

Surfaces (stretcher, chair, door handles etc) should be cleaned with a freshly prepared 1% hypochlorite solution or equivalent

- **Laundry**

Place reusable blankets in a bag, then put into a laundry bag and send for laundering clearly labelling it so that person in the laundry wears appropriate PPE before handling or autoclaves it before opening.

- **Medical equipment**

Follow manufacturer's instructions for cleaning/disinfecting reusable equipment (see guidelines)

- **Management of waste**

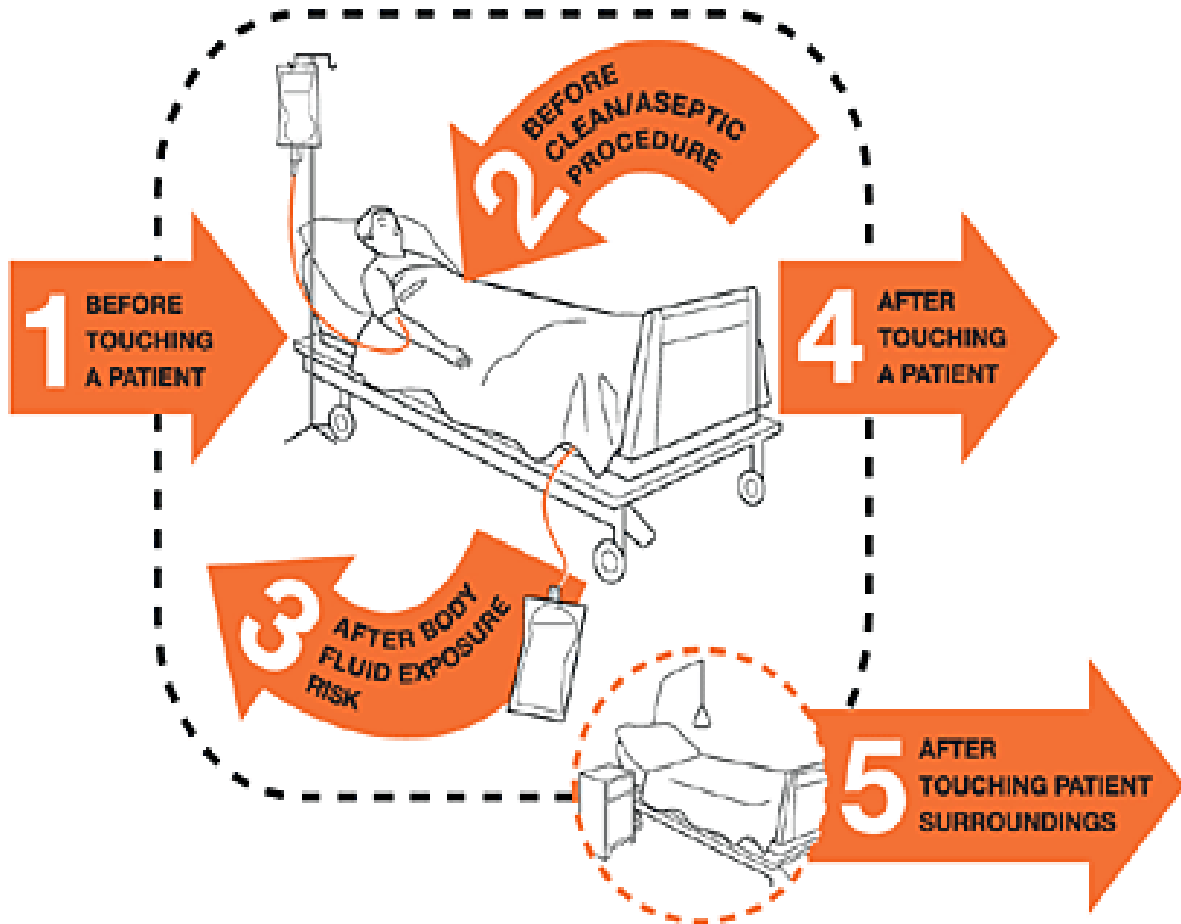
All masks and any waste contaminated with blood or body fluid (including respiratory secretions) should be disposed of as infectious waste in yellow bag

- **Management of sharps** – per Standard Precautions

- **Management of spillages of blood and body fluids** – per Standard Precautions

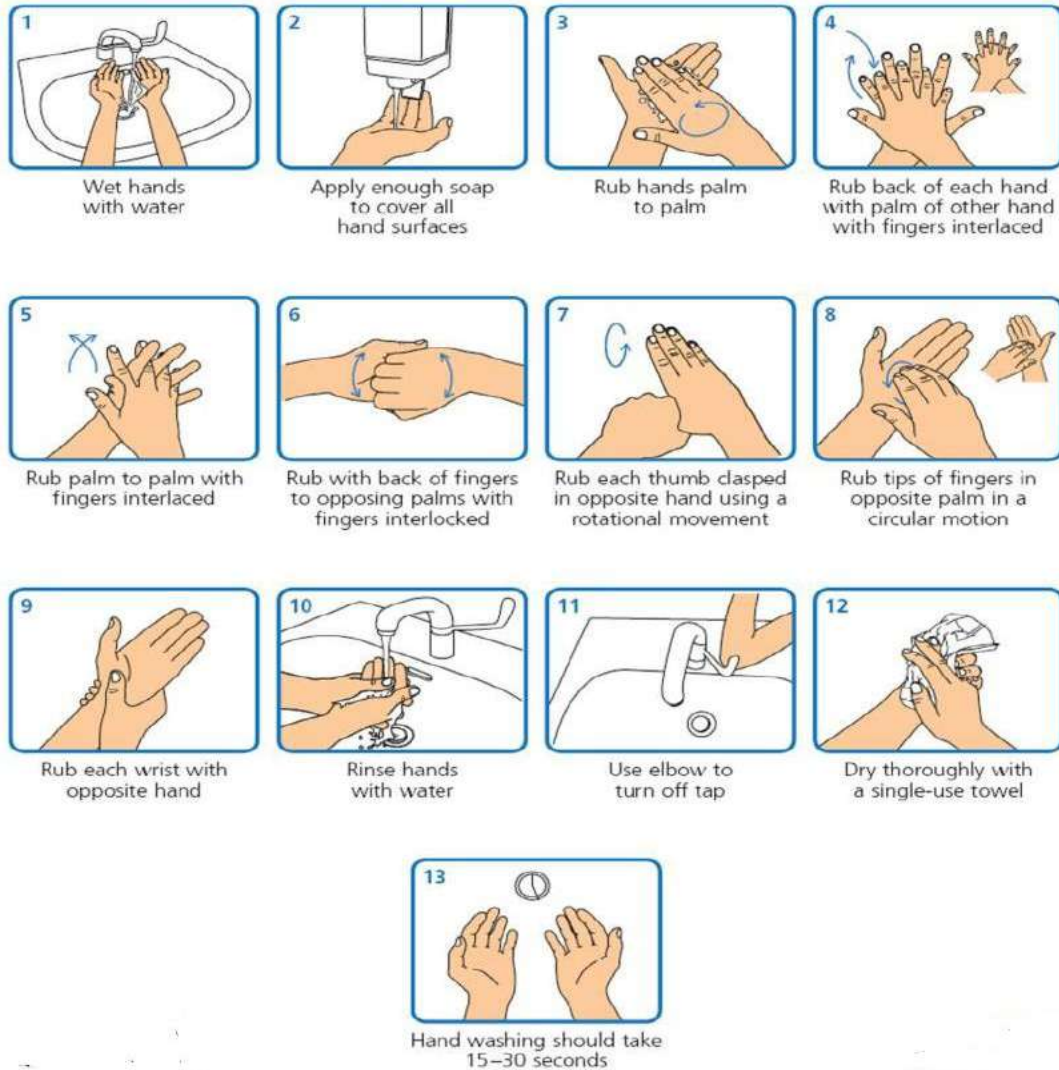
In the ambulance, if the driver's chamber is not separate, driver should also use PPE.

**Fig 1 Hand Hygiene: Moments of Hand Hygiene**



**Fig 2 Steps of Hand Hygiene**

## Hand-washing technique with soap and water



Steps 3-9 are same while using hand rub


**Fig 3 Donning procedures should be diligently & carefully followed as given below.**

**SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.


**1. GOWN**

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist




**2. MASK OR RESPIRATOR**

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator




**3. GOGGLES OR FACE SHIELD**

- Place over face and eyes and adjust to fit



**4. GLOVES**

- Extend to cover wrist of isolation gown



**USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION**

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform Hand Hygiene

5

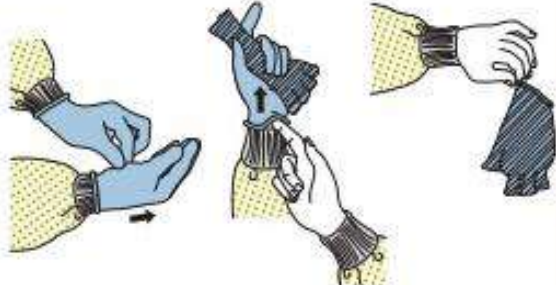
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**Fig 4: Doffing procedures should be diligently & carefully followed as given below:**

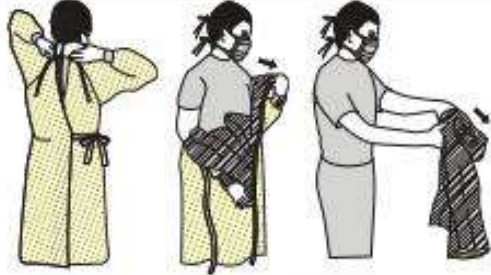
## HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1


There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

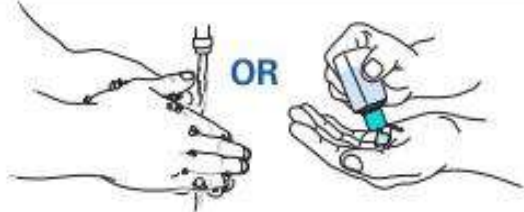
- ### 1. GLOVES

  - Outside of gloves are contaminated!
  - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
  - Hold removed glove in gloved hand
  - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
  - Discard gloves in a waste container
- ### 2. GOGGLES OR FACE SHIELD

  - Outside of goggles or face shield are contaminated!
  - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Remove goggles or face shield from the back by lifting head band or ear pieces
  - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container
- ### 3. GOWN

  - Gown front and sleeves are contaminated!
  - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
  - Pull gown away from neck and shoulders, touching inside of gown only
  - Turn gown inside out
  - Fold or roll into a bundle and discard in a waste container
- ### 4. MASK OR RESPIRATOR

  - Front of mask/respirator is contaminated — DO NOT TOUCH!
  - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
  - Discard in a waste container
- ### 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

**References : Dr Ram Manohar Lohia Hospital, New Delhi-110001**







# Guidance for Management of Pregnant Women in COVID-19 Pandemic



**ICMR - National Institute for Research in Reproductive Health**  
**Jehangir Merwanji Street, Parel, Mumbai - 400 012**

## **PREFACE**

These infection prevention and control considerations are for healthcare facilities providing obstetric care for pregnant patients with confirmed novel coronavirus disease (COVID-19) or pregnant Persons Under Investigation (PUI) in obstetric healthcare settings including obstetrical triage, labour and delivery, recovery and inpatient postpartum settings.

These considerations are based upon the limited evidence available to date about transmission of the virus that causes COVID-19, and knowledge of other viruses that cause severe respiratory illness including influenza, severe acute respiratory syndrome coronavirus (SARS-CoV), and Middle East Respiratory Syndrome coronavirus (MERS-CoV). The approaches outlined below are intentionally cautious until additional data become available to refine recommendations for prevention of person-to-person transmission in inpatient obstetric care settings.

These recommendations are adapted based on guidelines from international agencies like CDC, ACOG, RCOG, FOGSI and Lancet publications. However, they are simplified and made user friendly for Indian context. This guidance is prepared considering resources in our government health settings.

## Guidance for Management of Pregnant Women in COVID-19 Pandemic

Obstetric units should take into consideration:

Appropriate isolation of pregnant patients who have confirmed COVID-19 or are Persons Under Investigations

Basic and refresher training for all healthcare personnel to include correct adherence to infection control practices, Personal Protective Equipment (PPE) use and handling (preferably by a video presentation)

Sufficient and appropriate PPE supplies positioned at all points of care

Processes to protect new-borns from risk of COVID-19

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# **1. Introduction**

## **1.1 Effect of COVID-19 on Pregnancy**

- Pregnant women do not appear more likely to contract the infection than the general population. However, pregnancy itself alters the body's immune system and response to viral infections in general, which can occasionally be related to more severe symptoms and this will be the same for COVID-19.
- Reported cases of COVID-19 pneumonia in pregnancy are milder and with good recovery.
- In other types of coronavirus infection (SARS, MERS), the risks to the mother appear to increase in particular during the last trimester of pregnancy. There are case reports of preterm birth in women with COVID-19 but it is unclear whether the preterm birth was always iatrogenic, or whether some were spontaneous.
- Pregnant women with heart disease are at highest risk (congenital or acquired).
- The coronavirus epidemic increases the risk of perinatal anxiety and depression, as well as domestic violence. It is critically important that support for women and families is strengthened as far as possible; that women are asked about mental health at every contact

## **1.2 Transmission**

- With regard to vertical transmission (transmission from mother to baby antenatally or intrapartum), emerging evidence now suggests that vertical transmission is probable, although the proportion of pregnancies affected and the significance to the neonate has yet to be determined.
- At present, there are no recorded cases of vaginal secretions being tested positive for COVID-19.
- At present, there are no recorded cases of breast milk being tested positive for COVID-19.

## **1.3 Effect on Foetus**

- There are currently no data suggesting an increased risk of miscarriage or early pregnancy loss in relation to COVID-19.
- There is no evidence currently that the virus is teratogenic. Long term data is awaited.
- COVID-19 infection is currently not an indication for Medical Termination of Pregnancy.

## 2. General Guidelines for Obstetric Health Care Providers

- Ob-gyns and other health care practitioners should contact their local and/or state health department for guidance on testing persons under investigation and should follow the national protocol.
- Health care practitioners should immediately notify infection control personnel at their health care facility and their local or state health department in the event of a PUI for COVID-19.
- A registry for all women admitted to with confirmed COVID-19 infection in pregnancy should be maintained. Maternal and neonatal records including outcome should be completed in detail and preserved for analysis in future.
- Health care providers should create a plan to address the possibility of a decreased health care workforce, potential shortage of personal protective equipment, limited isolation rooms, and should maximize the use of telehealth across as many aspects of prenatal care as possible.
- Each facility should consider their appropriate space and staffing needs to prevent transmission of the virus that causes COVID-19.
- Pregnant women should be advised to increase their social distancing to reduce the risk of infection and practice hand hygiene.
- Health care practitioners should promptly notify infection control personnel at their facility of the anticipated arrival of a pregnant patient who has confirmed COVID-19 or is a PUI so that infection control measures can be kept in place.
- Intrapartum services should be provided in a way that is safe, with reference to minimum staffing requirements and the ability to provide emergency obstetric, anaesthetic and neonatal care where indicated.
- A single, asymptomatic birth partner should be permitted to stay with the woman, at a minimum, through pregnancy and birth. Visitors should be instructed to wear appropriate PPE, including gown, gloves, face mask, and eye protection.
- Women should be met at the maternity unit entrance by staff wearing appropriate PPE and be provided with a surgical face mask. The face mask should not be removed until the woman is isolated in a suitable room.
- Staff providing care should take Personal Protective Equipment (PPE) precautions as per national guidance.

### 3. Specific Obstetric Management Considerations

#### 3.1 Medical History

For all pregnant women obtain the following information:

- A detailed travel history
- History of exposure to people with symptoms of COVID-19
- Symptoms of COVID-19
- Coming from hot spot area
- Immunocompromised conditions

#### 3.2 Information to be shared with pregnant women

Pregnant women should be informed as follows:

If you are infected with COVID-19 you are still most likely to have no symptoms or a mild illness from which you will make a full recovery.

If you develop more severe symptoms or your recovery is delayed, this may be a sign that you are developing a more significant chest infection that requires enhanced care; you should contact your maternity care team immediately.

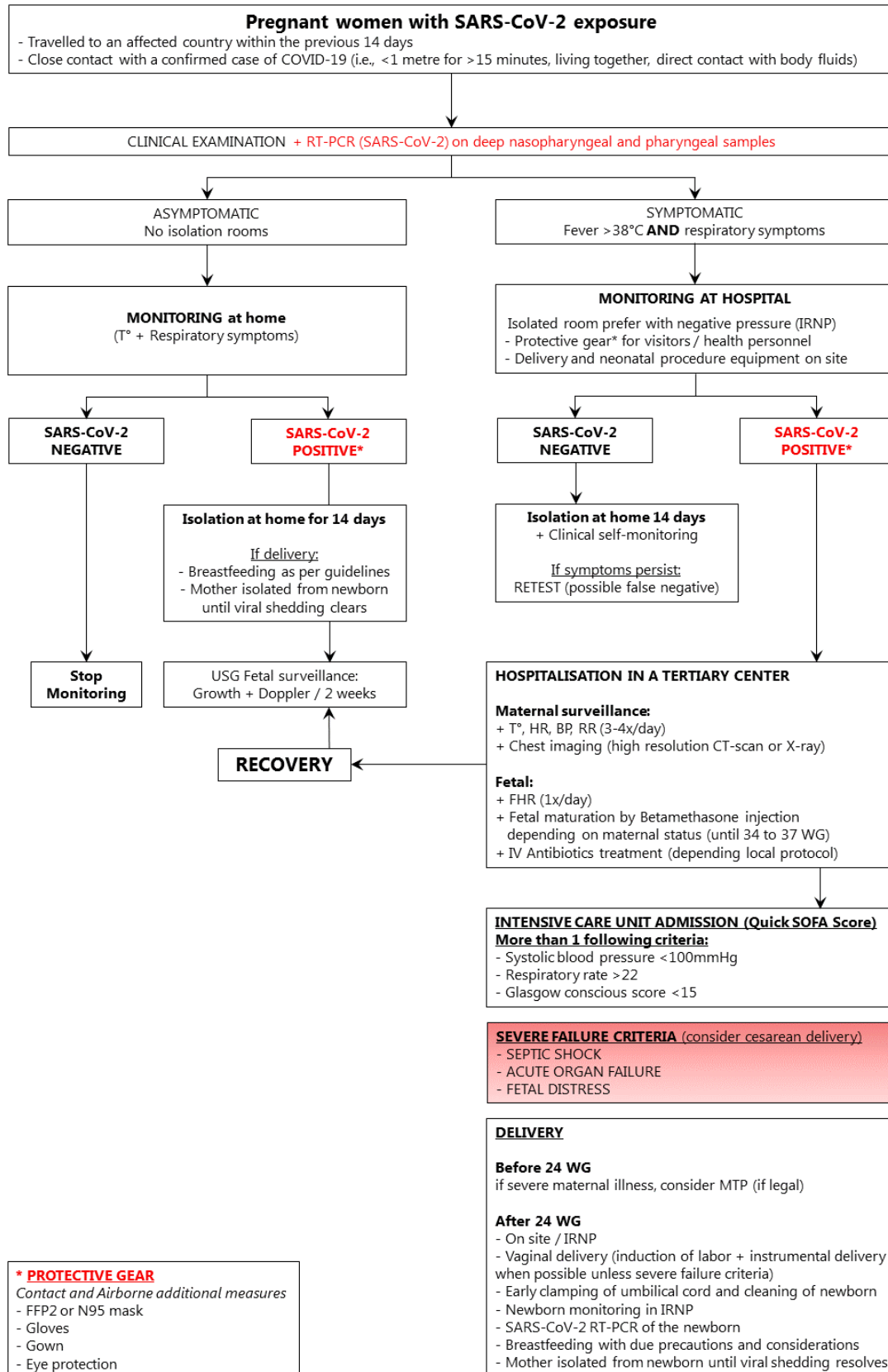
There may be a need to reduce the number of antenatal visits you have. However, do not reduce your number of visits without agreeing first with your maternity team.

#### 3.3 Do's and Don'ts for Obstetric care providers in COVID-19 Pandemic

- If a woman meets criteria for COVID-19 testing, she should be tested. Until test results are available, she should be treated as though she has confirmed COVID-19.
- Do not delay obstetric management in order to test for COVID-19.
- Elective procedures like induction of labour for indications that are not strictly necessary, routine growth scans not for a strict guidance-based indication and routine investigations should be reduced to minimum at discretion of care provider.
- If ultrasound equipment is used, it should be decontaminated after use.

# 4. Management of COVID-19 in Pregnancy

## 4.1 Flowchart for Management in Pregnant Women (Adapted from Lancet)





## 4.2 Antenatal Care

- Women should be advised to attend routine antenatal care, tailored to minimum, at the discretion of the maternal care provider at 12, 20, 28 and 36 weeks of gestation, unless they meet current self-isolation criteria.
- For women who have had symptoms, appointments can be deferred until 7 days after the start of symptoms, unless symptoms (aside from persistent cough) become severe. Foetal Kick count to be maintained.
- If needed to visit health centre, should take own transport or call 108, informing the ambulance staff about her status.
- For women who are self-quarantined because someone in their household has possible symptoms of COVID-19, appointments should be deferred for 14 days.
- Any woman who has a routine appointment delayed for more than 3 weeks should be contacted. (In rural areas ANMs/ASHAs can contact by telephone/ routine household visits with PPE).
- Even if a woman has previously tested negative for COVID-19, if she presents with symptoms again, COVID-19 should be suspected.
- Referral to antenatal ultrasound services for foetal growth surveillance is recommended after 14 days following the resolution of acute illness.

### Note:

- *The service providers can assess the feasibility of isolation for the patient at home, especially if in slums/small households, else she could be admitted in hospital or quarantine facility.*
- *Also, self-quarantine for close contacts of the pregnant patient tested positive for 14 days.*
- *Whether she has attended ANC clinic in the last 14 days before testing, if so self-quarantine of the service providers.*
- *If a woman tests positive, she should be advised to deliver at least at an FRU (Rural/SDH); preferably a tertiary facility anticipating the complications during delivery.*

### 4.3 Intrapartum Care

Once settled in an isolation room, a full maternal and foetal assessment should be conducted to include:

- Assessment of the severity of COVID-19 symptoms, which should follow a multi-disciplinary team approach including an infectious diseases or medical specialist.
- Delivery should be preferably at tertiary care centre.
- Maternal observations including temperature, respiratory rate & oxygen saturations.
- Confirmation of the onset of labour, as per standard care.
- Electronic foetal monitoring using cardiotocograph (CTG).
- Hourly oxygen saturation during labour.

### 4.4 Care in Labour

- Aim to keep oxygen saturation >94%, titrating oxygen therapy accordingly.
- If the woman has signs of sepsis, investigate and treat as per guidance on sepsis in pregnancy, but also consider active COVID-19 as a cause of sepsis and investigate according to guidance.
- Continuous electronic foetal monitoring in labour is recommended.
- There is currently no evidence to favour one mode of birth over another. Mode of birth should not be influenced by the presence of COVID-19, unless the woman's respiratory condition demands urgent delivery.
- There is no evidence that epidural or spinal analgesia or anaesthesia is contraindicated in the presence of coronaviruses. Epidural analgesia should therefore be recommended in labour to women with suspected/confirmed COVID-19 to minimise the need for general anaesthesia if urgent delivery is needed.
- In case of deterioration in the woman's symptoms, make an individual assessment regarding the risks and benefits of continuing the labour, versus emergency caesarean birth if this is likely to assist efforts to resuscitate the mother.
- When caesarean birth or other operative procedure is advised, it should be done after wearing PPE.
- An individualised decision should be made regarding shortening the length of the second stage of labour with elective instrumental birth in a symptomatic woman who is becoming exhausted or hypoxic.

## 4.5 Management of Patients with COVID-19 Admitted to Critical Care

Particular considerations for pregnant women are:

- Hourly observations, monitoring both the absolute values and the trends.
- Titrate oxygen to keep saturations >94%.
- Hourly respiratory rate looking for the rate and trends:
- Young fit women can compensate for deterioration in respiratory function and are able to maintain normal oxygen saturations before they suddenly decompensate. So, a rise in the respiratory rate, even if the saturations are normal, may indicate deterioration in respiratory function and should be managed by starting or increasing oxygen.
- Radiographic investigations should be performed as for the non-pregnant adult; this includes chest X-ray and CT of the chest. Chest imaging, especially CT chest, is essential for the evaluation of the patient with COVID-19 and should be performed when indicated, and not delayed due to foetal concerns. Abdominal shielding can be used to protect the foetus as per normal protocols.
- Consider additional investigations to rule out differential diagnoses, e.g. ECG, CTPA as appropriate, echocardiogram. Do not assume all pyrexia is due to COVID-19 and also perform full sepsis screening.
- Consider bacterial infection if the white blood cell count is raised (lymphocytes usually normal or low with COVID-19) and commence antibiotics.
- Apply caution with IV fluid management. Try boluses in volumes of 250-500mls and then assess for fluid overload before proceeding with further fluid resuscitation.
- The frequency and suitability of foetal heart rate monitoring should be considered on an individual basis, taking into consideration the gestational age of the foetus and the maternal condition. If urgent delivery is indicated for foetal reasons, birth should be expedited as normal, as long as the maternal condition is stable.

## 4.6 Postnatal Management

It is unknown whether new-borns with COVID-19 are at increased risk for severe complications. Transmission after birth via contact with infectious respiratory secretions is a concern. Facilities should consider temporarily separating (e.g. separate rooms) the mother who has confirmed COVID-19 or is a PUI, from her baby until the mother's transmission-based precautions are discontinued.

### Considerations below for temporary separation:

- The risks and benefits of temporary separation of the mother from her baby should be discussed with the mother by the healthcare team.
- A separate isolation room should be available for the infant while they remain a PUI.
- The decision to discontinue temporary separation of the mother from her baby should be made on a case-by-case basis in consultation with clinicians, infection prevention and control specialists, and public health officials. Decision should take into account disease severity, illness signs and symptoms, and results of laboratory testing for virus that causes COVID-19, SARS-CoV-2 of mother and neonate.
- **If colocation (sometimes referred to as "rooming in")** of the new-born with his/her ill mother in the same hospital room occurs in accordance with the mother's wishes or is unavoidable due to facility limitations, facilities should consider implementing measures to reduce exposure of the new-born to the virus that causes COVID-19.
- Consider using engineering controls like physical barriers (e.g., a curtain between the mother and new-born) and keeping the new-born  $\geq 6$  feet away from the ill mother.
- If no other healthy adult is present in the room to care for the new-born, a mother who has confirmed COVID-19 or is a PUI should put on a facemask and practice hand hygiene<sup>1</sup> before each feeding or other close contact with her new-born. The facemask should remain in place during contact with the new-born. These practices should continue while the mother is on transmission-based precautions in a healthcare facility.

## 4.7 Breastfeeding

- During temporary separation, mothers who intend to breastfeed should be encouraged to express their breast milk to establish and maintain milk supply.
- If possible, a dedicated breast pump should be provided. Prior to expressing breast milk, mothers should practice hand hygiene. After each pumping session, all parts that come into contact with breast milk should be thoroughly washed and the entire pump should be appropriately disinfected as per the manufacturer's instructions.
- This expressed breast milk should be fed to the new-born by a healthy caregiver.
- If a mother and new-born do room-in and the mother wishes to feed at the breast, she should put on a facemask and practice hand hygiene before each feeding.

## 4.8 Hospital Discharge

Discharge for postpartum women should follow recommendations described in the guidelines for discharge of Hospitalized Patients with COVID-19. Test should be negative and maternal and foetal/neonatal condition should be stable.

## 4.9 General Advice for Obstetric/Emergency Gynaecology Theatre

- Elective obstetric procedures (e.g. cervical cerclage or caesarean) should be scheduled at the end of the operating list.
- Non-elective procedures should be carried out in a second obstetric theatre, where available, allowing time for a full post-operative theatre clean-up as per national health protection guidance.
- The number of staff in the operating theatre should be kept to a minimum, and all must wear appropriate PPE.

#### **4.10 Anaesthesia and Advice regarding Personal Protective Equipment for Caesarean Birth**

- The level of PPE required by healthcare professionals caring for a woman with COVID-19 undergoing a caesarean birth should be determined based on the risk of requiring a general anaesthetic.
- Intubation for general anaesthesia (GA) is an aerosol-generating procedure (AGP). This significantly increases risk of transmission of coronavirus to the attending staff.
- Regional anaesthesia (spinal, epidural or CSE) is not an AGP.
- For the minority of caesarean births where GA is planned from the outset, all staff in theatre should wear full PPE, including a filtering face piece level 3 (FFP3) mask. The scrub team should scrub and don PPE before the GA is commenced.
- For a non-urgent caesarean birth where regional anaesthesia is planned, the risk of requiring GA is very small. In this situation, all staff not required for siting of the regional anaesthetic should stay outside theatre until the block is effective. All staff in theatre should then don PPE with a fluid-resistant surgical mask (FRSM) and eye protection (to prevent against droplet or fomite spread of the virus).
- In the small proportion of cases in which regional anaesthesia cannot be successfully achieved, and GA is required, the scrub team should enter the theatre, scrub and don full PPE, including an FFP3 mask, before the GA is commenced.
- If the risk of requiring conversion to GA is considered significant, the theatre team should scrub and don full PPE, including an FFP3 mask, before the procedure is commenced. An example is a woman whose epidural has been suboptimal during labour, which is 'topped-up' for an emergency caesarean birth.
- If the risk of requiring conversion to GA is considered low, the theatre team should scrub and don PPE with an FRSM with eye protection. Examples include a woman whose epidural has been working well during labour and has been 'topped-up' for an emergency caesarean birth or a woman with a newly sited spinal anaesthetic that was inserted without difficulty and became effective in the expected timeframe.

#### **4.11 Hand Hygiene**

- Hand hygiene includes use of alcohol-based hand sanitizer that contains 60% to 95% alcohol before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves.
- It can also be performed by washing with soap and water for at least 20 seconds.
- If hands are visibly soiled, use soap and water before returning to alcohol-based hand sanitizer.

## 4.12 Personal Protection Equipment for Management of Suspected/Confirmed Patient of COVID-19

### Respiratory protection

- Triple layered surgical mask.
- N95 facemasks.
- These are needed when performing an aerosol-generating procedure or in an area where neonates are being provided respiratory support by CPAP device/ventilator.

### Eye protection


- Goggles (will not be usable by those using vision glasses) or face shield.

### Body protection

- Long-sleeved water-resistant complete gown including head and shoe cover. A single piece head to toe water resistant body cover will be ideal for attending resuscitation in delivery room or OT.
- Hand protection
- Well-fitting gloves.


## Use of Personal Protective Equipment

### • Steps in Wearing PPE (Donning)


- 
- Before wearing the PPE for managing a suspected or confirmed COVID-19 case, proper hand hygiene should be performed. The gown should be donned first.
  - The mask or respirator should be put on next and properly adjusted to fit; remember to fit check the respirator.
  - The goggles or face shield should be donned next and the gloves are donned last.
  - Keep in mind, the combination of PPE used, and therefore the sequence for donning, will be determined by the precautions that need to be taken.

### • Steps in Removing PPE (Doffing)


Wearing the PPE correctly will protect the healthcare worker from contamination. After the patient has been examined or desired procedure is performed, the removal of the PPE is a critical and important step that needs to be carefully carried out in order to avoid self-contamination because the PPE could by now be contaminated.




•The gloves are removed first because they are considered a heavily contaminated item. Use of alcohol-based hand disinfectant should be considered before removing the gloves. Dispose of the gloves in a biohazard bin.




•After the removal of gloves, hand hygiene should be performed, and a new pair of gloves should be worn to further continue doffing procedure. Using a new pair of gloves will prevent selfcontamination. Unbuttoning of the backside of the gown, performed by an assistant. Removal of gown to be performed by grabbing the back side of the gown and pulling it away from the body. Single-use gowns can now be disposed of; reusable gowns have to be placed in a bag or container for disinfection.




•After the gown, the goggles should be removed and either disposed if they are single-use, or placed in a bag or container for disinfection. In order to remove the goggles, a finger should be placed under the textile elastic strap in the back of the head and the goggles taken off. Touching the front part of the goggles, which can be contaminated, should be avoided. If goggles with temples are used, they should be removed as per manufacturer's recommendations.



•The respirator/ mask should be removed next. In order to remove the respirator/mask, a finger or thumb should be placed under the straps in the back and the respirator taken off. The respirator (or the surgical mask) should be disposed of after removal. It is important to avoid touching the respirator/mask with the gloves (except for the straps) during its removal.



•The last PPE items that should be removed are the new set of gloves that were worn after disposal of the contaminated gloves. Use of alcohol-based solution should be considered before removing the gloves. The gloves should be removed Dispose of the gloves in a biohazard bin.



•After glove removal, hand hygiene should be performed.



## 5. Additional Information and References

- Government of India, Ministry of Health & Family Welfare, Directorate General of Health Services (EMR Division). Revised Guidelines on Clinical Management of COVID-19. [Online] March 31, 2020. Accessed on April 5, 2020.
- The Royal College of Midwives, Royal College of Obstetrics and Gynaecology, Royal College of Paediatrics and Child Health, Royal College of Anaesthetists. Coronavirus COVID-19 Infection in Pregnancy; Version 5. [Online] March 28, 2020. Accessed on April 5, 2020.
- Favre G, Pomar L, Qi X, Nielsen-Saines K, Musso D, Baud D. Guidelines for pregnant women with suspected SARS-CoV-2 infection. *Lancet Infectious Diseases* 2020 pii: S1473-3099(20)30157-2. [Online] March 3, 2020. Accessed on April 5, 2020.
- American College of Obstetricians and Gynecologists. Novel Coronavirus 2019 (COVID-19) Practice Advisory [Online] March 13, 2020. Accessed on April 5, 2020.
- Centres for Disease Control and Prevention. Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings. [Online] April 4, 2020. Accessed on April 5, 2020.
- Chawla D, et al. Perinatal-Neonatal Management of COVID-19 Infection. *Indian Paediatrics* 2020 pii: S097475591600154. [Online] April 1, 2020. Accessed on April 5, 2020.
- The Federation of Obstetric and Gynaecological Societies of India. Good Clinical Practice recommendation on Pregnancy with COVID-19 Infection; Version 1; [Online] March 28, 2020. Accessed on April 5, 2020.

## **Guidelines for Liver Transplantation and COVID-19 infection**

*These guidelines have been prepared by Liver Transplant Society of India (LTSI). In view of rapidly changing scenario of COVID-19 infection in India, these guidelines may be revised/updated accordingly.*

Covid-19 is caused by the novel coronavirus named Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2) that emerged in Hubei, Wuhan province of China in December 2019. It has now been declared as Global Pandemic. Immunocompromised patients are at a greater risk and there is an immediate need of guidelines for liver transplantation in India, both in deceased donor Liver Transplant (DDLT) and living donor Liver Transplant (LDLT) Centres. Also, health care transmissions of COVID-19 have occurred and given the potential for greater infectivity, strict isolation precautions should be followed for anyone with suspected SARS-CoV2.

### **Guidelines for issues specific to Liver Transplant**

#### **A. Status of doing Liver Transplant**

1. With the currently available knowledge, it is likely that the COVID-19 pandemic in India is going to be prolonged. This is likely to have an impact on the patients who are in need of liver transplants in the country. As the current situation is not ideal for liver transplantation, it should be done cautiously in selected situations.
2. Acute liver failure (ALF) – can be done as usual after medical therapy has failed.
3. Acute-on-Chronic Liver Failure (ACLF with organ failure) - decision for transplantation should be based on individual's centre's discretion

#### **B. Deceased donor Liver Transplant (DDLT)**

1. Elective DDLT should be done only if donor is COVID-19 negative (both RT-PCR and Serologic test negative).

#### **C. Living donor liver transplant (LDLT)**

1. The current situation is not appropriate for routine living donor liver transplant activity. Transplants for Acute Liver failure as well for Acute on Chronic liver failure with organ failure can be done. For other cases, the urgency of liver transplants to be decided by the individual centers on case-to-case basis.

#### **D. Testing for COVID-19**

1. All donors and recipients must undergo testing for COVID-19 as per the national guidelines. Liver transplant should only be carried out if both donor and recipient test negative (both serology and RT-PCR). The timing of the tests should be immediately before the transplant operation. One set of tests (RT-PCR) was deemed mandatory, but a second set of tests would be desirable if transplant is not being carried out immediately.

#### **E. Positive COVID-19 Test Pre-Transplant**

1. If donor / recipient test positive, then the transplant should be put on hold. Subsequently, it can be carried out if they test negative on 2 consecutive tests, and are declared clear of the COVID-19 infection.

**F. Positive COVID-19 Test post-Transplant:**

1. Should the donor or the recipient test positive for COVID-19 post-transplant, treatment including Hydroxychloroquine may be offered after consultation with the infectious disease team. Cardiac workup especially QTc interval is vital. The decision regarding immunosuppressive therapy was left to the individual centers with options of either withholding in cases of severe infection/pneumonia versus reducing the doses in asymptomatic cases.

**G. Personal Protective Gear (PPE):**

1. The transplant operation should be carried out with full personal protective gear as specified by the hospital guidelines.

**H. Consent:**

1. Consent for transplant during the COVID-19 pandemic should clearly mention the possible impact of COVID-19 on the transplant, including false negative rates of the current tests, and the risks of acquiring the infection during their hospital stay/visits.

**I. Donor surgery:**

1. One should avoid minimally invasive surgery and prefer open surgeries during the pandemic in keeping with general guidelines for surgeries during this period.

**J. Follow up post-transplant**

1. Patients should follow up with their respective centres as usual. All routine follow up visits to be done online via telemedicine
2. However, those patients with post-transplant emergencies should attend hospital as usual

**K. Care of sick recipients on waitlist**

1. The management of recipients for various medical complications to be continued in the hospital, including ICU admissions

**L. Prophylactic medications for COVID-19**

1. At present, there is no recommendation for prophylactic medications or vaccinations for transplant patients

**M. Advisory for transplant recipients for COVID-19**

1. All transplant recipients should be sent an advisory from the respective transplant centre regarding various do's and don'ts for prevention of COVID-19 infection

**N. Testing of Transplant Professionals**

1. This should be done selectively if there has been a positive case of COVID-19 in the concern hospital.

## **Guidelines on Clinical management of severe acute respiratory illness (SARI) in suspect/confirmed novel coronavirus (nCoV) cases**

Coronaviruses are respiratory viruses and broadly distributed in humans and other mammals. Some causing illness in people and others that circulate among animals, including camels, cats and bats. Rarely, animal corona viruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS. Although most human coronavirus infections are mild, the epidemics of the severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), have caused more than 10000 cumulative cases in the past two decades, with mortality rates of 10% for SARS-CoV and 37% for MERS-CoV. The current outbreak was initially noticed in a seafood market in Wuhan city in Hubei Province of China on 12th December, 2019 and has spread across China and many countries.

### **Purpose and scope of document**

This document is intended for clinicians taking care of hospitalised adult and paediatric patients with severe acute respiratory infection (SARI) when an nCoV infection is suspected. It is not meant to replace clinical judgment or specialist consultation but rather to strengthen clinical management of these patients and provide to up-to-date guidance. Best practices for SARI including IPC and optimized supportive care for severely ill patients are essential.

This document aims to provide clinicians with updated interim guidance on timely, effective, and safe supportive management of patients with nCoV and SARI, particularly those with critical illness. The recommendations in this document are derived from WHO publications.

### **A. Triage: Early recognition of patients with SARI associated with nCoV infection.**

The purpose of triage is to recognize and sort all patients with SARI at first point of contact with health care system (such as the emergency department). Consider nCOV as a possible etiology of SARI under certain conditions (see Table 1). Triage patients and start emergency treatments based based on disease severity.

Table 1: Definitions of patients with SARI, suspected of nCoV\*

<b>SARI</b>	An ARI with history of fever or measured temperature $\geq 38$ C° and cough; onset within the last ~10 days; and requiring hospitalization. However, the absence of fever does NOT exclude viral infection.
<b>Surveillance case definitions for nCoV*</b>	<p><b>1.</b> Severe acute respiratory infection (SARI) in a person, with history of fever and cough requiring admission to hospital, with no other etiology that fully explains the clinical presentation<sup>1</sup> (clinicians should also be alert to the possibility of atypical presentations in patients who are immunocompromised);</p> <p>AND any of the following:</p> <ul style="list-style-type: none"> <li>a) A history of travel to Wuhan, Hubei Province China in the 14 days prior to symptom onset; or</li> <li><b>b) the disease occurs in a health care worker who has been working in an environment where patients with severe acute respiratory infections are being cared for, without regard to place of residence or history of travel; or</b></li> <li>c) the person develops an unusual or unexpected clinical course, especially sudden deterioration despite appropriate treatment, without regard to place of residence or history of travel, even if another etiology has been identified that fully explains the clinical presentation</li> </ul> <p><b>2.</b> A person with acute respiratory illness of any degree of severity who,</p>

	<p>within 14 days before onset of illness, had any of the following exposures:</p> <p>a) close physical contact<sup>2</sup> with a confirmed case of nCoV infection, while that patient was symptomatic; or</p> <p>b) a healthcare facility in a country where hospital-associated nCoV infections have been reported;</p>
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\* see <https://mohfw.gov.in/media/disease-alerts> for latest case definition

1- Testing should be according to local guidance for management of community-acquired pneumonia. Examples of other etiologies include *Streptococcus pneumoniae*, *Haemophilus influenzae* type B, *Legionella pneumophila*, other recognized primary bacterial pneumonias, influenza viruses, and respiratory syncytial virus.

**2- Close contact is defined as:**

- Health care associated exposure, including providing direct care for nCoV patients, working with health care workers infected with nCoV, visiting patients or staying in the same close environment of a nCoV patient
- Working together in close proximity or sharing the same classroom environment with a with nCoV patient
- Traveling together with nCoV patient in any kind of conveyance
- Living in the same household as a nCoV patient

The epidemiological link may have occurred within a 14-day period before or after the onset of illness in the case under consideration

Novel Coronavirus may present with mild, moderate, or severe illness; the latter includes severe pneumonia, ARDS, sepsis and septic shock. Early recognition of suspected patients allows for timely initiation of IPC (see Table 2). Early identification of those with severe manifestations (see Table 2) allows for immediate optimized supportive care treatments and safe, rapid admission (or referral) to intensive care unit according to institutional or national protocols. For those with mild illness, hospitalization may not be required unless there is concern for rapid deterioration. All patients discharged home should be instructed to return to hospital if they develop any worsening of illness.

Table 2: Clinical syndromes associated with nCoV infection

Uncomplicated illness	Patients with uncomplicated upper respiratory tract viral infection, may have non-specific symptoms such as fever, cough, sore throat, nasal congestion, malaise, headache, muscle pain or malaise. The elderly and immunosuppressed may present with atypical symptoms. These patients do not have any signs of dehydration, sepsis or shortness of breath
Mild pneumonia	Patient with pneumonia and no signs of severe pneumonia. Child with non-severe pneumonia has cough or difficulty breathing + fast breathing: fast breathing (in breaths/min): <2 months, $\geq 60$ ; 2–11 months, $\geq 50$ ; 1–5 years, $\geq 40$ and no signs of severe pneumonia
Severe pneumonia	Adolescent or adult: fever or suspected respiratory infection, plus one of respiratory rate $>30$ breaths/min, severe respiratory distress, or SpO <sub>2</sub> $<90\%$ on room air Child with cough or difficulty in breathing, plus at least one of the following: central cyanosis or SpO <sub>2</sub> $<90\%$ ; severe respiratory distress (e.g. grunting, very severe chest indrawing); signs of pneumonia with a general danger sign: inability to breastfeed or drink, lethargy or unconsciousness, or convulsions. Other signs of pneumonia may be present: chest indrawing, fast breathing (in breaths/min): <2 months, $\geq 60$ ; 2–11 months, $\geq 50$ ; 1–5 years, $\geq 40$ . The diagnosis is clinical; chest imaging can exclude complications.
Acute Respiratory Distress Syndrome	<b>Onset:</b> new or worsening respiratory symptoms within one week of known clinical insult. <b>Chest imaging (radiograph, CT scan, or lung ultrasound):</b> bilateral opacities, not fully explained by effusions, lobar or lung collapse, or nodules.

	<p><b>Origin of oedema:</b> respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echocardiography) to exclude hydrostatic cause of oedema if no risk factor present.</p> <p><b>Oxygenation (adults):</b></p> <ul style="list-style-type: none"> <li>• Mild ARDS: <math>200 \text{ mmHg} &lt; \text{PaO}_2/\text{FiO}_2 \leq 300 \text{ mmHg}</math> (with PEEP or CPAP <math>\geq 5 \text{ cm H}_2\text{O}</math>, or non-ventilated)</li> <li>• Moderate ARDS: <math>100 \text{ mmHg} &lt; \text{PaO}_2/\text{FiO}_2 \leq 200 \text{ mmHg}</math> with PEEP <math>\geq 5 \text{ cm H}_2\text{O}</math>, or non-ventilated)</li> <li>• Severe ARDS: <math>\text{PaO}_2/\text{FiO}_2 \leq 100 \text{ mmHg}</math> with PEEP <math>\geq 5 \text{ cmH}_2\text{O}</math>, or non-ventilated)</li> <li>• When <math>\text{PaO}_2</math> is not available, <math>\text{SpO}_2/\text{FiO}_2 \leq 315</math> suggests ARDS (including in non-ventilated patients)</li> </ul> <p>Oxygenation (children; note OI = Oxygenation Index and OSI = Oxygenation Index using <math>\text{SpO}_2</math>)</p> <ul style="list-style-type: none"> <li>• Bilevel NIV or CPAP <math>\geq 5 \text{ cmH}_2\text{O}</math> via full face mask: <math>\text{PaO}_2/\text{FiO}_2 \leq 300 \text{ mmHg}</math> or <math>\text{SpO}_2/\text{FiO}_2 \leq 264</math></li> <li>• Mild ARDS (invasively ventilated): <math>4 \leq \text{OI} &lt; 8</math> or <math>5 \leq \text{OSI} &lt; 7.5</math></li> <li>• Moderate ARDS (invasively ventilated): <math>8 \leq \text{OI} &lt; 16</math> or <math>7.5 \leq \text{OSI} &lt; 12.3</math></li> <li>• Severe ARDS (invasively ventilated): <math>\text{OI} \geq 16</math> or <math>\text{OSI} \geq 12.3</math></li> </ul>
Sepsis	<p><b>Adults:</b> life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection, with organ dysfunction. Signs of organ dysfunction include: altered mental status, difficult or fast breathing, low oxygen saturation, reduced urine output, fast heart rate, weak pulse, cold extremities or low blood pressure, skin mottling, or laboratory evidence of coagulopathy, thrombocytopenia, acidosis, high lactate or hyperbilirubinemia.</p> <p><b>Children:</b> suspected or proven infection and <math>\geq 2</math> SIRS criteria, of which one must be abnormal temperature or white blood cell count</p>
Septic shock	<p><b>Adults:</b> persisting hypotension despite volume resuscitation, requiring vasopressors to maintain MAP <math>\geq 65 \text{ mmHg}</math> and serum lactate level <math>&gt; 2 \text{ mmol/L}</math></p> <p><b>Children:</b> any hypotension (SBP <math>&lt; 5^{\text{th}}</math> centile or <math>&gt; 2 \text{ SD}</math> below normal for age) or 2-3 of the following: altered mental state; tachycardia or bradycardia (HR <math>&lt; 90 \text{ bpm}</math> or <math>&gt; 160 \text{ bpm}</math> in infants and HR <math>&lt; 70 \text{ bpm}</math> or <math>&gt; 150 \text{ bpm}</math> in children); prolonged capillary refill (<math>&gt; 2 \text{ sec}</math>) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia</p>

## B. Immediate implementation of appropriate IPC measures

IPC is a critical and integral part of clinical management of patients and should be initiated at the point of entry of the patient to hospital (typically the Emergency Department). Standard precautions should always be routinely applied in all areas of health care facilities. Standard precautions include hand hygiene; use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin. Standard precautions also include prevention of needle-stick or sharps injury; safe waste management; cleaning and disinfection of equipment; and cleaning of the environment.

Table 3: How to implement infection prevention and control measures for patients with suspected or confirmed nCoV infection

At triage	<ul style="list-style-type: none"> <li>• Give suspect patient a medical mask and direct patient to separate area, an isolation room if available. Keep at least 1 meter distance between suspected patients and other patients. Instruct all patients to cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others. Perform</li> </ul>
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	hand hygiene after contact with respiratory secretions
Apply droplet precautions	<ul style="list-style-type: none"> <li>• Droplet precautions prevent large droplet transmission of respiratory viruses. Use a medical mask if working within 1-2 metres of the patient. Place patients in single rooms, or group together those with the same etiological diagnosis. If an etiological diagnosis is not possible, group patients with similar clinical diagnosis and based on epidemiological risk factors, with a spatial separation. When providing care in close contact with a patient with respiratory symptoms (e.g. coughing or sneezing), use eye protection (face-mask or goggles), because sprays of secretions may occur. Limit patient movement within the institution and ensure that patients wear medical masks when outside their rooms</li> </ul>
Apply contact precautions	<ul style="list-style-type: none"> <li>• Droplet and contact precautions prevent direct or indirect transmission from contact with contaminated surfaces or equipment (i.e. contact with contaminated oxygen tubing/interfaces). Use PPE (medical mask, eye protection, gloves and gown) when entering room and remove PPE when leaving. If possible, use either disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect between each patient use. Ensure that health care workers refrain from touching their eyes, nose, and mouth with potentially contaminated gloved or ungloved hands. Avoid contaminating environmental surfaces that are not directly related to patient care (e.g. door handles and light switches). Ensure adequate room ventilation. Avoid movement of patients or transport. Perform hand hygiene</li> </ul>
Apply airborne precautions when performing an aerosol generating procedure	<ul style="list-style-type: none"> <li>• Ensure that healthcare workers performing aerosol-generating procedures (i.e. open suctioning of respiratory tract, intubation, bronchoscopy, cardiopulmonary resuscitation) use PPE, including gloves, long-sleeved gowns, eye protection, and fit-tested particulate respirators (N95 or equivalent, or higher level of protection). (The scheduled fit test should not be confused with user seal check before each use.) Whenever possible, use adequately ventilated single rooms when performing aerosol-generating procedures, meaning negative pressure rooms with minimum of 12 air changes per hour or at least 160 litres/second/patient in facilities with natural ventilation. Avoid the presence of unnecessary individuals in the room. Care for the patient in the same type of room after mechanical ventilation commences</li> </ul>

Abbreviations: ARI, acute respiratory infection; PPE, personal protective equipment

### C. Early supportive therapy and monitoring

- a. Give supplemental oxygen therapy immediately to patients with SARI and respiratory distress, hypoxaemia, or shock: Initiate oxygen therapy at 5 L/min and titrate flow rates to reach target SpO<sub>2</sub> ≥90% in non-pregnant adults and SpO<sub>2</sub> ≥92-95 % in pregnant patients. Children with emergency signs (obstructed or absent breathing, severe respiratory distress, central cyanosis, shock, coma or convulsions) should receive oxygen therapy during resuscitation to target SpO<sub>2</sub> ≥94%; otherwise, the target SpO<sub>2</sub> is ≥90%. All areas where patients with SARI are cared for should be equipped with pulse oximeters, functioning oxygen systems and disposable, single-use, oxygen-delivering interfaces (nasal cannula, simple face mask, and mask with reservoir bag). Use contact precautions when handling contaminated oxygen interfaces of patients with nCoV infection
- b. Use conservative fluid management in patients with SARI when there is no evidence of shock: Patients with SARI should be treated cautiously with intravenous fluids, because aggressive fluid

resuscitation may worsen oxygenation, especially in settings where there is limited availability of mechanical ventilation

- c. Give empiric antimicrobials to treat all likely pathogens causing SARI. Give antimicrobials within one hour of initial patient assessment for patients with sepsis: Although the patient may be suspected to have nCoV, administer appropriate empiric antimicrobials within ONE hour of identification of sepsis. Empiric antibiotic treatment should be based on the clinical diagnosis (community-acquired pneumonia, health care-associated pneumonia [if infection was acquired in healthcare setting], or sepsis), local epidemiology and susceptibility data, and treatment guidelines. Empiric therapy includes a neuraminidase inhibitor for treatment of influenza when there is local circulation or other risk factors, including travel history or exposure to animal influenza viruses.<sup>18</sup> Empiric therapy should be de-escalated on the basis of microbiology results and clinical judgment
- d. Do not routinely give systemic corticosteroids for treatment of viral pneumonia or ARDS outside of clinical trials unless they are indicated for another reason: A systematic review of observational studies of corticosteroids administered to patients with SARS reported no survival benefit and possible harms (avascular necrosis, psychosis, diabetes, and delayed viral clearance). A systematic review of observational studies in influenza found a higher risk of mortality and secondary infections with corticosteroids; the evidence was judged as very low to low quality due to confounding by indication. A subsequent study that addressed this limitation by adjusting for time-varying confounders found no effect on mortality. Finally, a recent study of patients receiving corticosteroids for MERS used a similar statistical approach and found no effect of corticosteroids on mortality but delayed lower respiratory tract (LRT) clearance of MERS-CoV. Given lack of effectiveness and possible harm, routine corticosteroids should be avoided unless they are indicated for another reason. See section F for the use of corticosteroids in sepsis.
- e. Closely monitor patients with SARI for signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis, and apply supportive care interventions immediately: Application of timely, effective, and safe supportive therapies is the cornerstone of therapy for patients that develop severe manifestations of nCoV
- f. Understand the patient's co-morbid condition(s) to tailor the management of critical illness and appreciate the prognosis: During intensive care management of SARI, determine which chronic therapies should be continued and which therapies should be stopped temporarily
- g. Communicate early with patient and family: Communicate proactively with patients and families and provide support and prognostic information. Understand the patient's values and preferences regarding life-sustaining interventions

#### **D. Collection of specimens for laboratory diagnosis**

Guidance on specimen collection, processing, transportation, including related biosafety procedures, is available on <https://mohfw.gov.in/media/disease-alerts>

##### Points to remember

- Collect blood cultures for bacteria that cause pneumonia and sepsis, ideally before antimicrobial therapy. DO NOT delay antimicrobial therapy to collect blood cultures
- Collect specimens from BOTH the upper respiratory tract (URT; nasopharyngeal and oropharyngeal) AND lower respiratory tract (LRT; expectorated sputum, endotracheal aspirate, or bronchoalveolar lavage) for nCoV testing by RT-PCR. Clinicians may elect to collect only LRT samples when these are readily available (for example, in mechanically ventilated patients)



- Use appropriate PPE for specimen collection (droplet and contact precautions for URT specimens; airborne precautions for LRT specimens). When collecting URT samples, use viral swabs (sterile Dacron or rayon, not cotton) and viral transport media. Do not sample the nostrils or tonsils. In a patient with suspected novel coronavirus, especially with pneumonia or severe illness, a single URT sample does not exclude the diagnosis, and additional URT and LRT samples are recommended. LRT (vs. URT) samples are more likely to be positive and for a longer period. Clinicians may elect to collect only LRT samples when these are readily available (for example, in mechanically ventilated patients). Sputum induction should be avoided due to increased risk of increasing aerosol transmission.

Dual infections with other respiratory viral infections have been found in SARS and MERS cases. At this stage we need detailed microbiologic studies in all suspected cases. Both URT and LRT specimens can be tested for other respiratory viruses, such as influenza A and B (including zoonotic influenza A), respiratory syncytial virus, parainfluenza viruses, rhinoviruses, adenoviruses, enteroviruses (e.g. EVD68), human metapneumovirus, and endemic human coronaviruses (i.e. HKU1, OC43, NL63, and 229E). LRT specimens can also be tested for bacterial pathogens, including *Legionella pneumophila*

In hospitalized patients with confirmed nCoV infection, repeat URT and LRT samples should be collected to demonstrate viral clearance. The frequency of specimen collection will depend on local circumstances but should be at least every 2 to 4 days until there are two consecutive negative results (both URT and LRT samples if both are collected) in a clinically recovered patient at least 24 hours apart. If local infection control practice requires two negative results before removal of droplet precautions, specimens may be collected as often as daily

#### **E. Management of hypoxemic respiratory failure and ARDS**

Recognize severe hypoxemic respiratory failure when a patient with respiratory distress is failing standard oxygen therapy. Patients may continue to have increased work of breathing or hypoxemia even when oxygen is delivered via a face mask with reservoir bag (flow rates of 10-15 L/min, which is typically the minimum flow required to maintain bag inflation;  $FiO_2$  0.60-0.95). Hypoxemic respiratory failure in ARDS commonly results from intrapulmonary ventilation-perfusion mismatch or shunt and usually requires mechanical ventilation

High-flow nasal oxygen (HFNO) or non-invasive ventilation (NIV) should only be used in selected patients with hypoxemic respiratory failure. The risk of treatment failure is high in patients with MERS treated with NIV, and patients treated with either HFNO or NIV should be closely monitored for clinical deterioration. HFNO systems can deliver 60 L/min of gas flow and  $FiO_2$  up to 1.0; paediatric circuits generally only handle up to 15 L/min, and many children will require an adult circuit to deliver adequate flow. Compared to standard oxygen therapy, HFNO reduces the need for intubation. Patients with hypercapnia (exacerbation of obstructive lung disease, cardiogenic pulmonary oedema), hemodynamic instability, multi-organ failure, or abnormal mental status should generally not receive HFNO, although emerging data suggest that HFNO may be safe in patients with mild-moderate and non-worsening hypercapnia.<sup>25</sup> Patients receiving HFNO should be in a monitored setting and cared for by experienced personnel capable of endotracheal intubation in case the patient acutely deteriorates or does not improve after a short trial (about 1 hr). Evidence-based guidelines on HFNO do not exist, and reports on HFNO in MERS patients are limited.

NIV guidelines make no recommendation on use in hypoxemic respiratory failure (apart from cardiogenic pulmonary oedema and post-operative respiratory failure) or pandemic viral illness (referring to studies of SARS and pandemic influenza). Risks include delayed intubation, large tidal volumes, and injurious transpulmonary pressures. Limited data suggest a high failure rate when MERS patients receive NIV. Patients receiving a trial of NIV should be in a monitored setting and cared for by experienced personnel capable of endotracheal intubation in case the patient acutely deteriorates or does not improve after a short trial (about 1 hr). Patients with hemodynamic instability, multiorgan failure, or abnormal mental status should not receive NIV.

Recent publications suggest that newer HFNO and NIV systems with good interface fitting do not create widespread dispersion of exhaled air and therefore should be associated with low risk of airborne transmission.

Endotracheal intubation should be performed by a trained and experienced provider using airborne precautions. Patients with ARDS, especially young children or those who are obese or pregnant, may desaturate quickly during intubation. Pre-oxygenate with 100% FiO<sub>2</sub> for 5 minutes, via a face mask with reservoir bag, bag-valve mask, HFNO, or NIV. Rapid sequence intubation is appropriate after an airway assessment that identifies no signs of difficult intubation.

Implement mechanical ventilation using lower tidal volumes (4–8 ml/kg predicted body weight, PBW) and lower inspiratory pressures (plateau pressure <30 cmH<sub>2</sub>O). This is a strong recommendation from a clinical guideline for patients with ARDS, and is suggested for patients with sepsis-induced respiratory failure who do not meet ARDS criteria. The initial tidal volume is 6 ml/kg PBW; tidal volume up to 8 ml/kg PBW is allowed if undesirable side effects occur (e.g. dyssynchrony, pH <7.15). Hypercapnia is permitted if meeting the pH goal of 7.30-7.45. Ventilator protocols are available. The use of deep sedation may be required to control respiratory drive and achieve tidal volume targets. Although high driving pressure (plateau pressure–PEEP) may more accurately predict increased mortality in ARDS compared to high tidal volume or plateau pressure, RCTs of ventilation strategies that target driving pressure are not currently available.

In patients with severe ARDS, prone ventilation for >12 hours per day is recommended. Application of prone ventilation is strongly recommended for adult and paediatric patients with severe ARDS but requires sufficient human resources and expertise to be performed safely.

Use a conservative fluid management strategy for ARDS patients without tissue hypoperfusion.

In patients with moderate or severe ARDS, higher PEEP instead of lower PEEP is suggested. PEEP titration requires consideration of benefits (reducing atelectrauma and improving alveolar recruitment) vs. risks (end-inspiratory overdistension leading to lung injury and higher pulmonary vascular resistance). Tables are available to guide PEEP titration based on the FiO<sub>2</sub> required to maintain SpO<sub>2</sub>. A related intervention of recruitment manoeuvres (RMs) is delivered as episodic periods of high continuous positive airway pressure [30–40 cm H<sub>2</sub>O], progressive incremental increases in PEEP with constant driving pressure, or high driving pressure; considerations of benefits vs. risks are similar. Higher PEEP and RMs were both conditionally recommended in a clinical practice guideline. For PEEP, the guideline considered an individual patient data meta-analysis of 3 RCTs. However, a subsequent RCT of high PEEP and prolonged high-pressure RMs showed harm, suggesting that the protocol in this RCT should be avoided. Monitoring of patients to identify those who respond to the

initial application of higher PEEP or a different RM protocol, and stopping these interventions in non-responders, is suggested.

In patients with moderate-severe ARDS ( $\text{PaO}_2/\text{FiO}_2 < 150$ ), neuromuscular blockade by continuous infusion should not be routinely used. One trial found that this strategy improved survival in patients with severe ARDS ( $\text{PaO}_2/\text{FiO}_2 < 150$ ) without causing significant weakness, but results of a recent larger trial found that use of neuromuscular blockage with high PEEP strategy was not associated with survival when compared to a light sedation strategy without neuromuscular blockade. Continuous neuromuscular blockade may still be considered in patients with ARDS in certain situations: ventilator dyssnchony despite sedation, such that tidal volume limitation cannot be reliably achieved; or refractory hypoxemia or hypercapnia.

In settings with access to expertise in extracorporeal life support (ECLS), consider referral of patients with refractory hypoxemia despite lung protective ventilation. A recent guideline made no recommendation about ECLS in patients with ARDS. Since then, an RCT of ECLS for patients with ARDS was stopped early and found no statistically significant difference in the primary outcome of 60-day mortality between ECLS and standard medical management (including prone positioning and neuromuscular blockade). However, ECLS was associated with a reduced risk of the composite outcome of mortality and crossover to ECLS, and a post hoc Bayesian analysis of this RCT showed that ECLS is very likely to reduce mortality across a range of prior assumptions. In patients with MERS-CoV infection, ECLS vs. conventional treatment was associated with reduced mortality in a cohort study. ECLS should only be offered in expert centres with a sufficient case volume to maintain expertise and that can apply the IPC measures required for nCoV patients

**Avoid disconnecting the patient from the ventilator, which results in loss of PEEP and atelectasis. Use in-line catheters for airway suctioning and clamp endotracheal tube when disconnection is required (for example, transfer to a transport ventilator)**

#### **F. Management of septic shock**

Recognize septic shock in adults when infection is suspected or confirmed AND vasopressors are needed to maintain mean arterial pressure (MAP)  $\geq 65$  mmHg AND lactate is  $\geq 2$  mmol/L, in absence of hypovolemia. Recognize septic shock in children with any hypotension (systolic blood pressure [SBP]  $< 5$ th centile or  $> 2$  SD below normal for age) or 2-3 of the following: altered mental state; tachycardia or bradycardia (HR  $< 90$  bpm or  $> 160$  bpm in infants and HR  $< 70$  bpm or  $> 150$  bpm in children); prolonged capillary refill ( $> 2$  sec) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.

In the absence of a lactate measurement, use MAP and clinical signs of perfusion to define shock. Standard care includes early recognition and the following treatments within 1 hour of recognition: antimicrobial therapy and fluid loading and vasopressors for hypotension. The use of central venous and arterial catheters should be based on resource availability and individual patient needs. Detailed guidelines are available for the management of septic shock in adults and children.

In resuscitation from septic shock in adults, give at least 30 ml/kg of isotonic crystalloid in adults in the first 3 hours. In resuscitation from septic shock in children in well-resourced settings, give 20 ml/kg as a rapid bolus and up to 40-60 ml/kg in the first 1 hr.

Do not use hypotonic crystalloids, starches, or gelatins for resuscitation.

Fluid resuscitation may lead to volume overload, including respiratory failure. If there is no response to fluid loading and signs of volume overload appear (for example, jugular venous distension, crackles on lung auscultation, pulmonary oedema on imaging, or hepatomegaly in children), then reduce or discontinue fluid administration. This step is particularly important where mechanical ventilation is not available. Alternate fluid regimens are suggested when caring for children in resource-limited settings.

Crystalloids include normal saline and Ringer's lactate. Determine need for additional fluid boluses (250-1000 ml in adults or 10-20 ml/kg in children) based on clinical response and improvement of perfusion targets. Perfusion targets include MAP ( $>65$  mmHg or age-appropriate targets in children), urine output ( $>0.5$  ml/kg/hr in adults, 1 ml/kg/hr in children), and improvement of skin mottling, capillary refill, level of consciousness, and lactate. Consider dynamic indices of volume responsiveness to guide volume administration beyond initial resuscitation based on local resources and experience. These indices include passive leg raises, fluid challenges with serial stroke volume measurements, or variations in systolic pressure, pulse pressure, inferior vena cava size, or stroke volume in response to changes in intrathoracic pressure during mechanical ventilation.

Starches are associated with an increased risk of death and acute kidney injury vs. crystalloids. The effects of gelatins are less clear, but they are more expensive than crystalloids. Hypotonic (vs. isotonic) solutions are less effective at increasing intravascular volume. Surviving Sepsis also suggests albumin for resuscitation when patients require substantial amounts of crystalloids, but this conditional recommendation is based on low-quality evidence.

**Administer vasopressors when shock persists during or after fluid resuscitation. The initial blood pressure target is MAP  $\geq 65$  mmHg in adults and age-appropriate targets in children.**

If central venous catheters are not available, vasopressors can be given through a peripheral IV, but use a large vein and closely monitor for signs of extravasation and local tissue necrosis. If extravasation occurs, stop infusion. Vasopressors can also be administered through intraosseous needles.

If signs of poor perfusion and cardiac dysfunction persist despite achieving MAP target with fluids and vasopressors, consider an inotrope such as dobutamine

Vasopressors (i.e. norepinephrine, epinephrine, vasopressin, and dopamine) are most safely given through a central venous catheter at a strictly controlled rate, but it is also possible to safely administer them via peripheral vein and intraosseous needle. Monitor blood pressure frequently and titrate the vasopressor to the minimum dose necessary to maintain perfusion and prevent side effects. Norepinephrine is considered first-line in adult patients; epinephrine or vasopressin can be added to achieve the MAP target. Because of the risk of tachyarrhythmia, reserve dopamine for selected patients with low risk of tachyarrhythmia or those with bradycardia. In children with cold shock (more common), epinephrine is considered first-line, while norepinephrine is used in patients with warm shock (less common).

## G. Prevention of complications

Implement the following interventions (Table 4) to prevent complications associated with critical illness. These interventions are based on Surviving Sepsis or other guidelines, and are generally limited to feasible recommendations based on high quality evidence.

Table 4: Prevention of complications

Anticipated Outcome	Interventions
Reduce days of invasive mechanical ventilation	<ul style="list-style-type: none"> <li>• Use weaning protocols that include daily assessment for readiness to breathe spontaneously</li> <li>• Minimize continuous or intermittent sedation, targeting specific titration endpoints (light sedation unless contraindicated) or with daily interruption of continuous sedative infusions</li> </ul>
Reduce incidence of ventilator associated pneumonia	<ul style="list-style-type: none"> <li>• Oral intubation is preferable to nasal intubation in adolescents and adults</li> <li>• Keep patient in semi-recumbent position (head of bed elevation 30-45°)</li> <li>• Use a closed suctioning system; periodically drain and discard condensate in tubing</li> <li>• Use a new ventilator circuit for each patient; once patient is ventilated, change circuit if it is soiled or damaged but not routinely</li> <li>• Change heat moisture exchanger when it malfunctions, when soiled, or every 5–7 days</li> </ul>
Reduce incidence of venous thromboembolism	<ul style="list-style-type: none"> <li>• Use pharmacological prophylaxis (low molecular-weight heparin [preferred if available] or heparin 5000 units subcutaneously twice daily) in adolescents and adults without contraindications. For those with contraindications, use mechanical prophylaxis (intermittent pneumatic compression devices).</li> </ul>
Reduce incidence of catheter related bloodstream infection	<ul style="list-style-type: none"> <li>• Use a checklist with completion verified by a real-time observer as reminder of each step needed for sterile insertion and as a daily reminder to remove catheter if no longer needed</li> </ul>
Reduce incidence of pressure ulcers	<ul style="list-style-type: none"> <li>• Turn patient every two hours</li> </ul>
Reduce incidence of stress ulcers and gastrointestinal bleeding	<ul style="list-style-type: none"> <li>• Give early enteral nutrition (within 24–48 hours of admission)</li> <li>• Administer histamine-2 receptor blockers or proton-pump inhibitors in patients with risk factors for GI bleeding. Risk factors for gastrointestinal bleeding include mechanical ventilation for <math>\geq 48</math> hours, coagulopathy, renal replacement therapy, liver disease, multiple comorbidities, and higher organ failure score</li> </ul>
Reduce incidence of ICU-related weakness	<ul style="list-style-type: none"> <li>• Actively mobilize the patient early in the course of illness when safe to do so</li> </ul>

## H. Specific anti-Noval-CoV treatments and clinical research

There is no current evidence from RCTs to recommend any specific anti-nCoV treatment for patients with suspected or confirmed nCoV. Unlicensed treatments should be administered only in the context of ethically-approved clinical trials or the Monitored Emergency Use of Unregistered Interventions Framework (MEURI), with strict monitoring.

Clinical characterization protocols are available, including the SPRINT-SARI <https://isaric.tghn.org/sprint-sari/> and WHOISARIC forms available at <https://isaric.tghn.org/protocols/severe-acute-respiratory-infection-data-tools/>.

## **I. Special considerations for pregnant patients**

Pregnant women with suspected or confirmed nCoV should be treated with supportive therapies as described above, taking into account the physiologic adaptations of pregnancy.

The use of investigational therapeutic agents outside of a research study should be guided by individual risk-benefit analysis based on potential benefit for mother and safety to fetus, with consultation from an obstetric specialist and ethics committee.

Emergency delivery and pregnancy termination decisions are challenging and based on many factors: gestational age, maternal condition, and fetal stability. Consultations with obstetric, neonatal, and intensive care specialists (depending on the condition of the mother) are essential.

**Note: These guidelines are preliminary in nature and will be updated as soon as more information on clinical profile and treatment are available.**

## **GUIDELINES FOR SCREENING CENTRES**

All hospitals identified to screen and admit patients with 2019 nCoV- Acute Respiratory Disease should conform to these guidelines. Identified hospitals would have a separate screening area to screen outdoor patients and an isolation facility to admit those requiring indoor treatment.

For clarity, these guidelines are in six parts:

- (i) Generic Guidelines
- (ii) Guidelines for pre hospital care
- (iii) Guidelines for the screening centre
- (iv) Guidelines for isolation facility
- (v) Guidelines for critical care
- (vi) Mortuary care.

### **Generic guidelines**

- Standard Precautions to be followed at all patient care areas: hand hygiene, gloves and use of personal protective equipment (PPE) to avoid direct contact with patient's blood, body fluids, secretions and non-intact skin, prevention of needle stick/sharp injury and cleaning and disinfection of the environment and equipment.
- Droplet precautions to be followed when caring for patients with 2019 nCoV- Acute Respiratory Disease (masks, respirators and eye shield) in isolation facilities.
- Airborne and Contact Precautions should complement Standard Precautions while managing case of 2019 nCoV- Acute Respiratory Disease in critical care facilities.
- Hospitals should follow the hospital waste management protocols as per the hospital waste management rules.
- Dead body should be handled using full cover of PPE.

### **Guidelines for Pre Hospital Care**

- All identified hospitals to have advanced life support ambulance.
- Designated paramedic and driver for the ambulance.

- The ambulance staff should follow standard precautions while handling the patient and airborne precautions if aerosol generating procedures are done.
- Triple layer surgical masks should be available and worn during transport.
- As far as possible the movements should be restricted.
- During transport, optimize the vehicle's ventilation to increase the volume of air exchange (e.g. opening the windows). When possible, use vehicles that have separate driver and patient compartments.
- Aerosol generating procedures to be avoided to the extent possible.
- Disinfect the ambulance after shifting patient.
- Notify the receiving facility as soon as possible.

### **Guidelines for setting up Screening Centre**

#### **Purpose of the Screening Centre is to:**

- Attend to patients of 2019 nCoV- Acute Respiratory Disease in a separate area so as to avoid these patients further infecting other patients in Out Patient Department.
- Facilitate implementing standard and droplet precautions.
- Triage the patients.
- Collect samples.

#### **The screening area should have:**

- A waiting area of about 2000 sq feet to accommodate 50-100 patients.
- Preferably standalone building with separate entry.
- Well ventilated to ensure frequent air changes. If airconditioned, then independent from central air conditioning. Exhaust air to be filtered through HEPA filter (desirable).
- Patient's seating to have at least one metre clearance on all sides.
- Avoid overcrowding of patients.
- Will have cabins for registration, clinical examination chambers, sample collection rooms and drug distribution centre.
- The waiting area should be adequately cleaned and disinfected.
- Source control (e.g. use of tissues, handkerchiefs, piece of cloth or triple layer surgical masks to cover nose and mouth) of the patient in the waiting room



when coughing or sneezing, and hand hygiene after contact with respiratory secretions.

- Facility for hand wash/ Wash rooms etc.

### **Guidelines for setting up isolation facility/ ward**

- Patients should be housed in single rooms, whenever possible.
- However, if sufficient single rooms are not available, beds could be put with a spatial separation of at least 1 meter (3 feet) from one another.
- To create a 10 bed facility, a minimum space of 2000 sq feet area clearly segregated from other patientcare areas is required.
- There should be double door entry with changing room and nursing station. Enough PPE should be available in the changing room with waste disposal bins to collect used PPEs.
- Place a puncture-proof container for sharps disposal inside the isolation room/area.
- Keep the patient's personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene within the patient's reach.
- Non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff, and sphygmomanometer) should be dedicated to the patient, if possible. Any patient-care equipment that is required for use by other patients should be thoroughly cleaned and disinfected before use.
- Dedicated hand washes and wash room facilities.
- If room is air-conditioned, ensure 12 air changes/ hour and filtering of exhaust air. A negative pressure in isolation rooms is desirable for patients requiring aerosolization procedures (intubation, suction nebulisation). These rooms may have stand alone air-conditioning. These areas should not be a part of the central air-conditioning.
- If air-conditioning is not available negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.
- In **district hospital**, where there is sufficient space, natural ventilation may be followed. Such isolation facility should have large windows on opposite walls of the room allowing a natural unidirectional flow and air changes. The principle

of natural ventilation is to allow and enhance the flow of outdoor air by natural forces such as wind and thermal buoyancy forces from one opening to another to achieve the desirable air change per hour.

- Avoid sharing of equipment, but if unavoidable, ensure that reusable equipment is appropriately disinfected between patients.
- Ensure regular cleaning and proper disinfection of common areas, and adequate hand hygiene by patients, visitors and care givers.
- **Visitors to the isolation facility should be restricted.** For unavoidable entries, they should use PPE according to the hospital guidance, and should be instructed on its proper use and in hand hygiene practices prior to entry into the isolation room/area.
- Doctors, nurses and paramedics posted to isolation facility **need to be dedicated** and not allowed to work in other patient-care areas.
- Consider having designated portable X-ray equipment.
- Corridors with frequent patient transport should be well-ventilated.
- All health staff involved in patient care should be well trained in the use of PPE.
- A telephone or other method of communication should be set up in the isolation room/area to enable patients or family members/visitors to communicate with nurses.

### **Guidelines for Critical Care facility**

- At least one identified hospital may have a 10 bed dedicated intensive care facility at state capital.
- The critical care facility is required to follow all the guidelines as mentioned above for infection control.
- Also more than or equal to 12 air changes and maintain negative pressure of 40 psi.
- Should have dedicated equipments. It should also have additional equipments to ventilate at least 10 patients manually.
- A telephone or other method of communication should be set up in the isolation room/area to enable patients or family members/visitors to communicate with nurses inside the facility.

- Would have an information board outside to update relatives on the clinical status.

### **Mortuary care**

- Mortuary staff should apply standard precautions i.e. perform proper hand hygiene and use appropriate PPE (use of gown, gloves, facial protection if there is a risk of splashes from patient's body fluids/secretions onto staff's body and face).
- Embalming, if required should be conducted according to usual procedures, subject to local regulations/legislation.
- Hygienic preparation of the deceased (e.g. cleaning of body, tidying of hair, etc) also may be done using standard precautions.

### **GUIDELINES FOR THE USE OF MASKS**

#### **Types of mask: Specification for Triple Layer Surgical Mask and N-95 Respirator Mask**

##### **The correct procedure of wearing triple layer surgical mask:**

- Unfold the pleats, make sure that they are facing down.
- Place over nose, mouth and chin.
- Fit flexible nose piece over nose bridge.
- Secure with tie strings (upper string to be tied on top of head above the ears – lower string at the back of the neck).
- Ensure there are no gaps on either side of the mask, adjust to fit.
- Do not let the mask hanging from the neck.
- Change the mask after six hours or as soon as they become wet.
- Disposable masks are never to be reused and should be disposed off.
- While removing the mask great care must be taken not to touch the potentially infected outer surface of the mask.
- To remove mask first untie the tie-string below and then the tie string above and handle the mask using the upper strings.

**Disposal of used masks:** Used mask should be considered as potentially infected medical waste:

- In the hospital setting it should be disposed off in the identified infectious waste disposal bag/container.
- In community settings where medical waste management protocol cannot be practiced, it may be disposed off either by burning or deep burial.
- During home care, patients and contacts using triple layer mask should first disinfect used mask with ordinary bleach solution or sodium hypochlorite solution and/or quaternary ammonium household disinfectant and then dispose off either by burning or deep burial.

# **INTERNATIONAL GUIDELINES FOR CERTIFICATION AND CLASSIFICATION (CODING) OF COVID-19 AS CAUSE OF DEATH**

**Based on ICD**

**International Statistical Classification of Diseases**

**(16 April 2020)**

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## 1. PURPOSE OF THE DOCUMENT

This document describes certification and classification (coding) of deaths related to COVID-19. The primary goal is to identify all deaths due to COVID-19.

A simplified section specifically addresses the persons that fill in the medical certificate of cause of death. It should be distributed to certifiers separate from the coding instructions.

## 2. DEFINITION FOR DEATHS DUE TO COVID-19

A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.

A death due to COVID-19 may not be attributed to another disease (e.g. cancer) and should be counted independently of preexisting conditions that are suspected of triggering a severe course of COVID-19.

## 3. GUIDELINES FOR CERTIFYING COVID-19 AS A CAUSE OF DEATH

In view of COVID-19 it is important to record and report deaths due to COVID-19 in a uniform way.

### A- RECORDING COVID-19 ON THE MEDICAL CERTIFICATE OF CAUSE OF DEATH

**COVID-19** should be recorded on the medical certificate of cause of death for ALL decedents where the disease caused, or is assumed to have caused, or contributed to death.

### B- TERMINOLOGY

The use of official terminology, **COVID-19**, should be used for all certification of this cause of death.

As there are many types of coronaviruses, it is recommended not to use “coronavirus” in place of COVID-19. This helps to reduce uncertainty for the classification or coding and to correctly monitor these deaths.

## C- CHAIN OF EVENTS

Specification of the causal sequence leading to death in Part 1 of the certificate is important. For example, in cases when COVID-19 causes pneumonia and fatal respiratory distress, both pneumonia and respiratory distress should be included, along with COVID-19, in Part 1. Certifiers should include as much detail as possible based on their knowledge of the case, as from medical records, or about laboratory testing.

Here, on the International Form of Medical Certificate of Cause of Death, is an example of how to certify this chain of events for deaths due to **COVID-19** in Part 1:

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Acute respiratory distress syndrome	2 days
	b	Due to: Pneumonia	10 days
	c	Due to: COVID-19 (test positive)	14 days
	d	Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Underlying cause of death	
<b>Manner of death:</b>			
<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accident	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown	

Note: This is a typical course with a certificate that has been filled in correctly. Please remember to indicate whether the virus causing COVID-19 had been identified in the defunct.

## D- COMORBIDITIES

There is increasing evidence that people with existing chronic conditions or compromised immune systems due to disability are at higher risk of death due to COVID-19. Chronic conditions may be non-communicable diseases such as coronary artery disease, chronic obstructive pulmonary disease (COPD), and diabetes or disabilities. If the decedent had existing chronic conditions, such as these, they should be reported in Part 2 of the medical certificate of cause of death.



Here, on the International Form of Medical Certificate of Cause of Death, are examples of how to certify this chain of events for deaths due to **COVID-19** in Part 1, with comorbidities reported in Part 2:

<b>Frame A: Medical data: Part 1 and 2</b>				
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death
		a	Acute respiratory distress syndrome	2 days
		b	Due to: Pneumonia	10 days
		c	Due to: Suspected COVID-19	12 days
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Underlying cause of death</div>				
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Coronary artery disease [5 years], Type 2 diabetes [14 Years], Chronic obstructive pulmonary disease [8 years]		
<b>Manner of death:</b>				
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown

Note: This is a typical course with a certificate that is filled in correctly. COVID-19 cases may have comorbidity. **The comorbidity is recorded in Part 2.**

<b>Frame A: Medical data: Part 1 and 2</b>				
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death
		a	Acute respiratory distress syndrome	2 days
		b	Due to: Pneumonia	10 days
		c	Due to: COVID-19	10 days
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Underlying cause of death</div>				
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Cerebral palsy [10 Years]		
<b>Manner of death:</b>				
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown

Note: This is a typical course with a certificate that has been filled in correctly. COVID-19 cases may have comorbidity. **The comorbidity is recorded in Part 2.**

**E- OTHER EXAMPLES**

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Respiratory failure	2 days
	b	Due to: Pneumonia	8 days
	c	Due to: Pregnancy complicated by COVID-19	12 days
		Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)			
<b>Manner of death:</b>			
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War	<input type="checkbox"/> Unknown
<b>For women, was the deceased pregnant?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			
<input type="checkbox"/> At time of death		<input type="checkbox"/> Within 42 days before the death	
<input type="checkbox"/> Between 43 days up to 1 year before death		<input type="checkbox"/> Unknown	
Did the pregnancy contribute to the death?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown

Note: This is a typical course with a certificate is filled in correctly. In case of a pregnancy, puerperium or birth leading to death in conjunction with COVID-19, please record the sequence of events as usual, and remember to enter the additional detail for pregnancies in frame B of the certificate of cause of death.

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Acute respiratory distress syndrome	3 days
	b	Due to: COVID-19	One week
	c	Due to:	
	d	Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		<b>HIV disease [5 years]</b>	
<b>Manner of death:</b>			
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War	<input type="checkbox"/> Unknown

Note: This is a typical course with a certificate that is filled in correctly. The certifier has identified HIV disease as contributing to the death and recorded it in **Part 2**.

The examples below show recording of cases where death may have been influenced by COVID-19, but death was caused by another disease or an accident.

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	↻	a Hypovolaemic shock	1 day
	↻	b Due to: Aortic dissection	1 day
	↻	c Due to: Motor vehicle accident	2 days
	↻	d Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		COVID-19	Underlying cause of death
<b>Manner of death:</b>			
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War	<input type="checkbox"/> Unknown

Note: Persons with COVID-19 may die of other diseases or accidents, such cases are not deaths due to COVID-19 and should not be certified as such. In case you think that COVID-19 aggravated the consequences of the accident, you may report COVID-19 in Part 2. Please remember to indicate the manner of death and record in part 1 the exact kind of an incident or other external cause.

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	↻	a Heart failure	1 day
	↻	b Due to: Myocardial infarction	5 days
	↻	c Due to:	
	↻	d Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		COVID-19	Underlying cause of death
<b>Manner of death:</b>			
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War	<input type="checkbox"/> Unknown

Note: Persons with COVID-19 may die due to other conditions such as myocardial infarction. Such cases are not deaths due to COVID-19 and should not be certified as such.

## 4. GUIDELINES FOR CODING COVID-19 FOR MORTALITY

This document provides information about the ICD-10 codes for COVID-19 and includes mortality classification (coding) instructions for statistical tabulation in the context of COVID-19. It includes a reference to the WHO case definitions for surveillance.

New ICD-10 codes for COVID-19:

- U07.1 COVID-19, virus identified  
<https://icd.who.int/browse10/2019/en#/U07.1>
  
- U07.2 COVID-19, virus not identified
  - Clinically-epidemiologically diagnosed COVID-19
    - Probable COVID-19
    - Suspected COVID-19

<https://icd.who.int/browse10/2019/en#/U07.2>

Details of the updates to ICD-10 are available online at:

<https://www.who.int/classifications/icd/icd10updates/en/>

### A- ICD-10 Cause of Death coding of COVID-19

Certifiers use a range of terms to describe COVID-19 as a cause of death, a sample can be found in the annex of this document.

Although both categories, U07.1 (COVID-19, virus identified) and U07.2 (COVID-19, virus not identified) are suitable for cause of death coding, it is recognized that in many countries detail as to the laboratory confirmation of COVID-19 will NOT be reported on the death certificate. In the absence of this detail, it is recommended, for mortality purposes only, to code COVID-19 provisionally to U07.1 unless it is stated as “probable” or “suspected”.

The international rules and guideline for selecting the underlying cause of death for statistical tabulation apply when COVID-19 is reported on a death certificate but, given the intense public health requirements for data, COVID-19 is not considered as due to, or as an obvious consequence of, anything else in analogy to the coding rules applied for INFLUENZA. Further to this, there is no provision in the classification to link COVID-19 to other causes or modify its coding in any way.

With reference to section 4.2.3 of volume 2 of ICD-10, the purpose of mortality classification (coding) is to produce the most useful cause of death statistics possible. Thus, whether a sequence is listed as ‘rejected’ or ‘accepted’ may reflect interests of importance for public health rather than what is acceptable from a purely medical point of view. Therefore, always apply these instructions, whether they can be considered medically correct or not. Individual countries should not correct what is

assumed to be an error, since changes at the national level will lead to data that are less comparable to data from other countries, and thus less useful for analysis.

A manual plausibility check is recommended for certificates where COVID-19 is reported, in particular for certificates where COVID-19 was reported but not selected as the underlying cause of death for statistical tabulation.

**B- CHAIN OF EVENTS**

Here, on the International Form of Medical Certificate of Cause of Death, is an example of how to code this chain of events and select the underlying cause of death for deaths due to **COVID-19** in Part 1:

<b>Frame A: Medical data: Part 1 and 2</b>					
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death	
		a	Acute respiratory distress syndrome	J80	2 days
		b	Due to: Pneumonia	J18.9	10 days
		c	Due to: COVID-19 (test positive)	U07.1	14 days
		d	Due to:		
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		<div style="border: 1px solid black; padding: 5px; display: inline-block;">Underlying cause of death</div>			
<b>Manner of death:</b>					
<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined			
<input type="checkbox"/> Accident	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation			
<input type="checkbox"/> Intentional self harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown			

Note: Select COVID-19 as underlying cause of death. Step SP3 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line (COVID-19) can cause all the conditions, pneumonia (J18.9) and acute respiratory distress syndrome (J80), mentioned on the lines above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].

## C- COMORBIDITIES

Here, on the International Form of Medical Certificate of Cause of Death, are examples of how to code this chain of events and select the underlying cause of death for deaths due to **COVID-19** in Part 1, with comorbidities reported in Part 2:

<b>Frame A: Medical data: Part 1 and 2</b>					
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death	
		a	Acute respiratory distress syndrome	J80	2 days
		b	Due to: Pneumonia	J18.9	10 days
		c	Due to: Suspected COVID-19	U07.2	12 days
Underlying cause of death					
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Coronary artery disease [5 years], Type 2 diabetes [14 Years], Chronic obstructive pulmonary disease [8 years] I25.1, E11.9, J44.9			
<b>Manner of death:</b>					
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown	

Note: Code all entries in Part 1 and 2, and in this example select COVID-19, specified as suspected (the case has virus not confirmed) as underlying cause of death. Step SP3 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line (COVID-19) can cause all the conditions, pneumonia (J18.9) and acute respiratory distress syndrome (J80), mentioned on the lines above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].

<b>Frame A: Medical data: Part 1 and 2</b>					
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death	
		a	Acute respiratory distress syndrome	J80	2 days
		b	Due to: Pneumonia	J18.9	10 days
		c	Due to: COVID-19	U07.1	10 days
Underlying cause of death					
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Cerebral palsy [10 Years] G80.9			
<b>Manner of death:</b>					
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown	

Note: Code all entries in Part 1 and 2, and in this example select COVID-19 as underlying cause of death (the case probably has been tested positive). Step SP3 applies as causes have been reported on

more than one line in Part 1 and the condition reported first on the lowest used line (COVID-19) can cause all the conditions, pneumonia (J18.9) and acute respiratory distress syndrome (J80), mentioned on the lines above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].

**D- OTHER EXAMPLES**

<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Respiratory failure <i>Code both, O99.5 and J96.9</i>	2 days
	b	Due to: Pneumonia <i>Code both, O99.5 and J18.9</i>	8 days
	c	Due to: Pregnancy complicated by COVID-19 <i>Code both, O98.5 and U07.1</i>	12 days
<b>2</b> Other significant conditions (intervals can be included in brackets after the condition)			
<b>Manner of death:</b>			
<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accident	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown	
<b>For women, was the deceased pregnant?</b>			
<input type="checkbox"/> Yes		<input type="checkbox"/> No	
<input type="checkbox"/> At time of death		<input type="checkbox"/> Within 42 days before the death	
<input type="checkbox"/> Between 43 days up to 1 year before death		<input type="checkbox"/> Unknown	
Did the pregnancy contribute to the death?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Unknown	

Underlying cause of death

Note: Code all entries in Part 1 and 2, and in this example select other viral diseases complicating pregnancy, childbirth and the puerperium (O98.5) as underlying cause of death. Step SP3 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line (other viral diseases complicating pregnancy, childbirth and the puerperium) can cause all the conditions, pneumonia (O99.5 and J18.9) and acute respiratory distress syndrome (O99.5 and J80), mentioned on the lines above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1]. Use additional code to retain COVID-19. [See ICD-10 2016 and later, Volume 2, Section 4.2.8 Special instructions on maternal mortality (Step M4)].

<b>Frame A: Medical data: Part 1 and 2</b>				
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death
	a		Acute respiratory distress syndrome J80	3 days
	b	Due to:	COVID-19 U07.1	One week
	c	Due to:	HIV disease B24	5 years
	d	Due to:		
<b>2</b>		Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		
<b>Manner of death:</b>				
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown

Note: The certifier should have added the HIV disease as a comorbidity in Part 2 of the certificate, however the selection rules of ICD allow to identify COVID-19 as underlying cause of death. (COVID-19) is reported in a sequence ending with a terminal condition (Acute respiratory distress syndrome due to COVID-19). Mortality coding rule step SP4 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line (HIV disease) cannot cause all the conditions. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].

<b>Frame A: Medical data: Part 1 and 2</b>				
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death
	a		Hypovolaemic shock T79.4	1 day
	b	Due to:	Aortic dissection S25.0	1 day
	c	Due to:	Motor vehicle accident V89.2	2 days
	d	Due to:		
<b>2</b>		Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		
		COVID-19		U07.1
<b>Manner of death:</b>				
<input type="checkbox"/> Disease		<input type="checkbox"/> Assault		<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident		<input type="checkbox"/> Legal intervention		<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self harm		<input type="checkbox"/> War		<input type="checkbox"/> Unknown

Note: Code all entries in Part 1 and 2, and in this example select motor vehicle accident (V89.2) as underlying cause of death. Step SP3 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line, motor vehicle accident (V89.2), can cause all the conditions, traumatic aortic dissection (S25.0) and traumatic hypovolemic shock (T79.4), mentioned on the lines above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].



<b>Frame A: Medical data: Part 1 and 2</b>			
<b>1</b> Report disease or condition directly leading to death on line a  Report chain of events in due to order (if applicable)  State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Heart failure I50.9	1 day
	b	Due to: Myocardial infarction I21.9	5 days
	c	Due to:	
	d	Due to:	
<b>2</b> Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		COVID-19	U07.1
<b>Manner of death:</b>			
<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accidents	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self-harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown	

Note: Code all entries in Part 1 and 2, and in this example select acute myocardial infarction (I21.9) as underlying cause of death. Step SP3 applies as causes have been reported on more than one line in Part 1 and the condition reported first on the lowest used line, myocardial infarction (I21.9), can cause the condition, heart failure (I50.9), mentioned on the line above. [See ICD-10 2016 and later, Volume 2, Section 4.2.1].

**E- Additional WHO cause of death certification links**

- How to fill in a death certificate: Interactive Self Learning Tool (WHO)  
<http://apps.who.int/classifications/apps/icd/icd10training/ICD-10DeathCertificate/html/index.html>
- Cause of Death on the Death Certificate: Quick Reference Guide (Section 7.1.2)  
[https://icd.who.int/browse10/Content/statichtml/ICD10Volume2\\_en\\_2016.pdf](https://icd.who.int/browse10/Content/statichtml/ICD10Volume2_en_2016.pdf)
- International form of medical certificate of cause of death (Section 7.1.1)  
[https://icd.who.int/browse10/Content/statichtml/ICD10Volume2\\_en\\_2016.pdf](https://icd.who.int/browse10/Content/statichtml/ICD10Volume2_en_2016.pdf)

## 5. ANNEX

Examples of terms used by certifiers to describe COVID-19 and that can be coded as synonyms of COVID-19:

- COVID Positive
- Coronavirus Pneumonia
- COVID negative
- COVID-19 Infection
- Sars-Cov-2 Infection (Coronavirus Two Infection)
- COVID-19 Coronavirus
- Infection – COVID-19 (Coroner Informed)
- Hospital Acquired Pneumonia - COVID-Positive
- COVID-19 possible - tested negative
- Corona Virus two infection (SARS-Cov-2)
- Corona Virus Pneumonia (COVID-19)
- Coronavirus-Two Infection
- Novel coronavirus



# आरोग्य सेवा आयुक्तालय

(महाराष्ट्र राज्य)



“आरोग्य भवन” सेंट जॉर्जस रुग्णालय आवार, पी.डिमेलो रोड, मुंबई-४०० ००१

कार्यालय संचालक (वैयक्तिक)	दूरध्वनी २२६२१०३१-३६ २२६२१००६	Website: <a href="http://arogya.maharashtra.gov.in">http://arogya.maharashtra.gov.in</a> Email id : <a href="mailto:dhs_epi@rediffmail.com">dhs_epi@rediffmail.com</a>
अंत्यत तातडीचे	क्र.संआसे/नियंत्रण कक्ष /२०२०. दिनांक - ०९/०४/२०२०	

प्रति,

- १) मा.महापलिका आयुक्त (सर्व),
- २) मा.प्रकल्प संचालक, माहात्मा ज्योतिबा फुले जन आरोग्य योजना, मुंबई.
- ३) जिल्हा आरोग्य अधिकारी (सर्व),
- ४) जिल्हा शल्य चिकित्सक (सर्व).

## विषय - कोविड-१९ साथरोग कालावधीत राज्यातील डायलिसिस सेंटरंना मार्गदर्शक सूचना.

संदर्भ- केंद्र शासनाच्या डायलिसिसच्या कोविड-१९ साथी संदर्भातील मार्गदर्शक सूचना.

सदयस्थितीत राज्यात कोविड-१९ आजाराची साथ सुरु असल्याने असे निदर्शनास आले आहे की, राज्यातील डायलिसिस सेंटर काही प्रमाणात बंद ठेवण्यात आलेली आहेत. त्यामुळे डायलिसिसच्या उपचार घेणा-या किडनीच्या रुग्णांना येणा-या रुग्णांना अडचणींना सामोरे जावे लागत आहे.

याबाबत केंद्र शासनाने कोव्हीड-१९ साथीदरम्यान डायलिसिस केंद्राबाबत मार्गदर्शक सूचना जारी केलेल्या आहेत. सदरच्या मार्गदर्शक सूचनानुसार डायलिसिस केंद्रांनी रुग्णांस उपचार करताना, तसेच डॉक्टर नर्सस व तांत्रिक डायलिसिस टेकनिशियन व इतर सर्पोट स्टाफ यांनी घ्यावयाच्या काळजीबाबत मार्गदर्शक सूचना जारी केलेल्या आहेत. त्या सर्व सूचनांचे तंतोतंत पालन करून डायलिसिस केंद्र कार्यरत ठेवावयाची आहेत.

तसेच राज्य शासनाच्या मार्गदर्शक सूचनांमध्ये डायलिसिस सेंटरमध्ये काम करणा-या डॉक्टर, नर्सिंग स्टाफ व कर्मचारी यांनी प्रतिबंधात्मक उपाय म्हणून Hydroxy Chloroquine (HCQS) गोळ्याच्या डोसबाबत मार्गदर्शन करण्यात आलेले आहे.

वरिल सर्व मार्गदर्शक सूचनां व्यतिरिक्त राज्यशासनाच्या वतीने दिनांक ०८ एप्रिल, २०२० रोजी कोरोना-कोव्हीड-१९ साथरोग कालावधीतील डायलिसिस सेंटरसाठी तज्ञांच्या समितीने मार्गदर्शक सूचना केलेल्या आहेत. त्या सर्व सूचनांचे पालन करून व केंद्रशासनाने वेळोवेळी दिलेल्या मार्गदर्शक सूचनांचा अवलंब करून डायलिसिस सेंटर कार्यान्वित ठेवून रुग्णांना सेवा द्यावयाच्या आहेत.

एखादा डायलिसिस विभागातील कर्मचारी/डॉक्टर / डायलिसिस रुग्ण कोव्हीड -१९ साठी पॉसिटीव्ह आल्यास डायलिसिस केंद्र २४ तासासाठी बंद करून संबंधित डायलिसिस विभागाचे निर्जंतुकीकरण (Fumigation) करावे, इतर सर्व कर्मचा-यांची चाचणी करून घ्यावी, जर एखादा रुग्ण कोव्हीड -१९ पॉसिटीव्ह आढळल्यास त्याला डायलिसिस सुविधा उपलब्ध असणा-या कोव्हीड -१९ सेंटरस कडे पाठवावे, अथवा अशा रुग्णाचे डायलिसिस Isolation Area मध्ये करावे. डायलिसिस केंद्रामध्ये दोन चेअर्स/बेड मध्ये शक्यतो १ मीटर पेक्षा जास्त अंतर असावे. डायलिसिस केंद्रामध्ये काम करणा-या वैद्यकीय व अवैद्यकीय कर्मचारी तसेच डॉक्टर यांनी स्वच्छतेबाबत Universal Aseptic Precautionsचे तंतोतंत पालन करावे याबाबतच्या सर्व सूचना केंद्र व राज्य शासनाच्या मार्गदर्शक सूचना द्वारे वेळोवेळी देण्यात आलेल्या आहेत.

महापालिका आयुक्त, जिल्हा शल्य चिकित्सक व जिल्हा आरोग्य अधिकारी यांनी त्यांच्या कार्यक्षेत्रातील सर्व डायलिसिस सेंटर्सना सदरच्या मार्गदर्शक सूचना देवून सेंटर्स कार्यन्वित ठेवण्याबाबत सूचित करावयाचे आहे. तसेच डायलिसिसचा रुग्ण उपचाराविना राहणार नाहीत याची दक्षता घ्यावी हि विनंती.

10/4/2020

(डॉ.साधना तायडे)  
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- १)संचालक, आरोग्य सेवा (२), पुणे.
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- ३)उपसंचालक, आरोग्य सेवा (सर्व).

## **Expert Guidelines for Dialysis centers in Covid-19 Pandemic Dated:-**

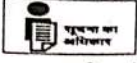
**08/04/2020**

- 1) Each and every dialysis units/centers should follow revised guidelines for dialysis of Covid-19 patients, which is issued by Government of India, Ministry of Health & Family Welfare.
- 2) Patients on Dialysis require repeated dialysis (3- 4 times in a week). This is life- saving procedures for these patients. In the view of lockdown across the state it has become difficult for these patients to travel to their dialysis centers. The Committee suggested that, the patients along with one or maximum 2 family members should be allowed to travel to their dialysis centers by either Public Transport like bus, auto and taxi or by their own transport, if they are carrying their previous medical records or hospital records and valid ID Proof. The same to be communicated to the concerned authorities like Police, BEST, MSRTC and RTO etc.
- 3) Doctors, Nursing Staff, Technicians and other staff working in dialysis center should take necessary precautionary measures as per guidelines issued by Government of India.
- 4) All Staff working in a dialysis center should take prophylaxis of Hydroxychloroquine (HCQ) as per the guidelines issued by the Director (2) Health Services, Pune
- 5) The Staff attending the dialysis of patients who are covid-19 positive have to use PPE during the procedure.
- 6) While dialysing the patients, the history of patients should be taken for covid-19 contact and all health care workers should follow universal precautions as per GOI guideline. The following specific history relevant to covid as follows.
  - a) Travel to or residing in an area in the preceding 21 days, where Covid-19 transmission is occurring
  - b) Travel to or from a high-risk area in preceding 21 days.
  - c) Direct contact with known or suspected case of covid-19 in the preceding 21 days.
  - d) Confirmed Diagnosis of covid-19 in the last 28 days.
  - e) Fever (>38 C or 100.3 F or subjective fever) in last 21 days.
  - f) Malaise or flu like symptoms,+/- myalgias in last 21 days.
  - g) Cough in last 21 days.
  - h) Shortness of breath not due to fluid overload in last 21 days.

A patient who answers yes to any of the points from a to h, must be tested for Covid -19. Such patient's dialysis should be preferably be deferred until the report is available. Such a patient should ideally be dialysed in a corner

bed in the last shift. If the symptoms persist, covid-19 test should be repeated.

- 7) As far as possible the distance between two dialysis chair/bed should not be less than 1 meter.
- 8) Cleanliness including toilets, urinals and bathrooms of dialysis centers should be followed as per GOI guidelines.
- 9) There are approximately 5% Covid-19 positive patients who can develop Acute Kidney injury (AKI) and will need renal replacement therapy. Also there may be Chronic Kidney Disease (CKD) Stage -5D patients on regular dialysis who may get infected by covid-19. In both of the above cases hemodialysis machine can be installed with a small portable RO plant which will help these patients in their need of dialysis at a covid-19 ICU or ward.
- 10) If any staff or any patient of dialysis center is found positive for Covid-19, then this dialysis center should be closed for one day (24 hours) and the center should be completely fumigated. If fumigation not possible, thorough surface cleaning with 1% sodium hypochlorite. All the patients & staff of concerned dialysis center must be tested for Covid-19. For staff and patients who are covid-19 negative, the dialysis center should restart dialysis. Staff who is Covid-19 Positive should be quarantined. Patient who is Covid-19 positive should be referred to covid center for quarantine and dialysis should be done in covid center or patient can be quarantined in an isolation area and can be dialysed in that isolation area.
  - a) Once dialysis is restarted after 24 hours break and fumigation, staff and patients of above dialysis center must be closely monitored for any symptom suggestive of covid-19.
  - b) Those who develop symptoms will be tested again for covid-19.
- 11) In case the load is high for particular dialysis center, the duration of dialysis can be reduced from 4 hours to 3 hours and for patient who are on dialysis 3 times in a week the frequency can be reduced to twice a week, these patients should be advised to restrict the liquid intake and can be put on loop diuretics in high dose if they have urine output. The patients should also be guided to cut down on food items which are high in potassium. Also the protein intake should be reduced when dialysis duration & frequency is reduced. It is to be noted that not every patient may be able to tolerate reduced duration and frequency of dialysis. Therefore, changes in dialysis prescription should be individualized.
- 12) Those patients who are on peritoneal dialysis should continue with same modality of dialysis.



भारत सरकार

## संचालनालय, वैद्यकीय शिक्षण आणि संशोधन, मुंबई

शासकीय दंत महाविद्यालय व रुग्णालय इमारत चौथा मजला, सेंट जॉर्ज्स रुग्णालय आवार, पी. डी.मेलो रोड, फोर्ट, मुंबई - ४०० ००९  
दुरध्वनी: + ९१-२२-२२६२०३६९-६५/२२६५२२५९/५७/५९. टेलीग्राफ: "MEDUCATNSEARCH" फॅक्स: + ९१-२२-२२६२०५६२/२२६५२२६८  
इ-मेल: <http://www.dmer.org>

क्र. संवैशिवसं/कोविड-१९/मार्गदर्शक सूची/४-अ/१५३ /२०२०

दिनांक : २४/०४/२०२०

### तातडीचे परिपत्रक

प्रति,

सर्व अधिष्ठाता, वैद्यकीय अधीक्षक, प्रभारी सहयोगी प्राध्यापक  
शासकीय वैद्यकीय महाविद्यालय व रुग्णालय

विषय : Recommendation for Circulating Covid-१९ Preparedness  
Document (Draft Document) of AIIMS, New Delhi.

संदर्भ :- अधिष्ठाता, सर ज.जी.समुह रुग्णालये, मुंबई यांचे पत्र क्रमांक जजीरु/डीसी/१९४/२०२०,  
दिनांक २३/०४/२०२०.

उपरोक्त विषयी अधिष्ठाता, सर. ज.जी.समुह रुग्णालय, मुंबई यांनी दिनांक २३/०४/२०२० रोजीच्या पत्रान्वये Hospital Infection Control Committee यांनी कोविड-१९ अंतर्गत होणारा प्रादुर्भाव रोखण्यासाठी प्राथमिक उपाय म्हणून एम्स, नवी दिल्ली यांच्या मार्फत तयार करण्यांत आलेले Covid-१९ Preparedness Document मधील मार्गदर्शक सूचनांचा वापर शासनाच्या रुग्णालयात उपयुक्त ठरणार असल्याची शिफारस केली आहे.

उक्त समितीने केलेल्या शिफारशी नुसार Covid-१९ Preparedness Document (Draft Document) of AIIMS, New Delhi. यांनी तयार केलेल्या मार्गदर्शक सूचनेती पान क्रमांक ६ ते ११ मधील सूचना या पत्रासह जोडण्यात येत आहेत.

सबब आपल्या या पत्राद्वारे असे सूचित करण्यांत येते की, सोबत जोडण्यात आलेल्या Covid-१९ Preparedness Document मधील पान क्रमांक ६ ते ११ (Steps of donning PPE and Steps of doffing PPE) मध्ये दर्शविण्यांत आलेल्या उपाययोजनांचा वापर करण्याबाबतचे प्रशिक्षण कोविड-१९ रुग्ण हाताळणाऱ्या डॉक्टर्स/नर्स/परावैद्यक/तांत्रिक व परिचर यांना आपल्या स्तरावरून देण्यांत याव्या. जेणेकरून कोविड-१९ चा संसर्ग टाळणे शक्य होईल.

संचालक,

वैद्यकीय शिक्षण व संशोधन, मुंबई.

प्रत माहिस्तीस्तव

मा.सचिव, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, गो.ते.रुग्णालय संकुल इमारत, ९ वा मजला, लोकमान्य टिळक मार्ग, मुंबई -१.

**CHAPTER 4: INFECTION CONTROL AND PREVENTION MEASURES**

Patients suspected of having COVID-19 infection should be shifted to the isolation facility / designated COVID areas from the triage area as soon as possible. The HCP should be handling the patients after donning appropriate PPE according to their level of exposure as described in appendix IV.

**Hand hygiene**

- i. HCP should perform hand hygiene using alcohol-based hand rub (minimum 20 seconds) or by washing with soap and water (minimum 40 seconds). If hands are visibly soiled, use soap and water for hand wash.
- ii. Performed before and after using bathroom, before, during and after preparing food, before and after eating /drinking, after coughing, blowing or sneezing, after touching garbage, after touching mask or soiled PPE.
- iii. Foot operated sanitizers should be put outside elevators, OPDs, screening areas, ICUs and wards.

## How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

⌚ Duration of the entire procedure: 40-60 seconds



**Figure 3: Hand hygiene technique (WHO)**



**Mask etiquette**

If masks are worn, appropriate use and disposal is essential to ensure they are effective and to avoid any increase in risk of transmission associated with the incorrect use and disposal of masks.

- i. Place mask carefully to cover mouth and nose and tie securely to minimize any gaps between the face and the mask
- ii. While in use, avoid touching the mask
- iii. Remove the mask by using appropriate technique (i.e. do not touch the front but remove the lace from behind)
- iv. After removal or whenever you inadvertently touch a used mask, clean hands by using an alcohol-based hand rub for 20 seconds or soap and water if visibly soiled for 40 seconds
- v. Replace masks with a new clean, dry mask as soon as they become damp/humid
- vi. Do not re-use single-use masks
- vii. Discard single-use masks after each use and dispose-off them immediately upon removal
- viii. For N95 respirators adequate fit check must be performed after wearing. CDC recommends the following hairstyles styles for male HCP suitable for wearing N-95 respirators

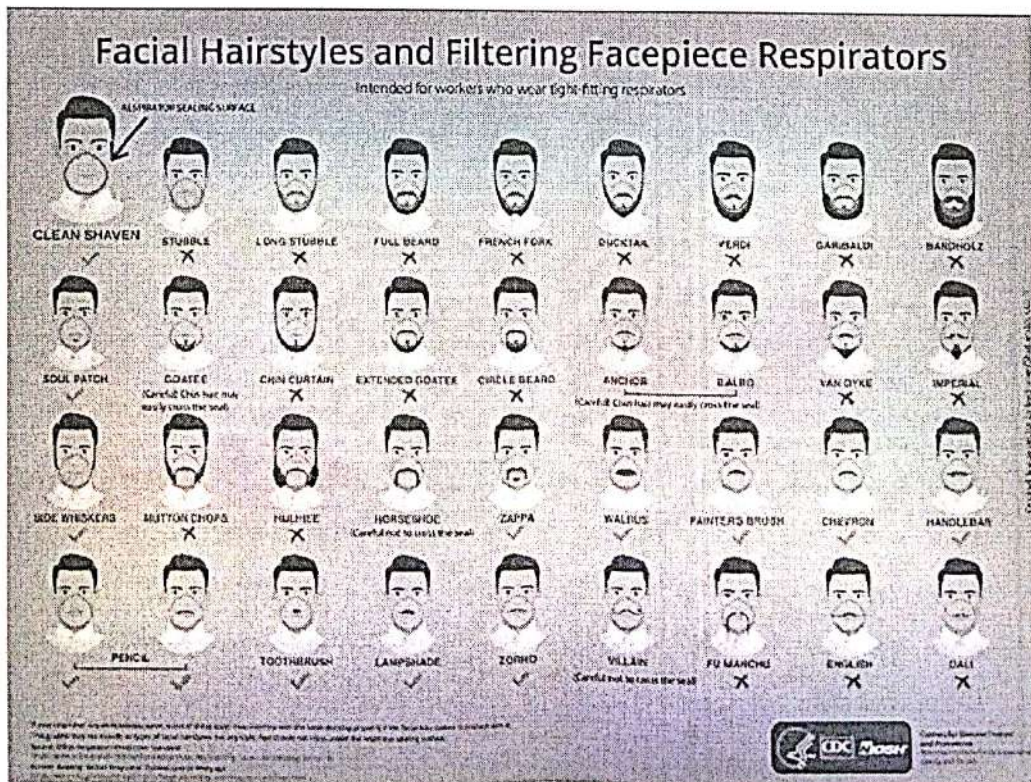


Figure 4: Facial hairstyles compatible with mask (CDC)



## COVID-19 Preparedness Document

AIIMS, New Delhi

Version 1.1

21<sup>th</sup> April, 2020

### **Steps of donning PPE (Steps may vary depending on the kit used):**

Donning of the PPE must be performed in designated area.

1. Remove home clothes, jewelry, watches, electronic etc. and wear clean hospital scrubs
2. Wash hands with soap and water
3. Wear shoe covers – tie lace in front of the shin
4. Wear first set of gloves – should be smaller than second pair, comfortable size, can be sterile or unsterile
5. Gown – wear a clean disposable non-permeable gown, arm sleeves of gown should cover the gloves at the wrists, tie the lace behind snugly without wrapping all around the waist. Decontaminate the gown if it becomes soiled. Remove gown only in designated doffing area and discard the gown before leaving patient care area
7. Wear the N-95 respirator – cup the mask in hand, place the lower strap behind the neck passing below ears, then place the upper strap over back of head passing above ear. Check for snug fit of mask. There should be no more than minimal air leak from sides
8. Wear eye piece – adjust the strap according to required size, open the ports at upper end to prevent fogging while wearing, upper end N-95 mask should be covered by eye piece
9. Wear the hood – hood should lay over the gown without leaving any open space.
10. Wear 2nd pair of the gloves – should be of larger size than 1st pair, should cover free end of arms of gown. Change gloves if they become torn or heavily contaminated. Remove and discard gloves when leaving the patient room or care area, and immediately perform hand hygiene
11. Gown fitness check: Take help of companion for fitness check.

### **Steps of doffing PPE:**

Doffing to be performed only in the designated area, check for any leak or soiling in PPE before doffing. If any, disinfect the area before doffing. Doffing room should have two chairs, one labelled “dirty” and the other “clean”. All the PPE must be discarded as per routine protocol for handling biomedical waste. Hand hygiene MUST be performed after every step.

1. Disinfect the hands wearing gloves by following hand hygiene procedure.
2. Remove shoe covers only by touching the outer surface, and perform hand hygiene.



**COVID-19 Preparedness Document**  
**AIIMS, New Delhi**

Version 1.1

21<sup>st</sup> April, 2020

3. Remove outer gloves and perform hand hygiene.
4. Remove hood and perform hand hygiene.
5. Remove gown slowly by holding the gown at the waist and pulling. Without touching the outer surface, remove with a rolling inside out technique. Perform hand hygiene again.
6. Remove eye piece by holding the straps, and perform hand hygiene.
7. Remove inner gloves and perform hand hygiene.
8. Wear another pair of sterile /unsterile gloves.
9. Remove mask – Do not touch exposed surface of mask. First remove lower strap of mask, remove mask holding upper strap in a slow and steady pace (as to not generate aerosols)
10. Perform hand hygiene
11. Sit over clean chair and clean your shoes with alcohol swabs
12. Remove last pair of gloves and perform hand hygiene

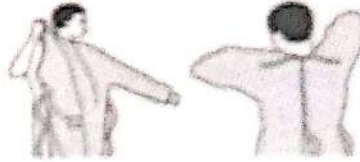
If any leak is found in PPE while caring for infected patients, caring HCPs should self-quarantine (see appendix 1).

### SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

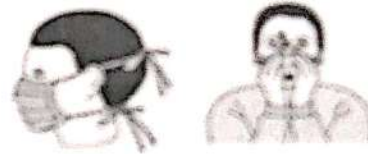
#### 1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten on back of neck and waist



#### 2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit strap to face and below chin
- Fit check respirator



#### 3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



#### 4. GLOVES

- Extend to cover wrist of isolation gown



### USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene





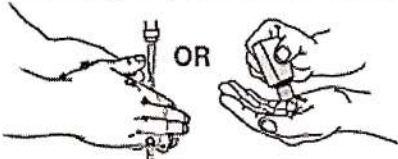


Figure 5: Sequence of donning PPE (CDC)

### HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

- 1. GLOVES**
  - Outside of gloves are contaminated!
  - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
  - Hold removed glove in gloved hand
  - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
  - Discard gloves in a waste container
- 2. GOGGLES OR FACE SHIELD**
  - Outside of goggles or face shield are contaminated!
  - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Remove goggles or face shield from the back by lifting head band or ear pieces
  - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container
- 3. GOWN**
  - Gown front and sleeves are contaminated!
  - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
  - Pull gown away from neck and shoulders, touching inside of gown only
  - Turn gown inside out
  - Fold or roll into a bundle and discard in a waste container
- 4. MASK OR RESPIRATOR**
  - Front of mask/respirator is contaminated — DO NOT TOUCH!
  - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
  - Discard in a waste container
- 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**


**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**




Figure 6: Sequence of doffing PPE (CDC)

**Decontamination and waste management:**

- Any surface or material known to be, or potentially be, contaminated by biological agents during laboratory operations must be correctly disinfected to control infectious risks.
- Proper processes for the identification and segregation of contaminated materials must be

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

**Strategy for COVID19 testing in India (Version 4, dated 09/04/2020)**

1. All symptomatic individuals who have undertaken international travel in the last 14 days
2. All symptomatic contacts of laboratory confirmed cases
3. All symptomatic health care workers
4. All patients with Severe Acute Respiratory Illness (fever AND cough and/or shortness of breath)
5. Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact

**In hotspots/cluster (as per MoHFW) and in large migration gatherings/evacuees centres**

6. All symptomatic ILI (fever, cough, sore throat, runny nose)
  - a. Within 7 days of illness – rRT-PCR
  - b. After 7 days of illness – Antibody test (If negative, confirmed by rRT-PCR)

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

**Strategy for COVID19 testing for pregnant women in India (Version 1, dated 20/04/2020)**

- Testing for pregnant women should be done as per ICMR testing strategy (<https://icmr.nic.in/content/covid-19>).
- Pregnant women residing in clusters/containment area or in large migration gatherings/evacuees centre from hotspot districts presenting in labour or likely to deliver in next 5 days should be tested **even if asymptomatic**.

*N.B. Asymptomatic pregnant women should be tested in the health facilities where they were expected to deliver and all arrangements should be made to collect and transfer samples to testing facilities. Women should not be referred for lack of testing facility.*

**Advisory for testing will be updated periodically.**

.....

# ICMR Specimen Referral Form for COVID-19 (SARS-CoV2)

## INTRODUCTION

This form is for collection centres/ labs to enter details of the samples being tested for Covid-19. It is mandatory to fill this form for each and every sample being tested. It is essential that the collection centres/ labs exercise caution to ensure that correct information is captured in the form.

## INSTRUCTIONS:

- ⊙ Inform the local / district / state health authorities, especially surveillance officer for further guidance
- ⊙ Seek guidance on requirements for the clinical specimen collection and transport from nodal officer
- ⊙ This form may be filled in and shared with the IDSP and forwarded to a lab where testing is planned
- ⊙ Fields marked with asterisk (\*) are mandatory to be filled

## SECTION A – PATIENT DETAILS

### A.1 TEST INITIATION DETAILS

\*Doctor Prescription: Yes  No   
(If yes, attach prescription; If No, test cannot be conducted)

\*Repeat Sample: Yes  No

If Yes, Patient ID: .....

### A.2 PERSONAL DETAILS

\*Patient Name: .....

\*Age: .... Years/Months  (If age <1 yr, pls. tick months checkbox)

\*Present Village or Town: .....

\*Gender: Male  Female  Others

\*District of Present Residence:.....

\*Mobile Number:

\*State of Present Residence:.....

\*Mobile Number belongs to: Self  Family

\*Present patient address: .....

\*Nationality: .....

.....

\*Downloaded Aarogya Setu App: Yes  No

\*Pincode:

(These fields to be filled for all patients including foreigners)

Email: .....

Passport No. (For Foreign Nationals): .....

Aadhar No. (For Indians):

### \*A.3 SPECIMEN INFORMATION FROM REFERRING AGENCY

\*Specimen type      TS/NPS/NS     BAL/ETA     Blood in EDTA     Acute sera     Coalescent sera     Other

\*Collection date

\*Sample ID (Label)

### \*A.4 PATIENT CATEGORY (PLEASE SELECT ONLY ONE)

Cat 1: Symptomatic international traveller in last 14 days.....

Cat 2: Symptomatic contact of lab confirmed case.....

Cat 3: Symptomatic healthcare worker.....

Cat 4: Hospitalized SARI (Severe Acute Respiratory Illness) patient.....

Cat 5a: Asymptomatic direct and high risk contact of lab confirmed case .....

Cat 5b: Asymptomatic healthcare worker in contact with confirmed case without adequate protection...

Cat 6: Symptomatic Influenza Like Illness (ILI) patient in hospital/ MoHFW identified clusters.....

Other:.....

(Please select "other" only if the patient doesn't fall in any other category)

### \*A.5 STATUS OF CURRENT RESPIRATORY INFECTION

\* Respiratory infection: Severe Acute Respiratory Illness (SARI): Yes  No  , Influenza Like Illness (ILI): Yes  No



**SECTION B- MEDICAL INFORMATION****B.1 EXPOSURE HISTORY(2 WEEKS BEFORE THE ONSET OF SYMPTOMS)**1. Did you travel to foreign country in last 14 days:  Yes  No

If yes, place(s) of travel: .....

2. Have you been in contact with lab confirmed COVID-19 patient: Yes  No 

If yes, name of confirmed patient: .....

3. \*Were you Quarantined?: Yes  No  \*If yes, where were you quarantined: Home  Facility 4. Are you a health care worker working in hospital involved in managing patients:  Yes  No**B.2 CLINICAL SYMPTOMS AND SIGNS**Date of onset of symptoms:  /  /  (dd/mm/yy) First Symptom: .....

Symptoms	Yes	Symptoms	Yes	Symptoms	Yes	Symptoms	Yes	Symptoms	Yes
Cough	<input type="checkbox"/>	Diarrhoea	<input type="checkbox"/>	Vomiting	<input type="checkbox"/>	Fever at evaluation	<input type="checkbox"/>	Abdominal pain	<input type="checkbox"/>
Breathlessness	<input type="checkbox"/>	Nausea	<input type="checkbox"/>	Haemoptysis	<input type="checkbox"/>	Body ache	<input type="checkbox"/>		
Sore throat	<input type="checkbox"/>	Chest pain	<input type="checkbox"/>	Nasal discharge	<input type="checkbox"/>	Sputum	<input type="checkbox"/>		

**B.3 PRE-EXISTING MEDICAL CONDITIONS**

Condition	Yes	Condition	Yes	Condition	Yes	Condition	Yes
Chronic lung disease	<input type="checkbox"/>	Malignancy	<input type="checkbox"/>	Heart disease	<input type="checkbox"/>	Chronic liver disease	<input type="checkbox"/>
Chronic renal disease	<input type="checkbox"/>	Diabetes	<input type="checkbox"/>	Hypertension	<input type="checkbox"/>		
Immunocompromised condition: YES <input type="checkbox"/> NO <input type="checkbox"/>				Other underlying conditions: .....			

**B.4 HOSPITALIZATION DETAILS**Hospitalized: Yes  No 

Hospital State: .....

Hospital District: .....

Hospitalization Date:  /  /  (dd/mm/yy)

Hospital Name: .....

**B.5 REFERRING DOCTOR DETAILS**

\*Name of Doctor: .....

Doctor Mobile No.: .....

Doctor Email ID: .....

\* Fields marked with asterisk are mandatory to be filled

**TEST RESULT (To be filled by Covid-19 testing lab facility)**

Date of sample receipt(dd/mm/yy)	Sample accepted/ Rejected	Date of Testing (dd/mm/yy)	Test result (Positive / Negative)	Repeat Sample required (Yes / No)	Sign of Authority (Lab in charge)

**Specimen Referral Form (SRF) ID information  
for COVID-19 (SARS-CoV2)**

SRF ID

Patient Name \_\_\_\_\_

Phone number



भारतीय आयुर्विज्ञान अनुसंधान परिषद  
स्वास्थ्य अनुसंधान विभाग, स्वास्थ्य और परिवार  
कल्याण मंत्रालय, भारत सरकार

**Indian Council of Medical Research**  
**Department of Health Research, Ministry of Health**  
**and Family Welfare, Government of India**

Date: 03/05/2020

### Total Operational (initiated independent testing) Laboratories reporting to ICMR:

**Government laboratories: 315**

**Private laboratories: 111**

- *Real-Time RT PCR for COVID-19:* 363 (Govt: 263+ Private: 100)
- *TrueNat Test for COVID-19:* 42 (Govt: 42)
- *CBNAAT Test for COVID-19:* 21 (Govt: 10 + Private: 11)

*Total No. of Labs:* 426

\*CSIR/DBT/DST/DAE/ICAR/DRDO Labs. No support is sought from ICMR/ State Govt.

#Labs approved for both Real-Time RT-PCR and TrueNat/CBNAAT

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
1.	Andhra Pradesh (48)	RT-PCR	1. Sri Venkateswara Institute of Medical Sciences, Tirupati 2. Sri Venkateswara Medical College, Tirupati 3. Rangaraya Medical College, Kakinada	

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			4. #Sidhartha Medical College, Vijaywada 5. Govt. Medical College, Ananthpur 6. Guntur Medical College, Guntur 7. Rajiv Gandhi Institute of Medical Sciences, Kadapa 8. Andhra Medical College, Visakhapatnam 9. Govt. Kurnool Medical College, Kurnool 10. Govt. Medical College, Srikakulam	
		TrueNat	11. Damien TB Research Centre, Nellore 12. SVRR Govt. General Hospital, Tirupati 13. Community Health Centre, Gadi Veedhi Saluru, Vizianagaram 14. Community Health Centre, Bhimavaram, West Godavari District 15. Community Health Centre, Patapatnam 16. Community Health Center, Nandyal, Banaganapalli, Kurnool 17. GSL Medical College & General Hospital, Rajahnagaram, East Godavari District 18. District Hospital, Madnapalle, Chittoor District 19. District Hospital, APVVP, Pulivendula, Kadapa District 20. District Hospital, Rajahmundry, East Godavari District 21. District Hospital, Noonepalli, Nandyal, Kurnool 22. District Hospital, Anakapalli, Vishakhapatnam 23. District Hospital, Hindupur, Anantpur 24. District Hospital, Proddatur	

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			25. District Hospital, Machlipatnam 26. District Hospital, Atmakur 27. District Hospital, Markapur 28. District Hospital, Tekkali 29. Area Hospital, Rampachodavaram, East Godavari District 30. Area Hospital, Palamaner, Chittoor 31. Area Hospital, Amalapuram, East Godavari District 32. Area Hospital, Adoni, Kurnool 33. Area Hospital, Chirala 34. Area Hospital, Kandukuru 35. Area Hospital, Narsipatnam 36. Area Hospital, Parvathipuram 37. Area Hospital, Tadepalligudem 38. Area Hospital, Kavali 39. Area Hospital, Tenali 40. Area Hospital, Narasaraopet, Guntur 41. Area Hospital, Macheria, Guntur 42. Area Hospital, Kadiri 43. Area Hospital, Gandhinagar, Nuzividu 44. ACSR Govt. Medical College, Nellore 45. Rural Development Trust, Bathalpalli 46. Govt. General Hospital, Guntur 47. Govt. General Hospital/ RIMS, Ongole 48. DST Lab Govt. Chest Hospital, Vishakhapatnam	
2.	Arunachal Pradesh (1)	RT-PCR	49. Tomo Riba Institute of Health & Medical Sciences, Naharlagun	
3.	Assam (7)	RT-PCR	50. Gauhati Medical College, Guwahati	

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			51. Regional Medical Research Center, Dibrugarh 52. Jorhat Medical College, Jorhat 53. Silchar Medical College, Silchar 54. Fakkhruddin Ali Ahmed Medical College, Barpeta 55. Tezpur Medical College, Tezpur 56. Assam Medical College, Dibrugarh	
4.	Bihar (7)	RT-PCR	57. Rajendra Memorial Research Institute of Medical Sciences, Patna 58. Indira Gandhi Institute Medical Sciences, Patna 59. Patna Medical College, Patna 60. Darbhanga Medical College, Darbhanga 61. SKMCH, Muzaffarpur 62. All India Institute of Medical Sciences, Patna	
		CB-NAAT	63. Jawaharlal Nehru Medical College, Bhagalpur	
5.	Chandigarh (3)	RT-PCR	64. Post Graduate Institute of Medical Education & Research 65. Govt. Medical College 66. *Institute of Microbial Technology	
6.	Chhattisgarh (4)	RT-PCR	67. All India Institute of Medical Sciences, Raipur 68. Late Baliram Kashyap M Govt. Medical College, Jagdalpur 69. JNM Medical College, Raipur 70. Late Shri Lakhi Ram Agrawal Memorial Govt. Medical College, Raigarh	

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
7.	<b>Delhi (24)</b>  <b>Govt: 11</b> <b>Private: 13</b>	<b>RT-PCR</b>	71. All India Institute Medical Sciences 72. Lady Hardinge Medical College 73. National Centre for Disease Control 74. Ram Manohar Lohia Hospital 75. Institute of Liver & Biliary Sciences 76. Army Hospital Research & Referral 77. Maulana Azad Medical College 78. Vardhman Mahavir Medical College & Safdarjung Hospital 79. University College of Medical Sciences 80. Army Base Hospital 81. *IGIB, CSIR, New Delhi	1. Lal Path Labs, Block -E, Sector 18, Rohini, Delhi 2. Dr Dangs Lab, C-2/1, Safadarjung Development Area, New-Delhi 3. Laboratory Services, Indraprastha Apollo Hospitals, Sarita Vihar, New Delhi 4. Max Lab, Max Super Speciality Hospital, Saket, New-Delhi 5. Sir Ganga Ram Hospital Clinical Lab Services, Sir Ganga Ram Hospital, Delhi 6. Oncquest Labs Ltd, 3-Factory Road, New-Delhi 7. Prognosis Laboratories, 515-16, Sector 19, Dwarka 8. City X-Ray & Scan Clinic Pvt Ltd, 4B/18, Tilak Nagar, New-Delhi 9. Lifeline Laboratory, H-11, Green Park Extension, New-Delhi 10. Dept of Lab Services, Dr. B.L. Kapur Memorial Hospital, 5, Pusa Road, New-Delhi 11. Dept of Laboratory Services, Action Cancer Hospital, A-4, Paschim Vihar (East), New-Delhi 12. Star Imaging & Path Lab Pvt Ltd, 4B/4, Tilak Nagar, New Delhi 13. Genestrings Diagnostic Centre Pvt Ltd, 3, MMTC, Geetanjali Enclave, New Delhi
8.	<b>Gujarat (20)</b>  <b>Govt: 13</b>	<b>RT-PCR</b>	82. BJ Medical College, Ahmedabad 83. MP Shah Govt Medical College, Jamnagar 84. Govt. Medical College, Surat	14. Unipath Specialty laboratory limited, 102, Sanoma Plaza, Opposite Parimal Garden,

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
	<b>Private: 7</b>		85. Govt. Medical College, Bhavnagar 86. Govt. Medical College, Vadodara 87. Govt. Medical College, Rajkot 88. NHL Medical College, Ahmedabad 89. GMERS, Ahmedabad 90. GMERS, Gandhinagar 91. GMERS, Valsad 92. National Institute of Occupational Health, Ahmedabad 93. Gujarat Cancer & Research Institute, Ahmedabad 94. Surat Municipal Institute of Medical Education & Research (SMIMER), Surat	Besides JMC House, Ellisbridge, Ahmedabad 15. Supratech Micropath Laboratory & Research Institute Pvt Ltd, Kedar, Ahmedabad 16. SN GeneLab Pvt Ltd, President Plaza -A, Near Mahavir Hospital, Nanpura, Surat 17. Pangenomics International Pvt Ltd, Ellis Bridge, Ahmedabad 18. #Dept of Lab Medicine, Zydus Hospitals & Healthcare Research Pvt Ltd, Zydus Hospital Road, Hebatpur, Off S.G. Highway, Thaltej, Ahmedabad 19. Toprani Advanced Lab Systems, Suflam, 10, Haribhakti Colony, Race Course, Vadodra 20. Dept of Lab Medicine, Apollo Hospitals International Ltd, 1, Bhat, GIDC Estate, Ahmedabad
9.	<b>Goa (3)</b>	<b>RT-PCR</b>	95. #Goa Medical College, Goa	
		<b>TrueNat</b>	96. North District Hospital, Mapusa 97. Subdistrict Hospital, Ponda	
10.	<b>Haryana (15)</b>  <b>Govt: 8</b> <b>Private: 7</b>	<b>RT-PCR</b>	98. Pt. B.D. Sharma Post Graduate Inst. Of Med. Sciences, Rohtak 99. Command Hospital, Chandimandir 100. BPS Govt. Medical College, Sonipat 101. ESIC Hospital, Faridabad 102. Kalpana Chawla Govt. Medical College, Karnal 103. Government Civil Hospital, Panchkula	21. Strand Life Sciences, A-17, Sector 34, Gurugram 22. SRL Limited, GP26, Sector 18, Gurugram 23. Modern Diagnostic & Research Centre-Lab, 363-364/4, JAwarhar Nagar. Gurgaon 24. Core Diagnostics Pvt Ltd, Udyog Vihar Phase-3, Gurgaon



S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			104. *ICAR-National Research Centre on Equines, Hisar 105. *Translational Health Science & Technology Institute, Faridabad	25. MolQ Laboratory, Plot 28,29; Sector 18(P), Electronic city, Udyog Vihar, Phase IV, Gurgaon 26. Pathkind Diagnostics Pvt Ltd, Plot 55-56, Phase 4, Udyog Vihar, Sec 18, Gurgaon 27. Department of Pathology and Laboratory Medicine, Medanta-The Medicity, Sector 38, Gurgaon
11.	Himachal Pradesh (5)	RT-PCR	106. Indira Gandhi Medical College, Shimla 107. Dr. Rajendra Prasad Govt. Medical College, Tanda 108. Central Research Institute, Kasauli 109. Shri Lal Bahadur Shastri Govt. Medical College, Mandi 110. *CSIR Institute of Himalayan Bioresource Technology, Palampur	
12.	Jammu & Kashmir (4)	RT-PCR	111. Govt. Medical College, Jammu 112. Command Hospital (NC) Udhampur 113. Sher-i-Kashmir Institute of Medical Sciences, Srinagar 114. Govt. Medical College, Srinagar	
13.	Jharkhand (5)  Govt: 4 Private: 1	RT-PCR	115. MGM Medical College & Hospital, Jamshedpur 116. Rajendra Institute of Medical Sciences, Ranchi 117. Patliputra Medical College & Hospital, Dhanbad 118. Itki Aarogyashala, Ranchi	28. Tata Main Hospital (Dept of Pathology), Tata Steel, Bistupur, Jamshedpur

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
14.	<b>Karnataka (29)</b>  <b>Govt: 20</b> <b>Private: 9</b>	<b>RT-PCR</b>	119. Hassan Inst. Of Med. Sciences, Hassan 120. Mysore Medical College & Research Institute, Mysore 121. Shivamogga Institute of Medical Sciences, Shivamogga 122. Command Hospital (Air Force), Bengaluru 123. Bangalore Medical College & Research Institute, Bengaluru 124. National Institute of Virology, Bangalore Field Unit, Bengaluru 125. *Indian Institute of Science, Bengaluru (Department of Biochemistry, Centre for Infectious Disease Research) 126. Gulbarga Institute of Medical Sciences, Gulbarga 127. Vijaynagar Institute of Medical Sciences, Bellary 128. National Institute of Mental Health and Neuro-Sciences, Bangalore 129. Wenlock District Hospital, Mangalore 130. Karnataka Institute of Medical Sciences, Hubli 131. National Institute of Traditional Medicine, Belagavi 132. Dharwad Institute of Mental Health & Neurosciences, Dharwad 133. Kidwai Memorial Institute of Oncology, Bengaluru 134. *Instem, Bengaluru	29. Neuberg Anand Reference Laboratory, Anand Tower, #54, Bowring Hospital Road, Bengaluru 30. Cancyte Technologies Pvt Ltd, Sri Shankara Research Centre, Bengaluru 31. Central Diagnostic Lab, Vydehi Institute of Medical Sciences and Research Centre, #82, E.P.I.P. Area, Whitefield, Bengaluru 32. Syngene International Limited, Biocon Park, SEZ, Bommasandra Industrial Area, Phase IV, Bommasandra-Jigani Link Road, Bengaluru 33. #Department of Lab Medicine, Narayana Hrudayalaya Ltd, 258/A, Bommasandra Industrial Area, Hosur Road, Bengaluru 34. Aster Clinical Lab LLP, No 24, Venkatappa Road, Tasker Town, Vasanthanagar, Bangalore 35. Microbiological Lab, 22-D 3, KIADB Industrial Area, 1 <sup>st</sup> Phase, Kumbalagidu, Bengaluru

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
		CB NAAT	135. Gadag Institute of Medical Sciences, Gadag 136. Tumkur District Hospital, Tumkur 137. Vijayapura District Hospital, Vijayapura 138. Belgaum Institute of Medical Sciences, Belgaum	36. Sakra World Hospital Lab Services, Devarabeesanahalli VArthur Hobli, Bengaluru 37. Lab Services, Apollo Hospitals, 154/11, Bannerghatta Road, Bengaluru
15.	<b>Kerala (20)</b>  <b>Govt: 14</b> <b>Private: 6</b>	RT PCR	139. National Institute of Virology, Field Unit, Allapuzha 140. Govt. Medical College, Thiruvananthapuram 141. Govt. Medical College, Kozhikode 142. Govt. Medical College, Thrissur 143. Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram 144. Sree Chitra Tirunal Institute of Medical Sciences, Thiruvananthapuram 145. State Public Health Laboratory, Trivandrum 146. Inter University, Kottayam 147. Malabar Cancer Center, Thalassery 148. Central University of Kerala, Periyar, Kasaragod 149. Govt. Medical College, Ernakulum 150. Govt. Medical College, Manjeri 151. Govt. Medical College, Kottayam 152. Govt. Medical College, Kannur	38. DDRC SRL Diagnostics Pvt Ltd, Panampilly Nagar, Ernakulam 39. MIMS Lab Services, Govindapuram, Kozhikode 40. Lab Services of Amrita Institute of Medical Sciences & Research Centre, AIMS-Ponekkara, Kochi 41. Dane Diagnostics Pvt Ltd, 18/757 (1), RC Road, Palakkad 42. Medivision Scan & Diagnostic Research Centre Pvt Ltd, Sreekandath Road, Kochi
		CB NAAT		43. Dept of Pathology and Lab Medicine, Aster Medcity, Aster DM Healthcare Ltd, Kutty Sahib Road, Kothad, Cochin
16.	<b>Maharashtra (58)</b>	RT-PCR	153. National Institute of Virology, Pune	44. Thyrocare Technologies Limited, D37/1, TTC MIDC, Turbhe, Navi Mumbai

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
	<b>Govt: 34 Private: 24</b>		154. Seth GS Medical College & KEM Hospital, Mumbai 155. Kasturba Hospital for Infectious Diseases, Mumbai 156. National Institute of Virology Field Unit, Mumbai 157. Armed Forces Medical College, Pune 158. BJ Medical College, Pune 159. Command Hospital (SC), Pune 160. Indira Gandhi Govt. Medical College, Nagpur 161. All India Institute of Medical Sciences, Nagpur 162. Govt. Medical College, Nagpur 163. Nagpur Veterinary College, MAFSU, Nagpur 164. Intermediate Reference Laboratory, Nagpur 165. Grant Medical College & Sir JJ Hospital, Mumbai 166. Govt. Medical College, Aurangabad 167. V. M. Government Medical College, Solapur 168. Haffkine Institute, Mumbai 169. Shree Bhausahab Hire Govt. Medical College, Dhule 170. Government Medical College, Miraj 171. Govt. Medical College, Akola 172. National Institute for Research on Reproductive Health, Mumbai	45. Suburban Diagnostics (India) Pvt. Ltd., 306, 307/T, 3rd Floor, Sunshine Bld., Andheri (W), Mumbai 46. Metropolis Healthcare Ltd, Unit No. 409-416, 4th Floor, Commercial Building-1, Kohinoor Mall, Mumbai 47. Sir H.N. Reliance Foundation Hospital and Research Centre, Molecular Medicine, Reliance Life Sciences Pvt. Ltd., R-282, TTC Industrial Area, Rabale, Navi Mumbai 48. SRL Limited, Prime Square Building, Plot No 1, Gaiwadi Industrial Estate, SV Road, Goregaon, Mumbai 49. A.G. Diagnostics Pvt Ltd, Nayantara Building, Pune 50. Kokilaben Dhirubhai Ambani Hospital Laboratory, Four Bungalows, Mumbai 51. InfeXn Laboratories Private Limited, A/131, Therelek Compound, Road No 23, Wagle Industrial Estate, Thane (W) 52. iGenetic Diagnostics Pvt Ltd, Krislon House, Andheri East, Mumbai 53. Sahyadri Speciality Labs, Plot No 54, S.No. 89-90, Lokmanya Colony, Kothrud, Pune 54. Dr. Jariwala Lab & Diagnostics LLP, 1st Floor, Rasraj Heights, Rokadia Lane, Off Mandpeshwar Road, Borivli (W), Mumbai 55. Metropolis Healthcare Limited, Construction House, 796/189-B, Bhandarkar Institute Road, Pune

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			173. Rajiv Gandhi Medical College & CSM Hospital, Kalwa, Thane, Mumbai 174. National AIDS Research Institute, Pune 175. Swami Ramanand Teerth Marathwada University, Nanded 176. Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha 177. Vilasrao Deshmukh Govt. Institute of Medical Sciences, Latur 178. INHS Ashvini, Mumbai 179. *Tata Memorial Centre ACTREC, Mumbai 180. *Tata Memorial Hospital, Mumbai 181. *National Centre for Cell Sciences, Pune 182. *National Environmental Engineering Research Institute, Nagpur 183. Sant Gadge Baba Amravati University, Amravati	56. SRL Diagnostics - Dr. Avinash Phadke (SRL Diagnostics Pvt Ltd), Mahalaxmi Engineering Estate, 2 <sup>nd</sup> Floor, L.J. Cross Road No 1, KJ Khilnani High School, Mahim (West), Mumbai 57. Department of Laboratory Medicine - P.D. Hinduja National Hospital and Medical Research Centre, Veer Savarkar Marg, Mahim, Mumbai 58. Vaidya Lab Thane, Unit of Millenium Special Lab Pvt Ltd, Odyssey Park, 2 <sup>nd</sup> Floor, 201, Raghunath Nagar, Wagle Estate, Thane 59. Genepath Diagnostics India Pvt Ltd, 4 <sup>th</sup> Floor, Above Phadke Hospital, Pune 60. Daignostic Molecular Laboratory, Dept of Microbiology, Dr. Vasanttrao Pawar Medical College Hospital & Research Centre, Vasantdada Nagar, Adgaon, Nashik 61. Dept of Lab Medicine, Dr. Balabhai Nanavati Hospital, Swami Vivekananda Road, Mumbai 62. Krsnaa Diagnostics Pvt Ltd, Lt. Jayabai Nanasaheb Sutar Maternity Home, Pune 63. Dhruv Pathology and Molecular Diagnostic Lab, Third Floor, Aditya Enclave, Central Bazaar Road, Ramdaspath, Nagpur 64. Dept of Molecular Biology & Genetics, Krishna Institute of Medical Sciences, Karad, Satara
		<b>CB NAAT</b>	184. Intermediate Reference Laboratory, Nagpur 185. Intermediate Reference Laboratory, Pune 186. RCSM Govt. Medical College, Kolhapur	65. Ruby Hall Clinic, Dept of Laboratory, Grant Medical Foundation, 40, Sassoon Road, Pune 66. Sunflower Lab & Diagnostic Center, Keshav Kunj, Marve Road, Malad West, Mumbai

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
				67. Aditya Birla Memorial Hospital - Laboratory, Aditya Birla Marg, Chinchwad, Pune
17.	<b>Madhya Pradesh (13)</b>  <b>Govt: 10</b> <b>Private: 3</b>	<b>RT-PCR</b>	187. All India Institute of Medical Sciences, Bhopal 188. National Institute for Research on Tribal Health, Jabalpur 189. Mahatma Gandhi Memorial Medical College, Indore 190. Gandhi Medical College, Bhopal 191. Bhopal Memorial Hospital & research Centre, Bhopal 192. Gajra Raja Medical College, Gwalior 193. Bundelkhand Medical College, Sagar 194. SS Medical College, Rewa 195. *Defence Research & Development Organization, Gwalior 196. *ICAR-NIHSAD, Bhopal	68. Chirayu Medical College & Hospital, Bhopal Indore Highway, Bhaishakhedi, Bhopal 69. #Central Research Lab, R D Gardi Medical College, Surasa, Ujjain 70. Central Lab, MZ 117-118, Yeshwant Plaza, Indore
18.	<b>Manipur (2)</b>	<b>RT-PCR</b>	197. Jawaharlal Nehru Institute of Med. Sciences, Imphal-East, Manipur 198. Regional Institute of Medical Sciences, Imphal	
19.	<b>Meghalaya (1)</b>	<b>RT-PCR</b>	199. North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong, Meghalaya	
20.	<b>Mizoram (1)</b>	<b>RT-PCR</b>	200. Zoram Medical College	
21.	<b>Odisha (8)</b>  <b>Govt: 7</b> <b>Private: 1</b>	<b>RT-PCR</b>	201. Regional Medical Research Centre, Bhubaneswar ( <i>High-throughput Laboratory</i> ) 202. All India Institute of Medical Sciences, Bhubaneswar	71. Dept of Lab Services, Apollo Hospitals, Bhubaneswar

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			203. SCB Medical College and Hospital, Cuttack 204. MKCG Medical College, Berhampur 205. Ispat General Hospital, Rourkela 206. Veer Surendra Sai institute of Medical Science & Research, Sambalpur 207. *Institute of Life Sciences, Bhubaneshwar	
22.	Puducherry (2)	RT-PCR	208. Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry 209. Indira Gandhi Medical College, Puducherry	
23.	Punjab (5)  Govt: 3 Private: 2	RT-PCR	210. Govt. Medical College, Amritsar 211. Govt. Medical College, Patiala 212. Guru Gobind Singh Medical University, Faridkot	72. Tuli Diagnostic Centre, Majitha Road, Amritsar
		CB-NAAT		73. Department of Microbiology, Dayanand Medical College & Hospital, Tagore Nagar, Civil Lines, Ludhiana
24.	Rajasthan (20)  Govt: 17 Private: 3	RT-PCR	213. Sawai Man Singh Medical College, Jaipur 214. Rajasthan University of Health Sciences Medical College, Jaipur 215. Dr. Sampurnan and Medical College, Jodhpur 216. Jhalawar Medical College, Jhalawar 217. RNT Medical College, Udaipur 218. SP Medical College, Bikaner 219. All India Institute of Medical Sciences, Jodhpur 220. JLN Medical College, Ajmer	74. Central Lab, The Mahatma Gandhi University of Medical Sciences and Technology, RIICO Institution Area, Sitapura, Tonk Road, Jaipur 75. Dr. B Lal Clinical Lab Pvt Ltd, 6-E, Malviya Industrial Area, Malviya Nagar, Jaipur 76. #Brig T.K. Narayanan Dept of Pathology, Santokaba Durlabhji Memorial Hospital Cum Medical Research Institute, Jaipur (TruNat and RTPCR)

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			221. Govt. Medical College, Kota 222. National Institute for Implementation Research on Non-Communicable Diseases, Jodhpur 223. RVRS Govt. Medical College, Bhilwara 224. Government Medical College, Dungarpur 225. Pandit Deendayal Upadhyaya Medical College, Churu 226. Government Medical College, Bharatpur 227. Government Medical College, Sikar 228. Government Medical College, Barmer 229. Government Medical College, Pali	
25.	<b>Tamil Nadu (50)</b>  <b>Govt: 36</b> <b>Private: 14</b>	<b>RT-PCR</b>	230. King Institute of Preventive Medicine & Research, Chennai 231. Madras Medical College, Chennai 232. Stanley Medical College, Chennai 233. Govt. Kilpauk Medical College, Chennai 234. National Institute for Research in Tuberculosis, Chennai 235. State Public Health Laboratory, Chennai 236. National Institute of Epidemiology, Chennai 237. Dr. MGR Medical University, Chennai 238. Dr. ALM PG Institute of Basic Medical Sciences, Chennai 239. Govt. Medical College & Hospital, Omandurar Govt. Estate, Chennai 240. Govt. Theni Medical College, Theni 241. Tirunelveli Medical College, Tirunelveli 242. Govt. Medical College, Thiruvarur	77. Dept. of Clinical Virology, CMC, Vellore 78. Department of Laboratory Services, Apollo Hospitals Enterprise Ltd, Chennai 79. Neuberg Ehrlich Lab Pvt Ltd, 46-48 Masilamani Road, Balaji Nagar, Chennai 80. Sri Ramachandra Medical College & Research Institute, Porur, Chennai 81. Microbiology Lab, Veerakeralam Road, Coimbatore 82. YRG CARE, Taramani, Chennai 83. Hitech Diagnostic Centre- A Unit of Dr. Ganesan's Hitech Diagnostic Centre Pvt Ltd, Poonamallee High Road, Chennai 84. PSG Hospitals Diagnostic Centre, Avinashi Road, Peelamedu, Coimbatore 85. Medall Healthcare Pvt Ltd, 17, Race View Colony, 2 <sup>nd</sup> street, Race Course Road, Guindy, Chennai



S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			243. Kumar Mangalam Govt. Medical College, Salem 244. Coimbatore Medical College, Coimbatore 245. Govt. Medical College & ESIC Hospital, Coimbatore 246. Govt. Medical College, Villupuram 247. Madurai Medical College, Madurai 248. K A P Viswanatham Govt. Medical College, Trichy 249. Perundurai Medical College, Perundurai 250. Govt. Dharmapuri Medical College, Dharmapuri 251. Govt. Medical College, Vellore 252. Thanjavur Medical College, Thanjavur 253. Kanyakumari Govt. Medical College, Nagercoil 254. Govt. Thoothukudi Medical College, Thoothukudi 255. Institute of Vector Control & Zoonoses, Hosur 256. Pasteur Institute of India, Coonoor 257. Rajah Muthiah Medical College, Chidambaram 258. Government Medical College, Karur 259. Govt. Tiruvannamalai Medical College & Hospital, Tiruvannamalai 260. Chengalpattu Government Medical College, Kancheepuram 261. Government Medical College and Hospital, Pudukkottai	86. Meenakshi Labs Madurai A unit of Sunmed Healthcare Pvt Ltd, 2 <sup>nd</sup> Floor, Meenakshi Mission Hospital and Research Centre, Madurai 87. Metropolis Healthcare Limited, No 3, Jaganathan Road, Nungambakkam, Chennai 88. Clinical Lab Services, Dr. Rela Institute & Medical Centre, #7, CLC Works Rd, Shankar Nagar, Chennai

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			262. Government Shivagangai Medical College, Shivagangai 263. Government District Headquarters Hospital, Virrudhu Nagar 264. Government District Headquarters Hospital, Ramanathapuram 265. Government District Headquarters Hospital, Ariyalur	
		CB NAAT		89. MIOT Hospitals - Dept of Lab Medicine, 4/112, Mount Poonamallee Road, Manapakkam, Chennai 90. Madras Medical Mission Clinical Lab Services, 4-A, Dr. J. Jayalalitha Nagar, Mogappair East, Chennai
26.	<b>Telangana (20)</b>  <b>Govt: 9</b> <b>Private: 11</b>	RT-PCR	266. Gandhi Medical College, Secunderabad 267. Osmania Medical College, Hyderabad 268. Sir Ronald Ross of Tropical & Communicable Diseases, Hyderabad. 269. Nizam's Institute of Medical Sciences, Hyderabad 270. Institute of Preventive Medicine, Hyderabad 271. ESIC Medical College, Hyderabad 272. Kakatiya Medical College, Warangal 273. *Centre for Cellular & Molecular Biology, Hyderabad 274. *Centre for DNA Fingerprinting & Diagnostics, Hyderabad	91. Laboratory Services, Apollo Hospitals, 6th Floor, Health Street Building, Jubilee Hills, Hyderabad 92. Vijaya Diagnostic Centre Pvt Ltd, Street No 19, Himayath Nagar, Hyderabad 93. Vimta Labs Ltd, Plot No 142, Phase 2, IDA Cherlapally, Hyderabad 94. Apollo Health and Lifestyle Limited, Diagnostic Laboratory, Bowenpally, Secunderabad 95. Dr. Remedies Labs Private Ltd, A3, Titus Plaza, Sharma Commercial Complex, Punjagutta, Hyderabad 96. Pathcare Labs Pvt Ltd, Medchal, Hyderabad

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
				<p>97. American Institute of Pathology And Lab Sciences Pvt Ltd, Citizens Hospital, Serilingampally, Hyderabad</p> <p>98. Medcis Pathlabs India Pvt Ltd, Plot No 16 &amp; 17, Swathi Plaza, Anand Nagar, New Bowenpally, Secunderabad</p> <p>99. Department of Lab Medicine, Yashoda Hospital, 9th Floor, 1-1-156 &amp; 157, Alexander Road, Secunderabad</p> <p>100. Biognosys Technologies (India) Pvt Ltd, #8-148/174/11, NRI Colony, Near Aleap Industrial Area, Medchal, Malkajgiri</p> <p>101. Tenet Diagnostics, Plot No 51, Kineta Towers, Journalist Colony, Road No 3, Banjara Hills, Hyderabad</p>
27.	<b>Tripura (1)</b>	<b>RT-PCR</b>	275. Government Medical College, Agartala	
28.	<b>Uttar Pradesh (23)</b>  <b>Govt: 20</b> <b>Private: 3</b>	<b>RT-PCR</b>	<p>276. King George Medical University, Lucknow</p> <p>277. Institute of Medical Sciences, Banaras Hindu University, Varanasi</p> <p>278. Jawaharlal Nehru Medical College, Aligarh</p> <p>279. Command Hospital, Lucknow</p> <p>280. Lala Lajpat Rai Memorial Medical College, Meerut</p> <p>281. Sanjay Gandhi Post Graduate Institute, Lucknow</p> <p>282. MLN Medical College, Allahabad</p> <p>283. Uttar Pradesh University of Medical Sciences (Formerly Uttar Pradesh RIMS), Saifai</p>	<p>102. RML Mehrotra Pathology Pvt Ltd, Nirala Nagar, Lucknow</p> <p>103. Dept of Lab Medicine, Jaypee Hospital, Sector 128, Noida</p> <p>104. Central Lab, Sharda Hospital, Plot no 32,34, Knowledge Park-III, Greater Noida</p>

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			284. MLB Medical College, Jhansi 285. Regional Medical Research Centre, Gorakhpur 286. SN Medical College, Agra 287. #National JALMA Institute for Leprosy & Other Mycobacterial Diseases, Agra 288. RML Hospital, Lucknow 289. Govt. Institute of Medical Sciences, Noida 290. #GSVM Medical College, Kanpur 291. National Institute of Biologicals, Noida ( <i>High-throughput Laboratory</i> ) 292. BRD Medical College, Gorakhpur 293. *Indian Institute of Toxicology Research, Lucknow 294. *Birbal Sahni Institute of Palaeosciences, Lucknow 295. *Central Drug Research Institute, Lucknow	
29.	<b>Uttarakhand (5)</b>  <b>Govt: 4</b> <b>Private: 1</b>	<b>RT-PCR</b>	296. Govt. Medical College, Haldwani 297. All India Institute of Medical Sciences, Rishikesh 298. Doon Medical College, Dehradun 299. Veer Chandra Singh Garhwali Govt. Institute of Medical Science & Research, Srinagar, Pauri, Garhwal	105. Dr. Ahuja's Pathology and Imaging Centre, 7-B, Astley Hall, Dehradun
30.	<b>West Bengal (17)</b>  <b>Govt: 11</b> <b>Private: 6</b>	<b>RT-PCR</b>	300. National Institute of Cholera & Enteric Diseases, Kolkata 301. Institute of Post Graduate Medical Education & Research, Kolkata 302. Midnapore Medical College, Midnapore 303. North Bengal Medical College, Darjeeling	106. Apollo Gleneagles Hospitals, 58 Canal Circular Road, Kolkata 107. Tata Medical Center, Rajarhat, Kolkata 108. Suraksha Diagnostic Pvt Ltd (Dept of Lab Services), 12/1, Premises No 02/0327, DG

S. No.	Names of States	Test Category	Names of Government Institutes	Names of Private Institutes
			304. School of Tropical Medicine, Kolkata 305. Malda Medical College & Hospital, Malda 306. Command Hospital, Kolkata 307. Chittaranjan National Cancer Institute, Kolkata 308. R.G. Kar Medical College & Hospital, Kolkata 309. Murshidabad Medical College, Behrampore, Murshidabad	Block (Newtown), Action Area 1D, Newtown, Kolkata 109. Dr. Lal Pathlabs Ltd - Kolkata Reference lab, Plot No CB-31/1, Premises No 031-0199, Street No 199, Action Area 1C, Newtown, Kolkata
		CB-NAAT	310. Burdwan Medical College, Burdwan	110. Laboratory Services, Peerless Hospitex Hospital & Research Centre, 360, Panchasayar, Kolkata 111. AMRI Hospitals, Dept of Lab Medicine, JC 16-17, Sector III, Salt Lake City, Kolkata
31.	Andaman & Nicobar Islands (3)	RT-PCR	311. Regional Medical Research Centre, Port Blair	
		TrueNat	312. A&N Islands Institute of Medical Sciences, Port Blair	
		CB NAAT	313. GB Pant Hospital, Port Blair	
32.	Dadra & Nagar Haveli (1)	RT-PCR	314. Shri Vinoba Bhave Civil Hospital, Silvassa	
33.	Sikkim	TrueNAT	315. IRL, STNM Hospital, Gangtok	

## DEPARTMENT OF HEALTH RESEARCH

**Status of new COVID-19 Govt. & Private laboratories for RTPCR based testing as per request of the State Govt.****Proposals of Category 1 labs received by ICMR and referred back to State/ Mentor Institute**

S. No.	State	Name of the Laboratory	Updated Status
1.	Bihar (2)	ANMMCH, Gaya	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
		JNMC, Bhagalpur	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
2.	Chhattisgarh (1)	Chhattisgarh Institute of Medical Sciences, Bilaspur	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
3.	Delhi (2)	Rajiv Gandhi Super speciality Hospital, Delhi	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
		IBHAS Delhi	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
4.	Haryana (3)	Shaheed Hasan Khan Mewati, Govt. Medical College, Nalhar, Nuh	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
		Maharaja Agrasen Medical College, Agroha, Hisar	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
		SHKM, Govt. Medical College, Nalhar, Nuh	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
5.	Maharashtra (8)	Topiwala National Medical College, Mumbai	Email sent to Dean/Mentor Ins/Municipal Commis/PS health on 15/04/2020. Telephonic discussion made with Dean
		Lokmanya Tilka Medical College, Sion Mumbai	Email sent to Dean/Mentor Ins/Municipal Commis.. on 15/04/2020. Telephonic discussion made with Dean and Micro HoD
		HBT Medical College & Cooper Hospital Mumbai	Email sent to Dean/Mentor Ins/Municipal Commis./PS,Health. on 15/04/2020.
		Govt. Medical College, Baramati,	Email sent to Dean/Mentor Ins/PS,Health. on 15/04/2020
		Shri Vasantrao Naik Govt. Medical College, Yavatmal	Email sent to Dean/Mentor Ins/ PS,Health. on 15/04/2020
		Govt. Medical College, Chandrapur	Email sent to Dean/Mentor InsPS,Health. on 15/04/2020
		Dr. Shankarrao Chavan Govt. Medical College, Nanded,	Email sent to Dean/Mentor Ins/ PS,Health. on 15/04/2020
Government Medical College, Gondia	Email sent to Dean/Mentor Ins/ PS,Health. on 15/04/2020		
6.	Meghalaya (1)	Govt. Civil Hospital, Tura, Meghalaya	Email sent to Dean/Mentor Ins/PS health on 14/04/2020
7.	West Bengal (1)	NRS Medical College and Hospital, West Bengal	Email sent to Nodal officer16/04/2020

## Private Medical Colleges/ Private Laboratories:

S. No.	State	Name of the Medical College / Laboratory	Requirements	Status
1	Madhya Pradesh (3)	Sri Aurobindo Institute of Medical Sciences, Indore	QC Under Process	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		Index Medical College Hospital & Research Institute	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		RKDF Medical College and Research centre, Bhopal	NABL certificate reqd	
2	Karnataka (3)	JN Medical College, KAHER Belagavi	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		S. S Institute of Medical Sciences and Research Centre	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		K.S.Hegde Medical Academy, Mangalore	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
3	Gujarat (1)	Apollo Hospital, Gandhinagar	NABL certificate reqd	
4	Uttarakhand (2)	Mahantra Indresh Medical College, Dehradun	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		Himalayan Institute of Medical Sciences, Dehradun	NABL certified but not for Realtime PCR based testing	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
5	Telangana (2)	LEPRA Society, Hyderabad	NABL certificate reqd	
		RVM Institute Of Medical Sciences And Resarech Center, Siddipet	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
6	Uttar Pradesh (1)	Subharti Medical College, Meerut	NABL certified but not for Realtime PCR based testing	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
7	Haryana (2)	Imperial Life Sciences, Gurgaon	NABL certificate reqd	
		M.M. Institute of Medical Sciences and Research, Ambala	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
8	Maharastra (19)	ORANGE CITY HOSPITAL & RESEARCH INSTITUTE, Nagpur	NABL certified Scope pending	Email sent to Dean/Mentor Ins/PS health on 21/04/2020
		MGM Medical College and Hospital, Aurangabad	NABL certificate not received	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		K.J Somaiya Medical College, Sion Mumbai	NABL certificate not received	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Terna Medical College Talegaon Dabhade, Pune	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Dr. Vasant Rao Pawar Medical College, Nashik	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Annasaheb Chudaman Patil Memorial Medical College, Dhule	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Dr. VVPF's Medical College, Ahmednagar	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Smt. Kashibai Navale Medical College, Pune	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020

S. No.	State	Name of the Medical College / Laboratory	Requirements	Status
		Dr. Ulhas Patil Medical College, Jalgaon	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		BKL Walawalkar Rural Medical College, Ratanagiri	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Prakash Institute of Medical Sciences & Research , Sangli	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		SMBT insitute of Medical Sciences & Research Centre, Nashik	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Vedanta Institute of Medical Sciences, Palghar	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		NKP Salve Medical College, Nagpur	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		MIMSR Medical College, Latur	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Indian Institute of Medical Sciences & Research, Jalna	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Panjabrao Deshmukh Medical College, Amravati	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Ashwini Rural Medical College, Hospital & Research Centre	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Datta Meghe Medical College & Shalinitai Meghe Hospital and Research Centre, Nagpur	NABL certificate reqd	
9	Tamil nadu (4)	Velammal Medical College Hospital & Research Institute, Madurai	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 16/04/2020
		Sundaram Medical Foundation Dr. Rangarajan Memorial Hospital, Chennai	NABL certificate reqd	Previous list
		Dhanalakshmi Srinivasan Medical College & Hospital	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
		Karpagam Faculty of Medical Sciences & Research,Coimbatore	NABL certificate reqd	Email to be sent
10	Sikkim (1)	Sikkim Manipal College of Medical Sciences, Gangtok	NABL certificate reqd	Email sent to Dean/Mentor Ins/PS health on 15/04/2020
11	Andhra Pradesh (2)	Alluri Sitarama Raju Academy of Medical Sciences, Eluru, West Godavari	NABL certificate reqd	
		Narayana Medical College, Nellore	NABL certificate reqd	



INDIAN COUNCIL OF MEDICAL RESEARCH

DEPARTMENT OF HEALTH RESEARCH

Protocol for approving a COVID-19 testing facility in view of National Emergency

**ICMR is willing to facilitate establishment of a full-fledged COVID-19 testing facility in all Government Medical Colleges and Private Medical Colleges (for private MCs: NABL accreditation for real-time PCR of RNA viruses is required).**

**A laboratory will be considered fit for assessment by ICMR when the following basic requirements will be available:**

1. Real Time RT-PCR machine which is calibrated and functional.
2. Biosafety Level 2 cabinet which is calibrated and functional.
3. Cold centrifuge
4. Pipettes, RNA extraction kits, plasticware and other basic consumables.
5. Autoclave for sterilizing the waste.
6. Staff is available and has some previous experience of work using real-time PCR machine.
7. Biomedical waste management policy in place and understanding on segregation of infectious waste.

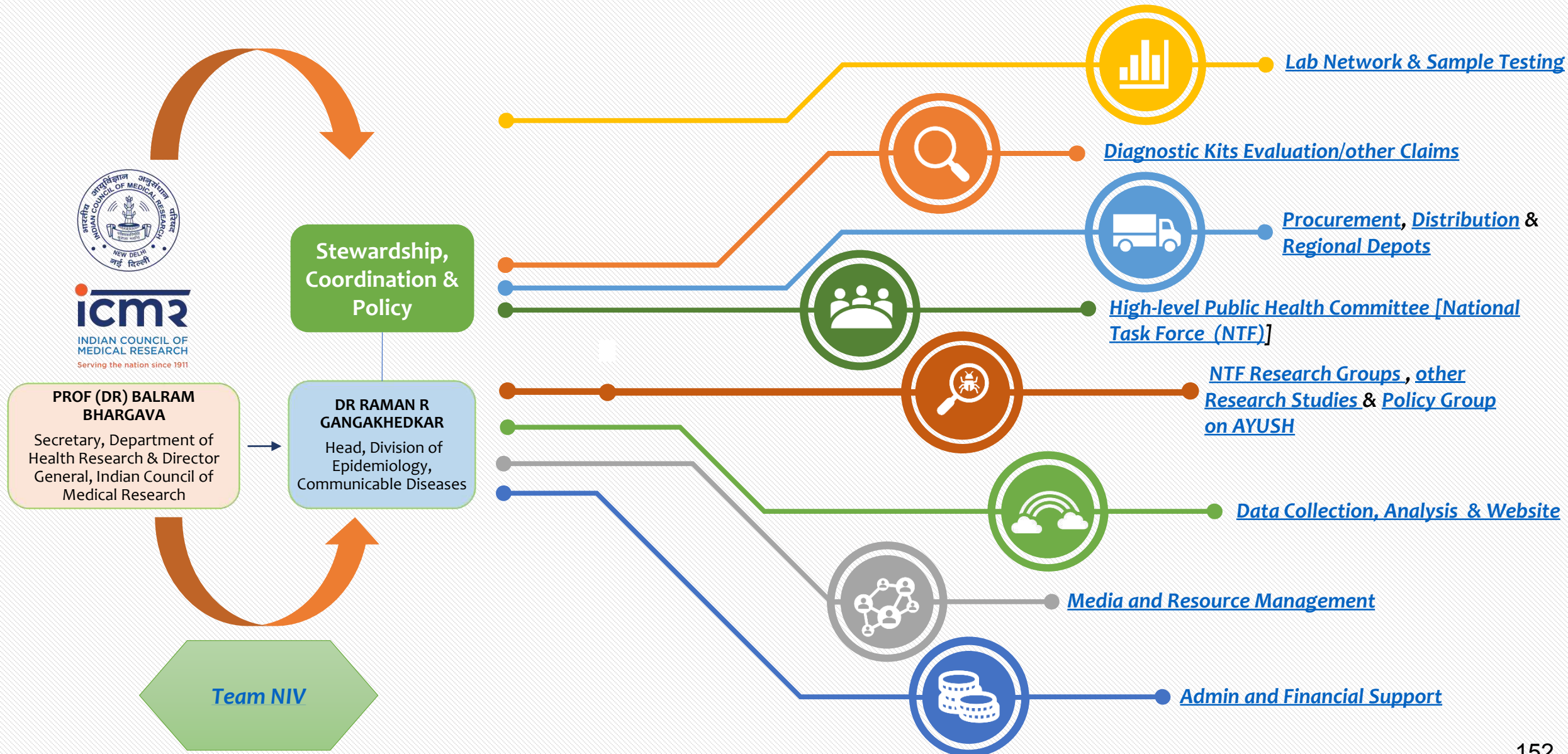
Once the above requirements are met, only then ICMR may be approached for approval.

**Steps of Approval from ICMR:**

<b>Categories</b>	<b>Nomenclature</b>
<b>Category 1:</b> Any of the above-mentioned requirements 1-7 are not met.	Cannot be considered in the present form. State Govt. support is required for meeting the above criteria.
<b>Category 2:</b> All the above requirements 1-7 are fulfilled.	Under review
<b>Category 3:</b> Staff trained at nearest VRDL and the trainer recommends the lab.	Approved
<b>Category 4:</b> First test is run independently and successfully by the lab and results are shared with ICMR.	Functional Lab. Fit to start independent testing

*\*As and when the labs will move from category 1 to 2, ICMR will consider facilitating a COVID-19 testing facility.*

# ICMR Rapid Response Team for COVID-19



# Lab Network & Sample Testing



## Lab Network & Sample Testing

**Dr. Nivedita Gupta**  
guptanivedita.hq@icmr.gov.in

### Government Labs

**Dr. Ira Praharaj**  
praharaj.ira@icmr.gov.in

**Dr. Sidhartha Giri**  
sidhartha.g@icmr.gov.in

**Dr. Jitendra Narayan**  
Scientist C, DHR-ICMR  
jitendra.narayan@gov.in

### Private Labs

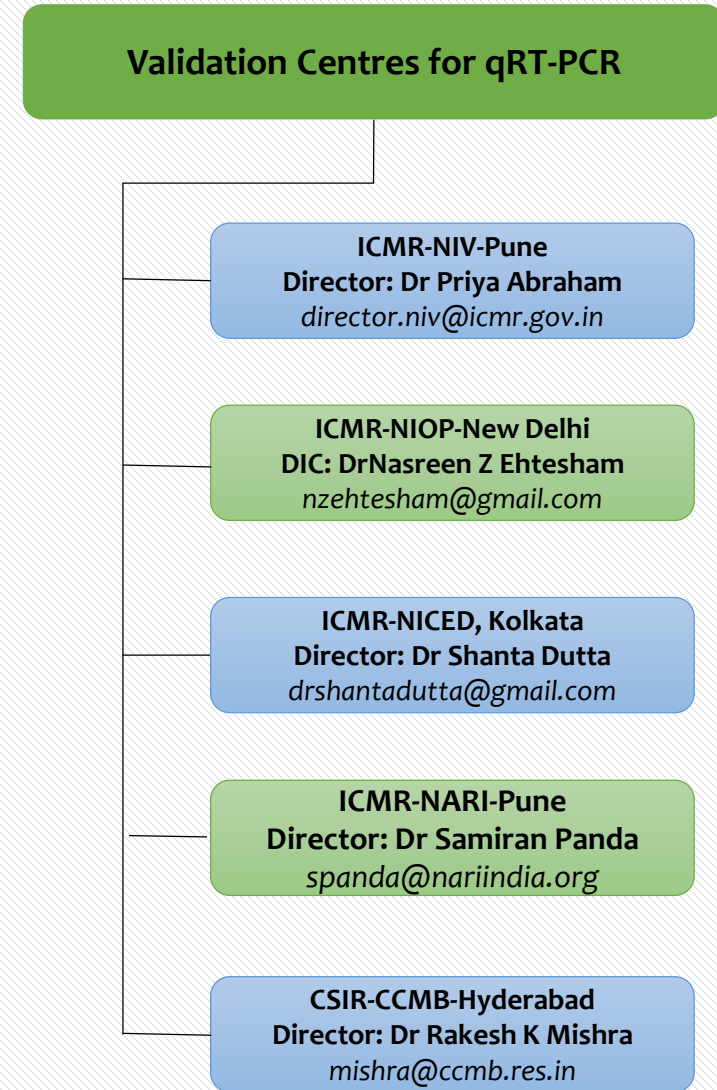
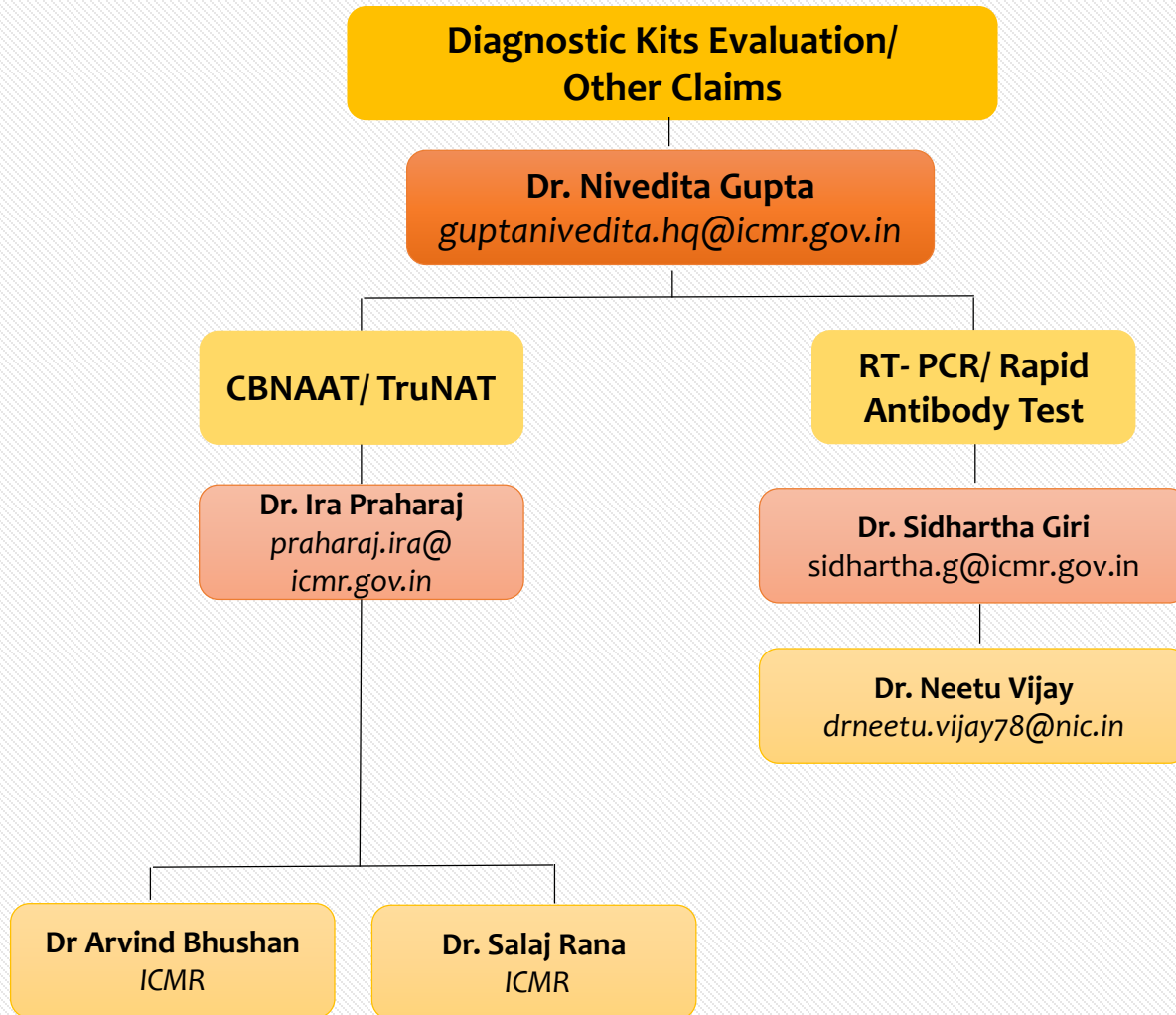
**Dr. Neeraj Aggarwal**  
aggarwal.n@icmr.gov.in

**Dr. Ginu Khan**  
Scientist C, ICMR

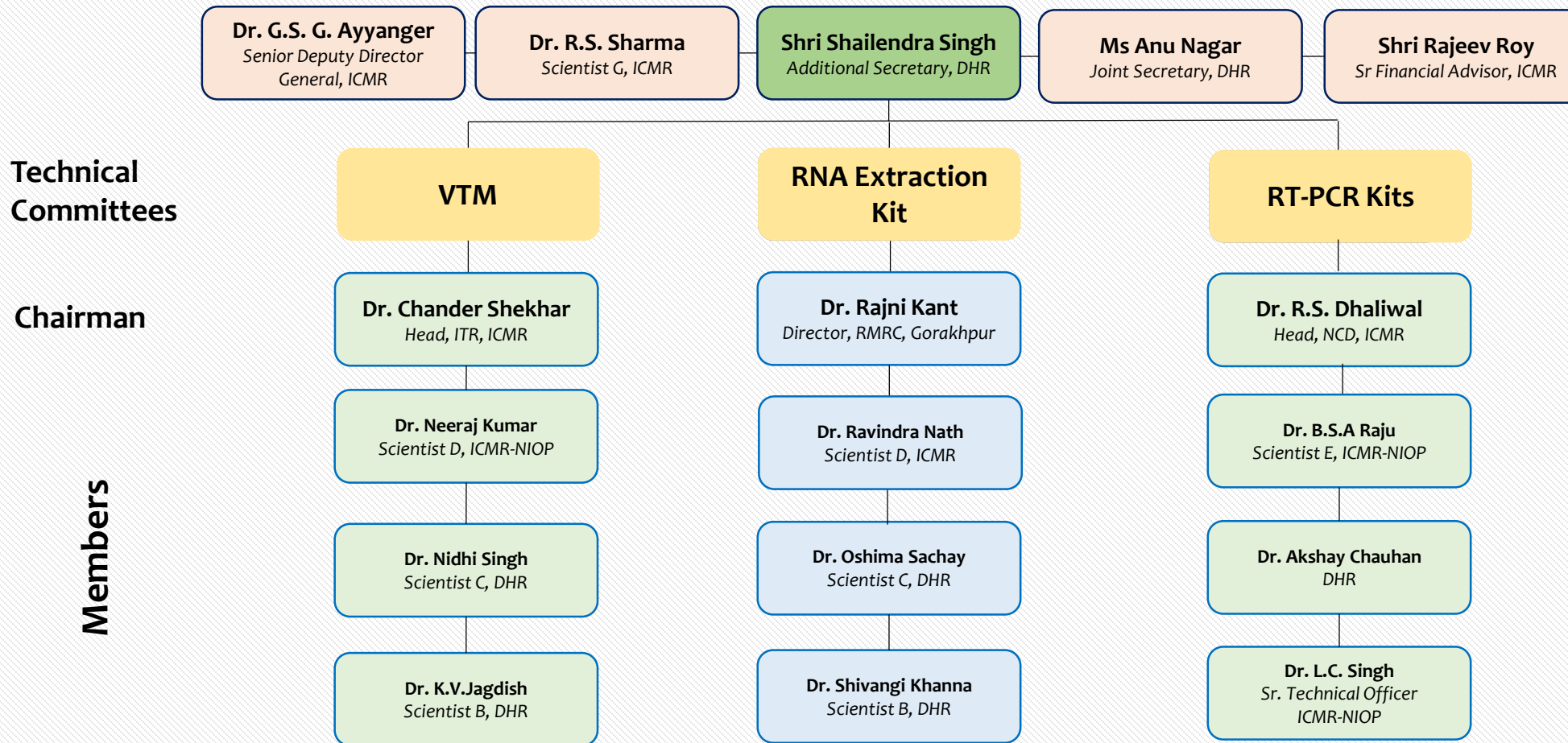
**Dr. Deepak Mallick**  
Scientist B, ICMR



# Diagnostic Kits Validation



# Procurement



# Distribution



**Dr. G.S. Toteja**  
 Additional Director General,  
 ICMR  
 (9868388075)

**National Nodal Officer**

**Central Team**

**Dr. Aparna Mukherjee**  
 Scientist E, ICMR  
 (9968408999)

**Dr. Karan Thapar**  
 Deputy Secretary to Govt.  
 of India  
 (9899668546)

**Dr. Priyanka G Bansal**  
 Scientist C, ICMR  
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**Dr. Harmanmeet Kaur**  
 Scientist C, ICMR  
 (9999707557)

**Dr. A.M.Khan**  
 Scientist G, ICMR  
 (9954481760)

**Dr. Himmat Singh**  
 Scientist D, ICMR-NIMR  
 (9414242471)

**East/North-East**

**North**

**West**

**South**

**Technical Support**

**Regional Teams**

**Mr. H.S. Pahuja**  
 IAS, Deputy Secretary  
 (8416080293)

**Mr. Ashok Kumar**  
 IPS, Director  
 (9418094189)

**Mr. Prankur Gupta**  
 IRSS  
 (9717630788)

**Mr. S. Rajesh**  
 Director, NITI Aayog  
 (9968534165)

**Mr. Pranjal Kapoor**  
 (9818529329)

**Dr. Harsh Nagpal**  
 PWC  
 (9999007005)

**Mr. Abhinav Sharma**  
 PWC  
 (9873975202)

**Mr. Haider**  
 (8588886643)

**Dr. Joy Kumar Chakma**  
 Scientist E, ICMR  
 (7210660508)

**Dr. Tanu Anand**  
 Scientist D, ICMR  
 (9811028964)

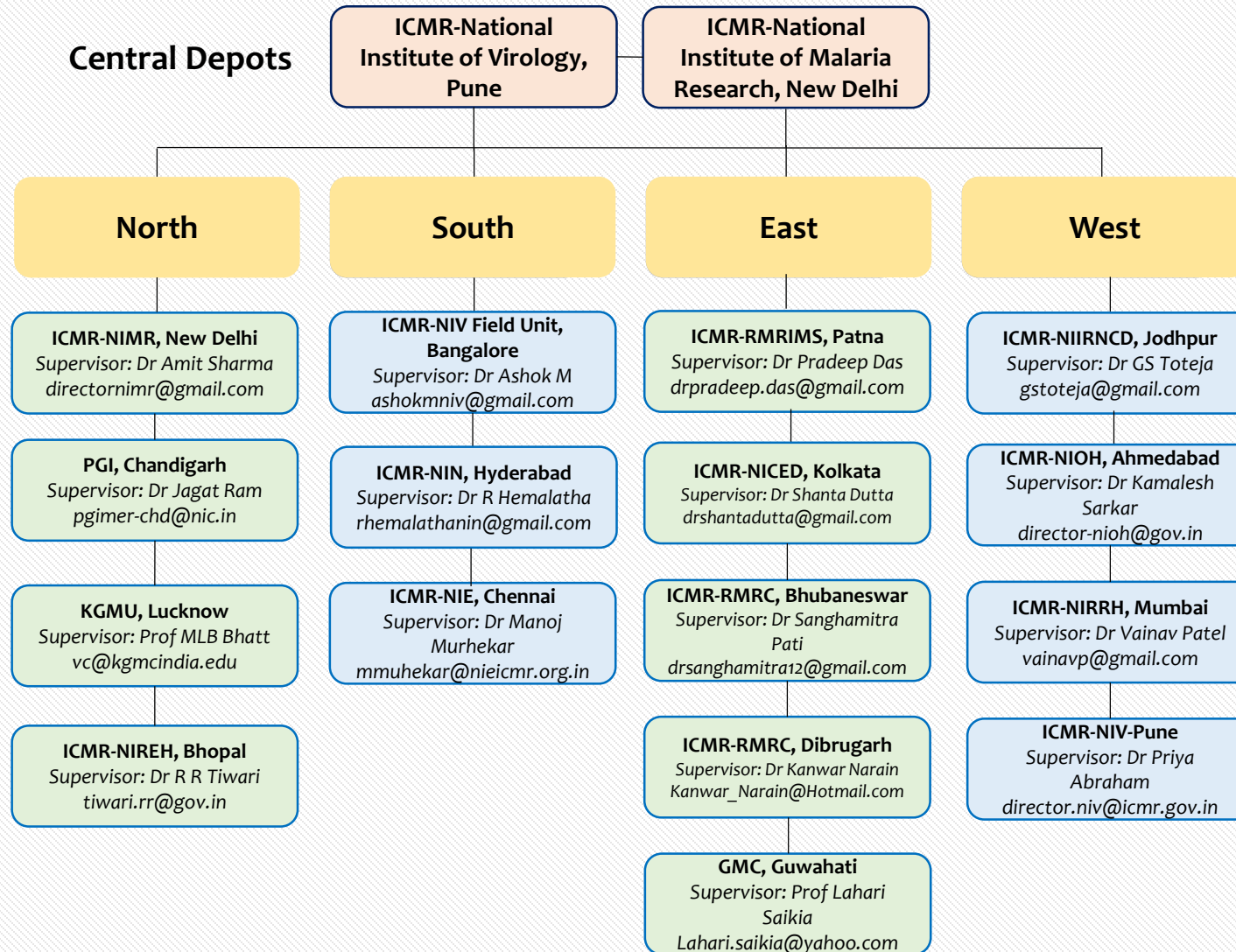
**Dr. Hemlata**  
 Scientist C, ICMR  
 (9818743598)

**Dr. Gitika Kharkwal**  
 Scientist C, ICMR  
 (7838912620)

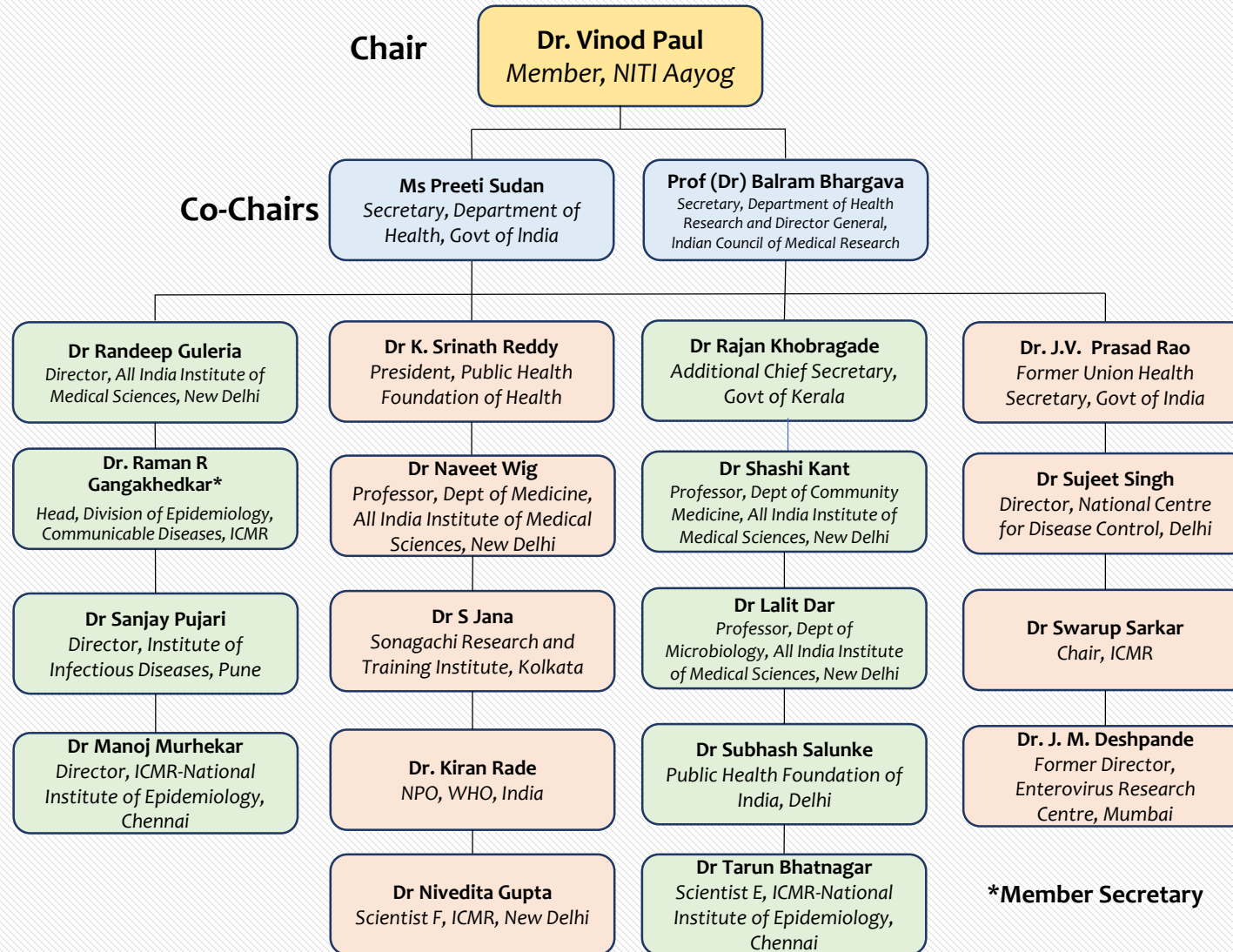


# Distribution: Regional Depots

## Regional Depots



# High-level Technical Committee of Public Health Experts (National Task Force)





# National Task Forces – Research Groups

## Clinical Research

**Dr Randeep Guleria\***  
AIIMS, New Delhi

**Dr Naveet Wig**  
AIIMS, New Delhi

**Dr RR Gangakhedkar**  
ICMR

**Dr Sanjay Pujari**  
Institute of Infectious  
Diseases, Pune

**Dr OC Abraham**  
CMC Vellore

**Dr Anup Aggarwal**  
ICMR

**Dr Rajeev Soman**  
Hinduja

**Dr Atul Patel**  
Infectious Diseases Clinic,  
Ahmedabad

**Dr N Kumarasamy**  
YRG

**Dr DK Behra**  
PGIMER

**Dr Padma Priyadarshini**  
ICMR-NIRT

**Dr Pranab Chatterjee**  
ICMR

## Diagnostics & biomarkers

**Dr DA Gadkari\***  
NARI

**Dr Jagdeesh Deshpande**  
ICMR

**Dr Lalit Dar**  
AIIMS

**Dr Priya Abraham**  
ICMR-NIV

**Dr Pragya Yadav**  
ICMR-NIV

**Dr Madhuri Thakar**  
ICMR-NARI

**Dr Ira Praharaj**  
ICMR

**Dr Amita Jain**  
KGMU

**Dr Nivedita Gupta**  
ICMR

**Dr Sandhya Kabra**  
NCDC

**Dr Dinakar M Salunke**  
ICGEB

**Dr Naveen Khanna**  
ICGEB

**Dr Neeraj Aggarwal**  
ICMR

## Epidemiology & Surveillance

**Dr DCS Reddy\***  
BHU

**Dr JP Muliylil**  
CMC

**Dr Swarup Sarkar**  
ICMR

**Dr Naman Shah**  
JSS

**Dr Giridhara Babu**  
PHFI

**Dr Manoj Murhekar**  
ICMR-NIE

**Dr. Sidhartha Giri**  
ICMR

**Dr Sujeet Singh**  
NCDC

**Dr Shashi Kant**  
AIIMS

**Dr RM Pandey**  
AIIMS

**Dr Sanjay Zodpey**  
PHFI

**Dr Kiran Rade**  
WHO India

**Dr Tarun Bhatnagar**  
ICMR-NIE

## Operations Research

**Dr NK Arora\***  
INCLN

**Dr Kiran Rade**  
WHO India

**Dr Rajan Khobragade**  
Govt of Kerala

**Dr Subhash Salunke**  
PHFI

**Dr Shankar Prinja**  
PGIMER

**Dr Ravi Varma**  
ICWA

**Dr Beena Thomas**  
ICMR-NIRT

**Dr Sanjay Chauhan**  
ICMR-NIRRH

**Dr Sandip Mandal**  
ICMR

**Dr Sanket Kulkarni**  
IDSP

**Dr Arvind Pandey**  
ICMR

**Dr Rakhal Gaitonde**  
SCTIMST

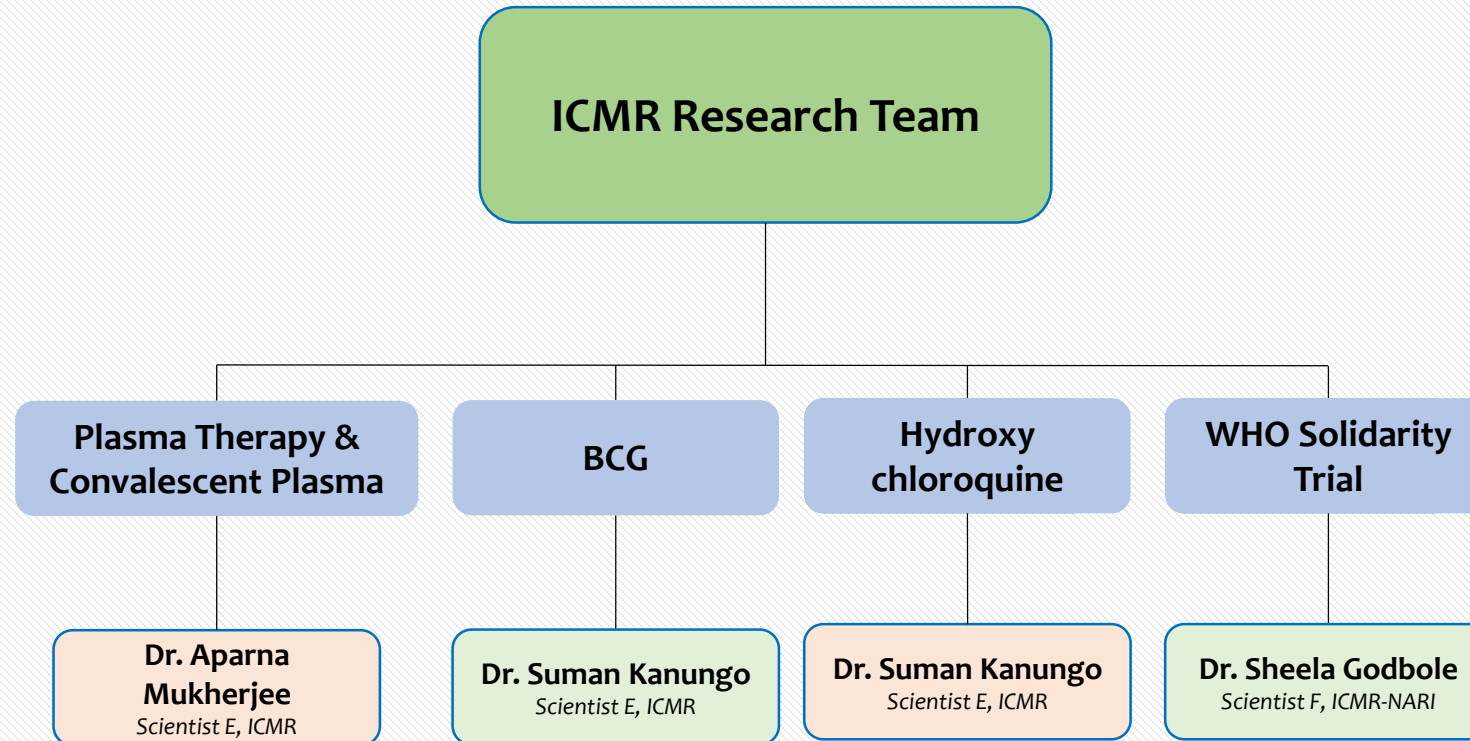
**Dr Shalini Bharat**  
TISS

**Dr JP Narayan**  
WHO

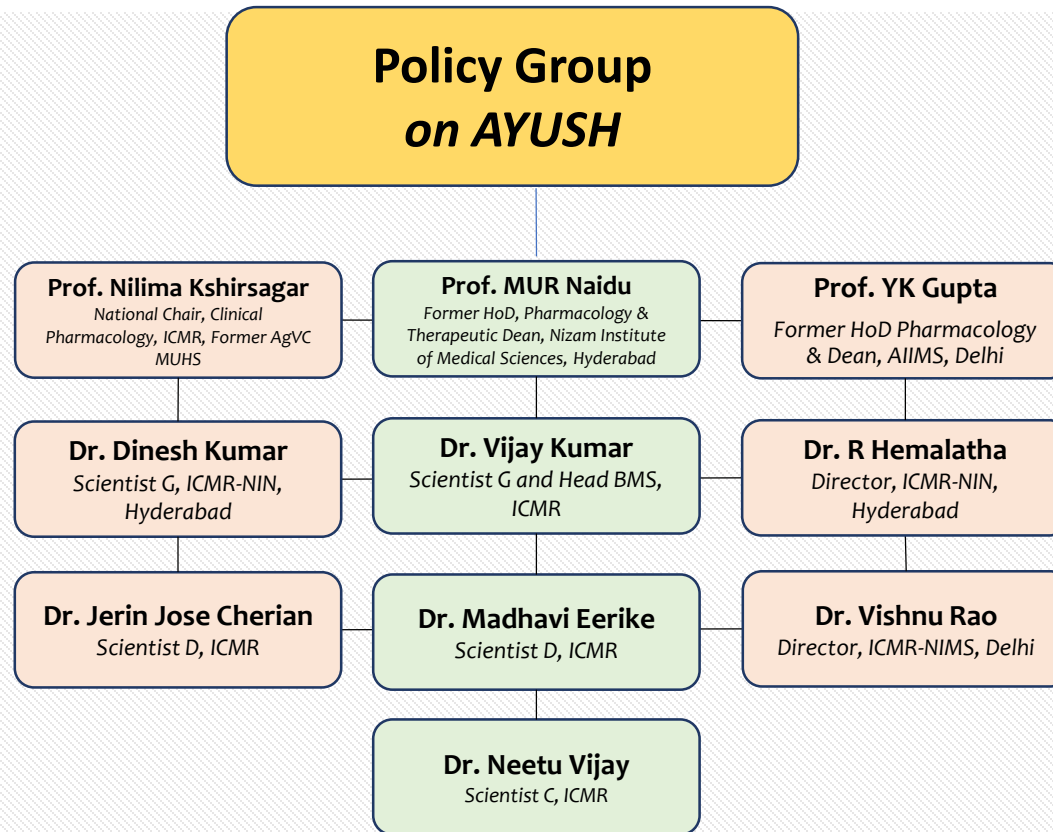
**Dr Sumit Aggarwal**  
ICMR

\*Chair

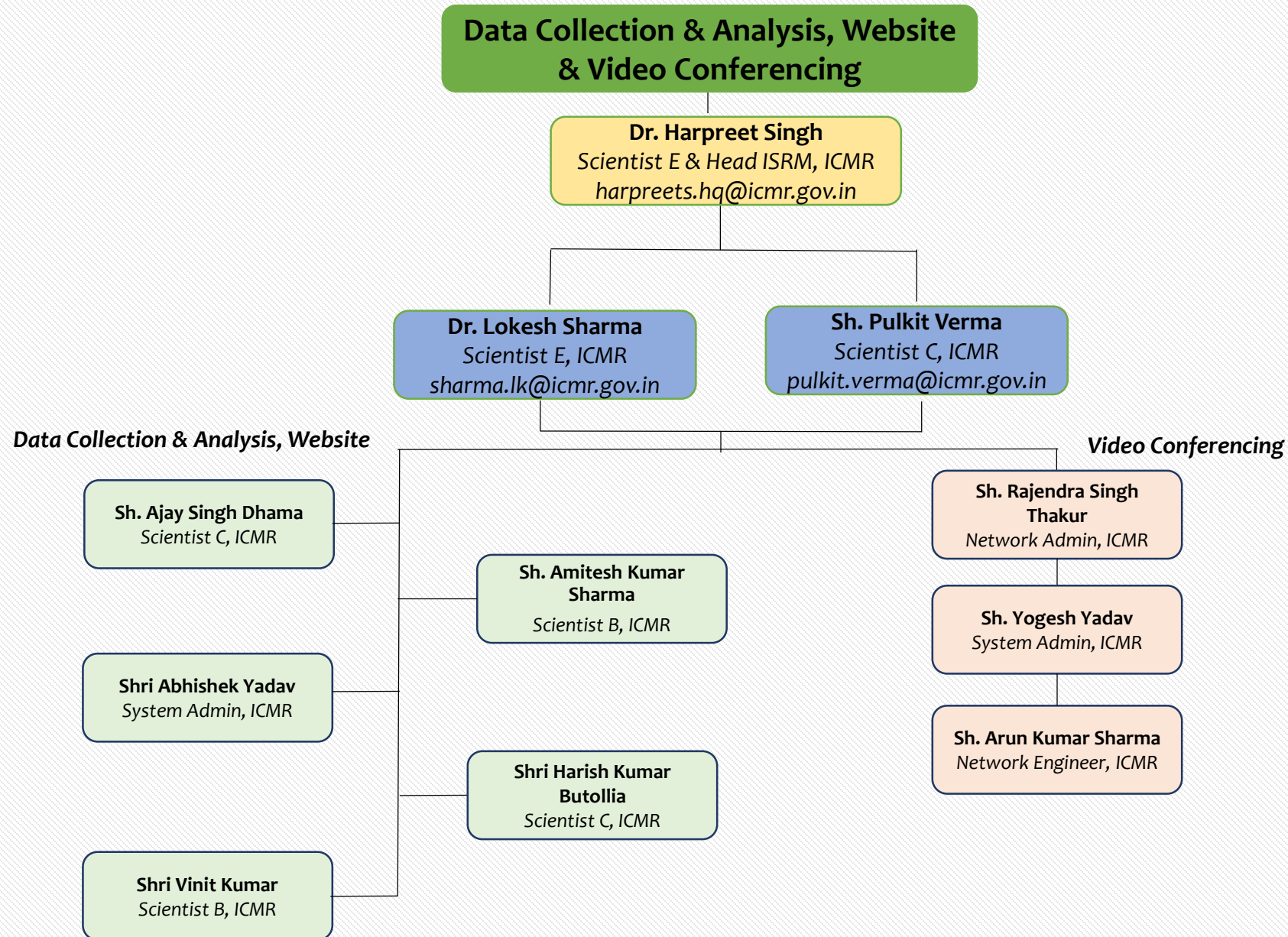
# Multi-centric Therapeutic Research Studies



# Policy Group on Ayurveda, Unani, Homeopathy, Siddha and Other Systems



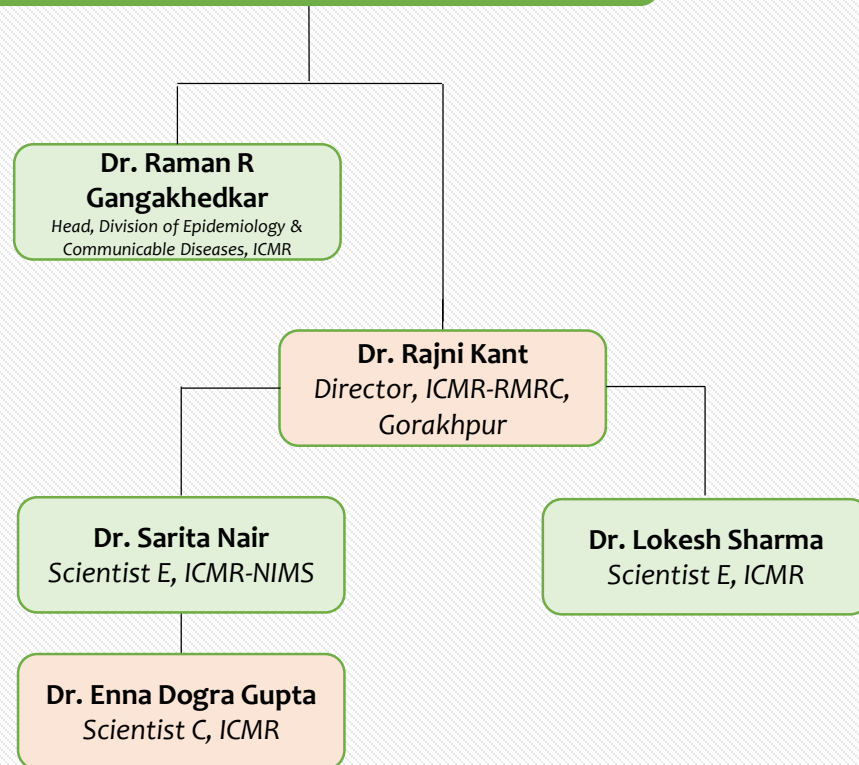
# Data Collection & Analysis, Website & Video Conferencing



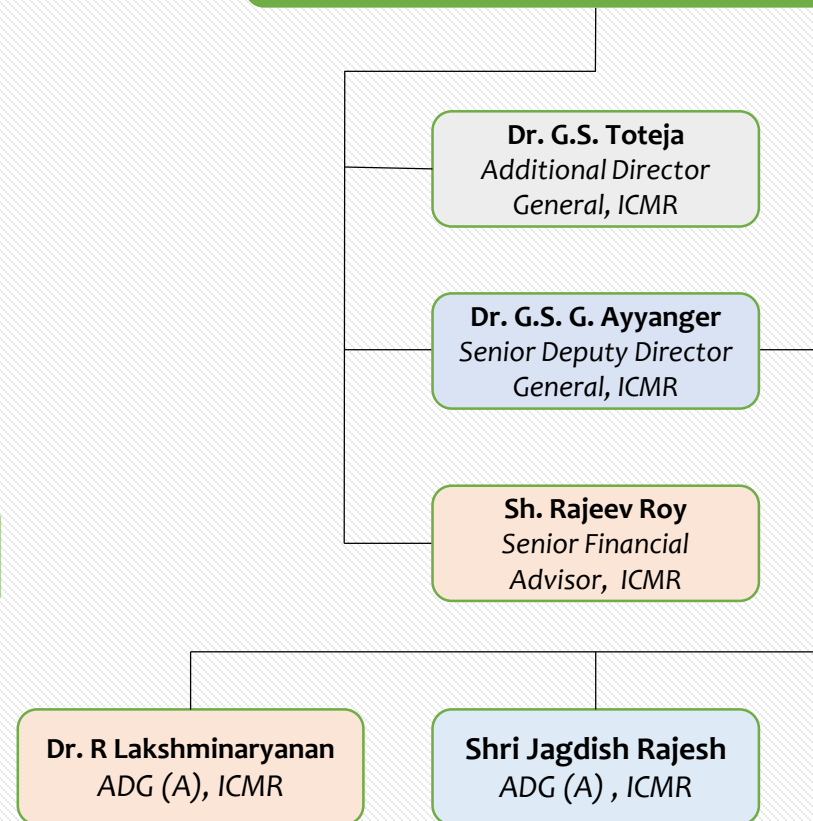
# Media, Resource Management, Admin and Financial Support



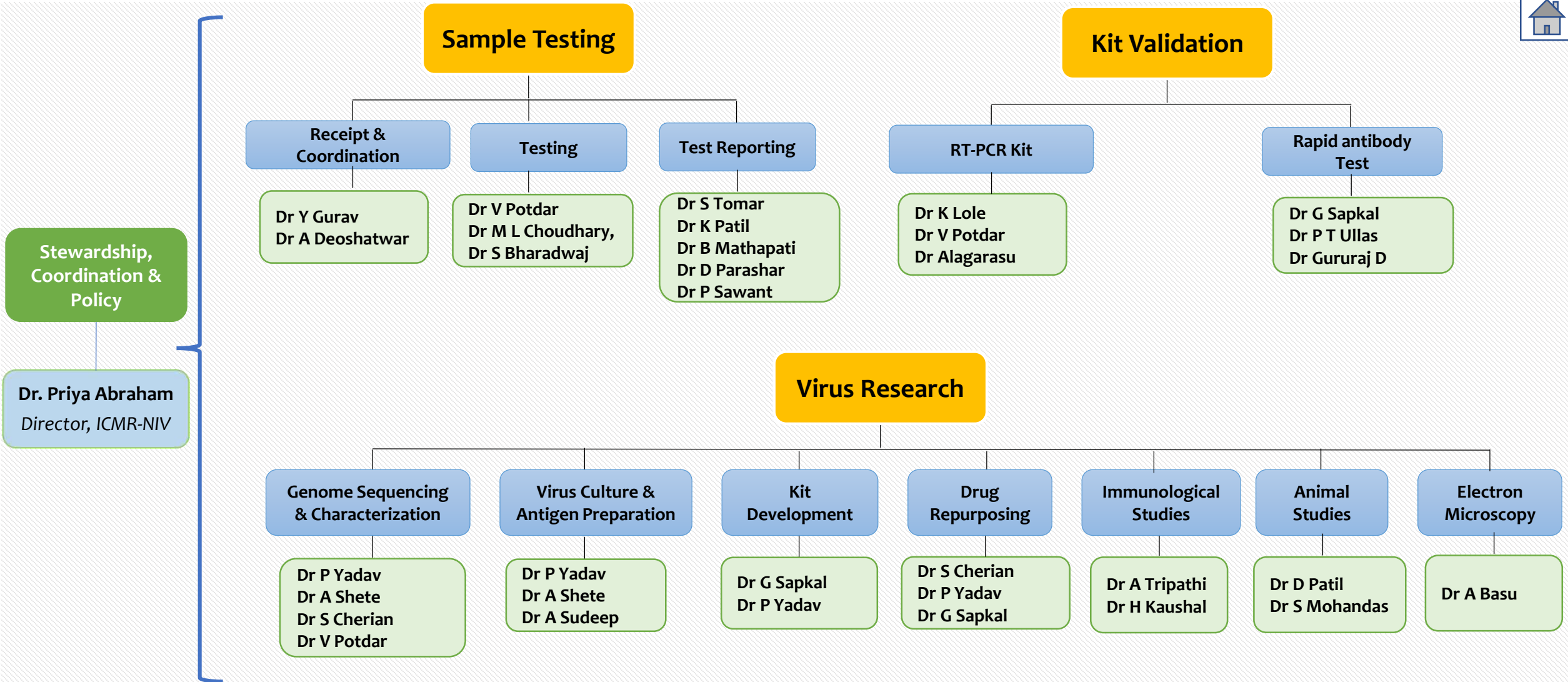
## Media and Resource Management



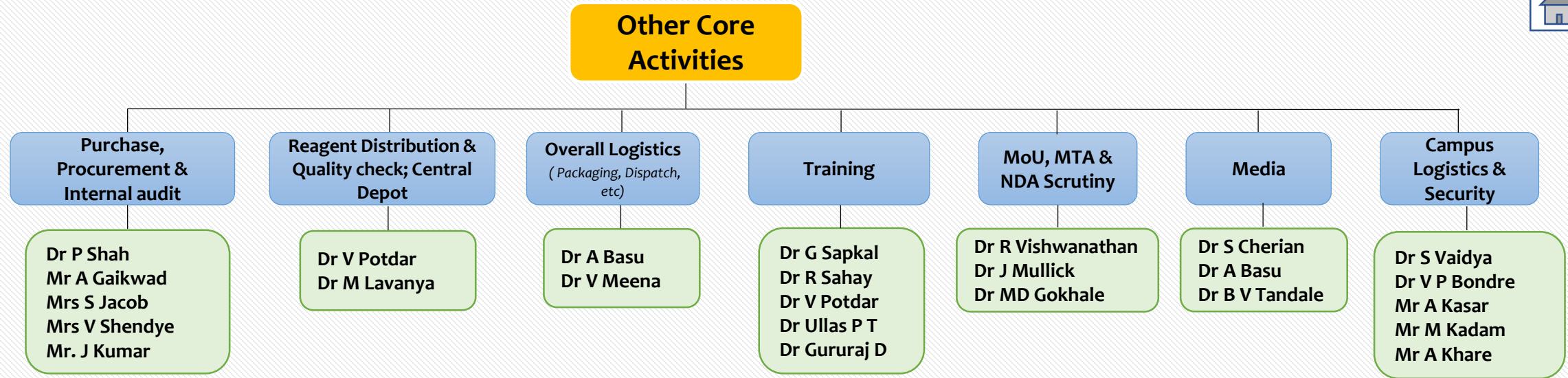
## Admin and Financial Support



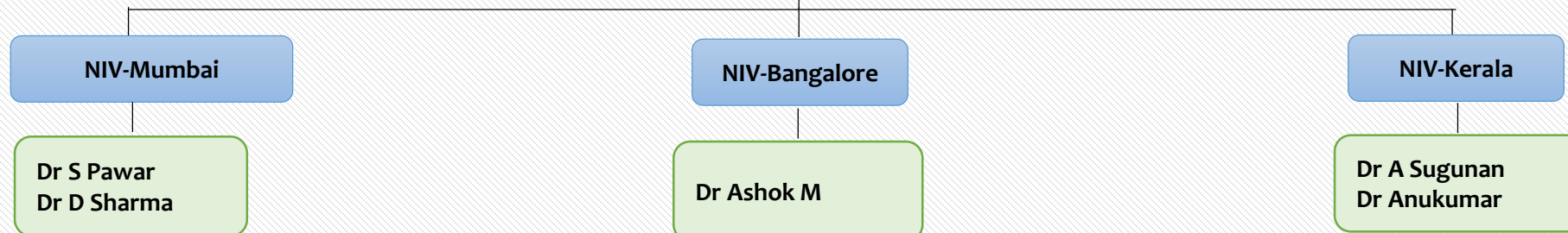
# ICMR-NIV COVID-19 Response Teams



# ICMR-NIV COVID-19 Response Teams (continued)



## Testing at ICMR-NIV field units



# INDIAN COUNCIL OF MEDICAL RESEARCH

## DEPARTMENT OF HEALTH RESEARCH

Date: 14.04.2020

### Guidance on the use of Truenat™ beta CoV

1. ICMR has validated Truenat™ beta CoV test on Truelab™ workstation and has recommended it as a screening test.
2. All positive samples need to be reconfirmed by a separate confirmatory assay for SARS-CoV-2.
3. Throat/nasal swabs will be collected in the viral transport medium (VTM) with virus lysis buffer to be provided along with the kit.
4. All States who immediately intend to initiate Truenat™ beta CoV test on Truelab™ workstation are advised the following:
  - The proposed sites of Truelab™ workstation do not require approval of ICMR.
  - The States may appoint a core team of experts for assessing facilities with the Truelab™ workstation for feasibility of initiating COVID-19 testing in the existing setup.
  - Based on the evaluation of the core team, the designated officer of each state may accord approval for testing.
  - Procurement of the cartridges for existing machines and other logistics should be done through the Central TB Division.
  - Sample collection should only be done using the virus lysis buffer provided by the supplier. This is essential to avoid any biosafety / biosecurity concerns.
  - ICMR guidelines for testing (available at [www.icmr.nic.in](http://www.icmr.nic.in)) may be strictly followed. Since the guidance evolves periodically, the latest revised version should be followed. Testing laboratories to ensure immediate/ real-time reporting to State officials of IDSP (Integrated Disease Surveillance Program of Govt. of India) for timely initiation of contact tracing. Additionally, as mandated by PMO, a report should also be uploaded on the online portal of ICMR. Each laboratory initiating COVID-19 testing should essentially register on the ICMR portal and get a username and password. Data entry should be ensured on a daily real-time basis.

Contact email for obtaining login credentials to the ICMR COVID-19 portal is:

[support.dmu@bmi.icmr.org.in](mailto:support.dmu@bmi.icmr.org.in)

- Please note any request for login credentials on the ICMR COVID-19 portal must be accompanied by the formal approval document accorded by the state authorities. This should be shared by email at the ID mentioned above.

*(Kindly note that all data has to be reported to IDSP and ICMR)*



**INDIAN COUNCIL OF MEDICAL RESEARCH**  
**DEPARTMENT OF HEALTH RESEARCH**

**Date: 19/04/2020**

**Additional Guidelines for TrueNat testing for COVID-19**

In addition to existing guidelines for testing for COVID-19 (including the biosafety precautions for sample collection and transportation); TrueNat being a screening test for COVID-19, following procedures may be followed for registration of laboratories on ICMR portal –

1. Since TrueNat is a screening test, therefore a confirmatory test is necessary. Accordingly, for Government laboratories, where ever TrueNat is planned to be used as a standalone unit; it must be mapped with an existing laboratory registered with ICMR for real time RT-PCR testing for COVID-19. In such a case, the -
  - Negative test results uploaded by the TrueNat laboratory will be deemed as final for that episode of testing; and
  - Positive test results uploaded by the TrueNat laboratory will be deemed as provisional and will be considered as confirmatory only after uploading of real time RT-PCR test results by the concerned / mapped laboratory registered for COVID-19 real time RT-PCR testing; and
  - Transportation of the sample(s), on positive result by TrueNat, for further confirmation by RT-PCR will be the responsibility of the concerned TrueNat laboratory
2. For Private laboratories, the TrueNat test will be permitted only if the TrueNat machines are installed in the same laboratory that is already registered with ICMR for real time RT-PCR testing as per guideline.

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

Date: 19/04/2020

**Advisory for use of Cartridge Based Nucleic Acid Amplification Test (CBNAAT) using Cepheid Xpert Xpress SARS-CoV2**

1. Cepheid Xpert Xpress SARS-CoV2 is a FDA approved Cartridge Based Nucleic Acid Amplification Test (CBNAAT) for use under an emergency use authorization (EUA) only <https://www.fda.gov/media/136314/download>.
2. Specimen collection and transfer of sample for CBNAAT must be performed using appropriate PPE and following all applicable biosafety requirements.
3. ICMR recommends that any testing with the Cepheid Xpert Xpress SARS CoV-2 is carried under Biosafety 2 level (BSL-2) conditions and with appropriate biosafety precautions.
4. Any laboratory which is already functional for SARS CoV2 testing by real-time PCR with the appropriate BSL-2 setup may initiate testing using Cepheid Xpert Xpress SARS- CoV2 without any further approval from ICMR. The results of the testing need to be entered on the ICMR COVID-19 portal.
5. Any new Government laboratory seeking to initiate CBNAAT must satisfy the following minimum requirements:
  - a. **Availability of a BSL-2 level laboratory facility including a molecular biology setup for virological diagnosis and a functioning and calibrated Biosafety cabinet type 2A/2B in the laboratory.**
  - b. Staff Requirements:
    - i. Availability of following minimum staff: Medical Microbiologists – 1 or more with experience of work in Molecular Virology.
    - ii. Technicians – At least 2-3 with relevant experience of work in Molecular Virology.
    - iii. Multi-Task Staff – 1 or more for washing / cleaning
  - c. Desired expertise of the staff:
    - i. Good understanding of laboratory biosafety and biosecurity, trained for handling respiratory samples for viral diagnosis
    - ii. Experience of work in virology and handling clinical specimens, especially respiratory samples.
  - d. **A robust Institutional policy on biomedical waste management of human origin.**
  - e. **Well defined arrangement for segregation and discarding of biomedical waste.**
6. In addition to the above, private laboratories which intend to initiate testing using CBNAAT should have NABL accreditation for molecular detection of RNA viruses either by Real Time PCR or by CBNAAT.
7. ICMR guidelines and testing strategy for testing may be strictly followed.
8. Since the guidance evolves periodically, the latest revised version should be followed. Testing laboratories to ensure immediate/ real-time reporting to State officials of IDSP (Integrated Disease Surveillance Program of Govt. of India) for timely initiation of contact tracing. Additionally, as mandated by PMO, a report should also be uploaded on the online portal of ICMR. Each laboratory initiating COVID-19 testing should essentially register on the ICMR portal and get a username and password. Data entry should be ensured on a daily real-time basis.
9. All applications may be submitted by email at: [arvind.nccs@gmail.com](mailto:arvind.nccs@gmail.com)

## Standard Operating Procedure No: MPX 6.7

### Components of SOP: Molecular Biology: Mol Diagnostic RT.-PCR

Title	<b>Multiplex Real-Time PCR for detection of SARS-CoV-2 using TaqPath COVID-19 Combo Kit (Applied Biosystems).</b>
Document code	<b>SARS-CoV-2 -mol-multiplex RT PCR –diagnostic-MPX 6.7</b>
Implementation Date	<b>07.04.2020</b>

#### 1. Introduction:

The purpose of this document is to provide interim guidance to laboratories involved in laboratory testing of patients who meet the definition of suspected case of pneumonia associated with a novel coronavirus identified in Wuhan, China.

TaqPath™ COVID-19 Combo Kit contains the assays and controls for a real-time reverse transcription polymerase chain reaction (RT-PCR) test intended for the qualitative detection of nucleic acid from SARS-CoV-2 in nasopharyngeal swab, nasopharyngeal aspirate, and bronchoalveolar lavage (BAL) specimens from individuals suspected of COVID-19 by their healthcare provider. TaqPath™ COVID-19 Combo Kit is for use only under Emergency Use Authorization (EUA).

#### 2. SourceReference:

[https://assets.thermofisher.com/TFS-Assets/LSG/manuals/MAN0019181\\_TaqPath\\_COVID-19\\_IFU\\_EUA.pdf](https://assets.thermofisher.com/TFS-Assets/LSG/manuals/MAN0019181_TaqPath_COVID-19_IFU_EUA.pdf)

#### 3. Testing criteria/Objective:

Detection of SARS-CoV-2 in human clinical specimens using TaqPath COVID-19 Combo Kit (Applied Biosystems)

#### 4. Principle:

The real time assay uses the TaqMan fluorogenic probe based chemistry that uses the 5' nuclease activity of Taq DNA polymerase and enables the detection of a specific PCR product as it accumulates during PCR cycles.

COVID-19 Real Time PCR Assay Multiplex-Multiplexed assays that contain three primer/probe sets specific to different SARS-CoV-2 genomic regions and primers/probes for phage MS2 (Internal process control for nucleic acid extraction).

#### 5. Safety procedures: According to Laboratory Safety Manual. (WHO,2011)

#### 6. Sample requirements: 250µl of specimen or as per recommended kit.

#### 7. Standard and controls:

(1) Positive control (Supplied with Kit)

(2) Water is used as no template control(NTC).

### 8. Scope and definition:

Highly specific and efficient detection of SARS-CoV-2 by Multiplex Real Time PCR.

### 9. Requirements:

Equipment	Consumables	Reagents and samples
Water bath, Bio Safety Cabinet clean laminar flow hood with micro-centrifuge with plate rotor and vortex, MiniSpin. Pipette set, Real Time PCR machine.	Mask, gloves, Lab Coats sterile filter tips, tissue paper, 0.2 ml, 0.5 ml and 1.5 ml micro centrifuge tubes, micro tips, 0.5-10 µl, 20-200 µl and 1000 µl tips. Real Time PCR Plates and sealers or tubes and strips	TaqPath COVID-19 Combo Kit (Applied Biosystems), Milli Q Water, Extracted viral Nucleic samples,

### 10. Test Procedure:

- \*Add 10 µL MS2 Phage Control to each sample well and to the Negative Control well during extraction and perform RNA extraction of clinical samples using your laboratory protocol. Extracted RNA will be the starting point for the reaction.
- Prepare real time PCR worksheets (KGMU- VIRO-RTM-MPX-PCR-PP-6.7-copy attached at the end)
- Perform multiplex real time PCR reaction as shown in table 1 for corona ORF1ab gene, N gene, S gene and MS2 (Internal process control for nucleic acid extraction) in a single tube (as per manufacturer's instruction).
- Determine the number of reactions (N) to set up per assay. In addition, include Negative control & Positive control in the test.
- Prepare excess reaction cocktail to account for pipetting error.  
If number of samples (n) including controls = 1 to 10, then  $N = n + 2$
- In the **clean reagent preparation room** prepare the MasterMix:  
Calculate the amount of each reagent to be added for each set reaction master mix.

**Table 1:** The calculations are as follows:

S.No.	Component	Volume for one reaction (N=1)	Volume for (N= )
1.	TaqPath™ 1-Step Multiplex MasterMix (NoROX™)(4X)	6.25 µL	
2.	COVID-19 Real Time PCR Assay Multiplex	1.25 µL	
3.	Nuclease-free Water	12.50 µL	
	<b>Total Reaction Mix volume</b>	<b>20.0 µL</b>	

7. Mix reaction mixtures by pipetting up and down.
8. Centrifuge for 5-10 seconds to collect contents at bottom of the tube, and then place the tube in a cold rack.  
Set up reaction strip tubes or plates in 96-well cooler rack.
9. Dispense 20 µl of each master mix into each well as per the plate setup.
10. Before moving the plate to the nucleic acid handling area. Pipette 5 µl of the nuclease free water into NTC wells.
11. **In the nucleic acid extraction room**, add 5 µl of each sample and 5 µl of extraction control into respective wells as per the setup.
12. Cap the column or cover the plate with tissue paper to which the samples and control has been added.
13. Finally, pipette 5 µl of positive viral template control (Positive Control) into wells in **positive control addition area**. Cap VTC wells/ or seal the plate with optical sealer. Centrifuge the plate for 10 seconds. Make sure that bubbles are eliminated from the bottom of the reaction tubes.
14. For real time PCR set up follow the instructions given by the Real-time PCR system manual for plate set up. **Save your plate setup!**
15. The reaction volume is 25 µl.

**Table 2:** Program the run method as follows:

Step	Temperature	Time	Number of cycles
UNG incubation	25°C	2 minutes	1
Reverse transcription	53°C	10 minutes	1
Activation	95°C	2 minutes	1
Denaturation	95°C	3 seconds	45
Anneal/extension*	60°C	30 seconds	

\*Fluorescence data should be collected during the 60°C incubation step.

**Table 3: Target Genes & Reporter dyes**

Reporter dye	Detector
FAM	ORF1ab
VIC	N gene
ABY	S gene
JUN	MS2

16. After completion of the run, save the run and analyze the collected data.

## 11. Recording & reporting and Interpretation of the results:

Interpretation of the results is performed by the Applied Biosystems COVID-19 Interpretive Software (Optional).

One Negative Control and one Positive Control are processed with each run.

**Table 4: Result interpretation for patient samples**

ORF1ab	N gene	S gene	MS2	Status	Result	Action
NEG	NEG	NEG	NEG	Invalid	NA	Repeat test. If the repeat result remains invalid, consider collecting a new specimen.
NEG	NEG	NEG	POS	Valid	SARS-CoV-2 Not Detected	Report results to healthcare provider. Consider testing for other viruses.
Only one SARS-CoV-2 target = POS			POS or NEG	Valid	SARS-CoV-2 Inconclusive <sup>[#]</sup>	Repeat test. If the repeat result remains inconclusive, additional confirmation testing should be conducted if clinically indicated.
Two or more SARS-CoV-2 targets			POS or NEG	Valid	Positive SARS-CoV-2	Report results to healthcare provider and appropriate public health authorities.

[#] Samples with a result of SARS-CoV-2 Inconclusive shall be retested one time.

## 12. Quality control procedures:

For the results to be valid positive control must be positive; NTC must be negative. Check MS2 (if added during RNA Extraction) for all the samples. All the sample should have MS2 Positive. Otherwise, laboratory in charge must be informed and repeat testing is performed. Another experienced staff must countercheck all results.

## 13. Limitations

1. Analysts should be trained and familiar with testing procedures and interpretation of results prior to performing the assay.
2. A false negative result may occur if inadequate numbers of organisms are present in the specimen due to improper collection, transport or handling.
3. This assay doesn't provide control over quality of sample collected.

### Note:

**MS2 (Internal process control for nucleic acid extraction) testing can be ignored as it will not reflect the quality of sample collected. Hence, laboratories which have machine with no calibrated JUN dye filter or without JUN filter should not add MS2**

control during extraction. MS2 control is for only for extraction procedure and if your machine doesn't support the JUN dye you can omit this.

It is recommended that separate RNase P or any other human house-keeping gene for which primers & probe are available in your laboratory should be run parallel in a separate tube for RT PCR assay. This will check both the quality of sample collected and nucleic acid extraction procedure.

**Report: Communicate the result on daily basis to ICMR**

**Report Format**

<b>Sample ID</b>	<b>Patient State &amp; place</b>	<b>Category of Patient</b>	<b>Sample received Date &amp; time testing lab</b>	<b>Severity/condition of patient</b>	<b>Result for SARS-CoV-2 virus</b>
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**Worksheet for Multiplex Real-Time PCR for detection of SARS-CoV-2 using TaqPath COVID-19 Combo Kit (Applied Biosystems).  
(One Step Reaction)**

**ReactionmixPreparation:**

*Total Volume: 25µl (for one reaction)*

*Corona ORF1ab Gene Probe:Reporter- FAM,*

*Corona N Gene Probe: Reporter- VIC*

*Corona S Gene Probe:Reporter- ABY*

*MS2-IC Probe: Reporter-JUN*

S.No.	Item	Quantity(N=1)	Quantity(N= )	Done
1.	TaqPath™ 1-Step Multiplex Master Mix (No ROX™) (4X)	6.25 µL		
2.	COVID-19 Real Time PCR Assay Multiplex	1.25 µL		
3.	Nuclease-free Water	12.50 µL		
	<b>Total Reaction Mix volume</b>	<b>20.0 µL</b>		

**Addition of Template**

Template (TNA/RNA)	5 µl	
--------------------	------	--

**Sample details (sample ID):**

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>												
<b>B</b>												
<b>C</b>												
<b>D</b>												
<b>E</b>												
<b>F</b>												
<b>G</b>												
<b>H</b>												



**Results for SARS-CoV-2:**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>A</b>												
<b>B</b>												
<b>C</b>												
<b>D</b>												
<b>E</b>												
<b>F</b>												
<b>G</b>												
<b>H</b>												

**Comments:**

**Done by:**

**Checked by:**

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

**Advisory on feasibility of using pooled samples for molecular testing of COVID-19**

**Background:** Number of COVID-19 cases in India is rising exponentially. In view of this, it is critical to increase the numbers of tests conducted by laboratories. Positivity rate in cases is still low. Hence, it may help to use the pooled samples for screening. A pooled testing algorithm involves the PCR screening of a specimen pool comprising multiple individual patient specimens, followed by individual testing (pool deconvolution) only if a pool screens positive. As all individual samples in a negative pool are regarded as negative, it results in substantial cost savings when a large proportion of pools tests negative.

**Objectives:** To increase capacity of the laboratories to screen increased numbers of samples using molecular testing for COVID-19 for the purpose of surveillance.

**Methods & Results:** A feasibility study was conducted at DHR/ICMR Virus Research & Diagnostic Laboratory (VRDL) at King George's Medical University (KGMU), Lucknow. It has been demonstrated that performing real-time PCR for COVID-19 by pooling 5 samples of TS/NS (200 ul/sample) is feasible when the prevalence rates of infection are low. All individual samples in a negative pool to be regarded as negative. Deconvoluted testing is recommended if any of the pool is positive. Pooling of more than 5 samples is not recommended to avoid the effect of dilution leading to false negatives.

**Recommendations** for sample pooling for real-time RT-PCR screening for COVID-19 are as follows (based on the KGMU study):

1. Use only in areas with low prevalence of COVID-19 (initially using proxy of low positivity of <2% from the existing data. Still a watch should be kept on increasing positivity in such areas
2. In areas with positivity of 2-5%, sample pooling for PCR screening may be considered only in community survey or surveillance among asymptomatic individuals, strictly excluding pooling samples of individuals with known contact with confirmed cases, Health Care Workers (in direct contact with care of COVID-19 patients). Sample from such individuals should be directly tested without pooling
3. Pooling of sample is not recommended in areas or population with positivity rates of >5% for COVID-19

**Preferable number of samples to be pooled is five**, though more than two samples can be pooled, but considering higher possibility of missing positive samples with low viral load, it is strongly discouraged to pool more than 5 samples, except in research mode.

\*\*\*\*\*

Government of India  
Ministry of Health and Family Welfare  
Department of Health Research

Dated the, 15<sup>th</sup> April, 2020

ORDER

In view of the need to increase the daily testing capacity of the public sector labs and the ever increasing number of labs and their widening geographical spread, the current model of inventory stocking and distribution will have to be scaled up significantly. Currently, ICMR has two major stocking and dispatch centers at NIMR, Delhi and NIV, Pune where the orders placed to different suppliers are being received and stored in the cold container units.

2. The stock is being distributed to the six regional depots - NIRRH, Mumbai; NIE, Chennai; NICED, Kolkata; RMRC, Dibrugarh; NIREH, Bhopal and NIN, Hyderabad. As the volumes go on increasing it will be challenging for the existing manpower and infrastructure to meet the requirements. Therefore the existing depots are being strengthened in terms of manpower, resources and infrastructure. To further decentralize the distribution, it is New to set-up additional depots in the following locations in addition to the above mentioned depots.

1. KJMU, Lucknow -Uttar Pradesh
2. PGI, Chandigarh – Punjab, Chandigarh, Himachal, Jammu-Kashmir and Ladakh
3. NIIRNCD, Jodhpur - Rajasthan
4. NIOH, Ahmedabad - Gujarat
5. RMRC, Bhubaneshwar – Orissa
6. RMRI, Patna – Bihar
7. NIV Field Unit, Bangalore -Karnataka
8. GMC, Guwahati

3. Once these units/depots become fully functional state-wise allocation of each depot is shall be as below:

S.no.	DEPOT LOCATION	Type	Existing allocation of states	New allocation of States
1	NIMR, DELHI	Existing	Delhi, Haryana, Himachal, Uttarakhand, Jammu & Kashmir, Punjab, Uttar Pradesh, Rajasthan, Patna, Chandigarh, Gujarat, Bihar, Jharkhand	Delhi, Western UP (NCR), Uttarakhand, Haryana
2	PGI, CHANDIGARH	New	----	Punjab, , J&K, Himachal Pradesh, , Ladakh, Chandigarh

3	KJMU, LUCKNOW	New	---	Uttar Pradesh
4	RMRI, Patna	New	---	Bihar
5	NIIRNCD, Jodhpur	New	---	Rajasthan
6	NIOH, Ahmedabad	New	---	Gujarat, Dadra & Nagar Haveli and Daman and Diu
7	NIREH, BHOPAL	Existing	Madhya Pradesh	MP, Vidharbha Region
8	NICED, KOLKATA	Existing	West Bengal, Chhattisgarh, Orissa	West Bengal, Tripura, Jharkhand, Sikkim, Andaman & Nicobar
9	RMRC, Bhubaneshwar	New	---	Orissa, Chhattisgarh
10	NIRRH, MUMBAI	Existing	Maharashtra	Maharashtra (other than Vidarbha), Dadra & Nagar Haveli and Daman and Diu
11	NIV, Pune	Existing	Goa, Karnataka	Goa
12	NIV Filed Unit, Bangalore	New	---	Karnataka
13	NIN, HYDERABAD	Existing	Telangana	Telangana
14	NIE, CHENNAI	Existing	Kerala, Tamil Nadu, Puducherry, Andhra Pradesh, Andaman	Tamil Nadu, Andhra Pradesh, Puducherry, Kerala, Lakshadweep
15	RMRC, DIBRUGARH	Existing	All NE states	Arunachal, Assam (Upper Assam), Meghalya
16	GMC, Guwahati	New		Manipur, Mizoram, Nagaland

4. As per the new system the requisition and indents will be placed directly to the Depots by the labs. These depots will process, analyze and decide the distribution of testing commodities in line with the requirements placed by the lab, usage by them so far and the likely forecast of requirement of the testing commodities.

5. ICMR will monitor the working of these depots and ensuring no request is pending for more than 24-48 hours. For this purpose, an inventory portal is functional which can capture these requirements. A dashboard view of the available inventory across labs in each state has been created for the Health Secretary of the respective state. The State Governments shall also be able to view the requests made, the response of the depot and the date of dispatch and receipt once the request is processed.

6. Thus, the primary responsibility of ensuring adequate supplies at the lab level shall be the primary responsibility of the depots based on the indents received from them. Overall coordination with the depots will be handled by a central team supervised by Dr. G.S. Toteja, Additional Director General, ICMR. The Director at each of these institutes shall be responsible for ensuring that the work specified as part of the Inventory Management Plan are carried out effectively and adequate and timely supplies to each lab is ensured.

7. The depots will be augmented in terms of manpower and resources to enable real time feedback on the inventory availability and to plan lab-wise distribution. The depots will be provided following assistance in order to become a self-functioning unit:

- Manpower requirement be enhanced to ensure there is adequate staff for manning 2/3 shifts during the day.
- Technical team staffed by ICMR scientists, experts and lab technicians
- Packaging material and regular supply of essential items required to maintain the cold chain.
- Management Team to be manned by MBA students from IIMs, Consultants from KPMG/PWC/EY/BCG etc. to be deployed for operationalizing the Inventory Portal and giving real time feedback and streamlining of the entire inventory management plan.
- Packaging team to ensure packing of material as per Bio-safety and IATA standards.
- Inventory team to maintain stock and inventory data – receipt/dispatch
- Logistics partner- each depot to have a field office of Department of Post which will prepare the dispatch plan as per requirement communicated and ensure delivery of the consignment to the lab by the fastest mode.

(Shalendra Singh)

Additional Secretary, DHR

Copy to:

1. PS to Secretary, D/o of Health Research
2. DG, ICMR
3. Sr. DDG, Admn. ICMR
4. Dr. G. S. Toteja, Addl. ICMR
5. Dr. R. R. Gangakhedkar, Head ECD, ICMR
6. JS (AN), DHR
7. JS(GN), DHR
8. DS(KT)
9. DS(ABS), DHR

**INDIAN COUNCIL OF MEDICAL RESEARCH  
NEW DELHI**

Date: April 19, 2020

**Subject: Regional Depots for storage and transportation of COVID KITS**

The daily COVID-19 testing capacity at various laboratories in the country is being increased and is expected to reach to 1 lakh tests per day by 31st May 2020. To meet the increased requirement of testing material with increasing number of tests, the current model of inventory stocking and distribution is being scaled up significantly.

Accordingly a total of 16 regional depots are being set up and are modelled into self-contained units by strengthening manpower, resources and infrastructure. Besides 16 Regional Depots; Depots at NIMR, New Delhi and NIV, Pune would also function as Central Depots.

The Roles and Responsibilities of Regional Depots are as follows:

1. Receiving stock from central depots and repackaging for lab-level and state-level consignments as per ICMR guidelines and commodity requirements.
2. Processing lab-level and state-level stock requests and deciding quantity and items to be dispatched to each linked state and lab.
3. Mapping commodity specifications with lab-level infrastructure (machine type, available storage etc.) and deciding appropriate commodities for labs.
4. Assisting labs on technical issues related to testing by receiving, understanding and disseminating ICMR / central depot guidelines
5. Preparing consignments by repackaging stock received from national nodes and considering special requirements such as refrigeration and packing.
6. Coordinating logistics with recipient state, Government and private service provider (such as India Post, Indian Railways, Jeena Logistics etc.)
7. Keeping tab on inventory level and dispatch trends, and requesting stock well in advance of a potential stock-out.
8. Daily data entry of dispatch and inventory details on ICMR MIS.

**The manpower structure for the Regional Depots is as follows:**

<b>Designation</b>	<b>Function</b>
Depot Supervisor	Overall Supervision
Administrators	<ol style="list-style-type: none"><li>1. Nodal person for signing off the receipts and authorizing dispatch.</li><li>2. Keeping tab on inventory level and dispatch trends, and requesting stock well in advance of a potential stock-out with the assistance of Management team.</li><li>3. Ensuring daily data entry of dispatch and inventory details on ICMR MIS by data entry operators.</li><li>4. Supervision of Management Team deputed at the depot location for processing lab-level and state-level stock requests and deciding quantity and items to be dispatched to each linked state and lab.</li></ol>
Technical Team	<ol style="list-style-type: none"><li>1. Mapping commodity specifications with lab-level infrastructure (machine type, available storage etc.) and deciding appropriate commodities for labs.</li><li>2. Assisting labs on technical issues related to testing by receiving, understanding and disseminating ICMR / central depot guidelines</li></ol>

Packaging Coordinator	<ol style="list-style-type: none"> <li>1. Receiving stock from central depots and repackaging for lab-level and state-level consignments as per ICMR guidelines and commodity requirements</li> <li>2. Preparing consignments by repackaging stock received from national nodes and considering special requirements such as refrigeration and packing.</li> </ol>
Logistics Coordinator	Coordinating logistics with recipient state, Government & private provider (such as India Post, Indian Railways, Jeena Logistics, etc.)

The details of the Regional Depots are given below:

### 1. National Institute for Cholera and Enteric Diseases (NICED), KOLKATA

Designation	Name	Contact Details Phone No and email address
Depot Supervisor	Dr. Shanta Dutta Director	Phone: 9830152971 E-mail: drshantadutta@gmail.com
Administrators	Dr. Mamta Chawla Sarkar Scientist F	Phone: 9830660999 E-mail: chawlam70@gmail.com
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	Dr. Sandipan Ganguly Scientist F	Phone: 9830064739 E-mail: sandipanganguly@hotmail.com
	Dr. S. S. Das Scientist F	Phone: 9830160665 E-mail: santasabujdas@yahoo.com
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	Dr. Hemanta Koley Scientist E	Phone: 9831031307 E-mail: hemantakoley@hotmail.com
Logistics Coordinator	Dr. Ranjan Kr. Nandy Scientist F	Phone: 9433525652 E-mail: nandyrk.niced@gov.in
	Dr. Debjit Chakraborty Scientist D	Phone: 8296875975 E-mail: djsmile_1979@yahoo.com

### 2. National Institute for Implementation Research on Non-Communicable Diseases (NIIR-NCD), Jodhpur

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### 3. National Institute of Occupational Health (NIOH), Ahmedabad

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### 4. National Institute for Research in Environmental Health (NIREH), Bhopal

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Depot Supervisor	Dr. R. R. Tiwari, Director	Ph: 9427958747 email: tiwari.rr@gov.in
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### 5. National Institute For Research In Reproductive Health (NIRRH), Mumbai

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### 6. National Institute of Virology (NIV), Pune

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Email ID for Technical queries: niv.influenza @gmail.com  
Helpline no: 91-20-26006260, 26006273, 26006270

### 7. Regional Medical Research Centre (RMRC), Bhubaneswar

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### 9. Rajendra Memorial Research Institute of Medical Sciences (RMRIMS), Patna

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### 10. National Institute of Nutrition (NIN), Hyderabad

Designation	Name	Contact Details Phone No and email address
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	Dr. Sreenu Pagidouju	Phone: 9866081252 E-mail: pagidoju@gmail.com
	Dr. Raji Reddy	Phone: 9885547855 E-mail: gvenkatrajireddy1980@gmail.com

### 11. NIV Unit, Bangalore

Designation	Name	Contact Details Phone No and email address
Depot Supervisor	Dr. Ashok M Scientist/OIC	984425897 <a href="mailto:ashokmniv@gmail.com">ashokmniv@gmail.com</a>
Administrators	Mr Srinivas Vilasagaram	9581808969 <a href="mailto:Vilasagar.srinivas@gmail.com">Vilasagar.srinivas@gmail.com</a>
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Technical Team	Mrs Prema	9880477128 <a href="mailto:premasuresh1311@gmail.com">premasuresh1311@gmail.com</a>
Packaging Coordinator	Mr Kiran Kumar	7892582294 <a href="mailto:kk03761@gmail.com">kk03761@gmail.com</a>
	Mr Madhu	8892011780 <a href="mailto:nivbureports@gmail.com">nivbureports@gmail.com</a>
Logistics Coordinator	Mr Srinivas Vilasagaram	9581808969 <a href="mailto:Vilasagar.srinivas@gmail.com">Vilasagar.srinivas@gmail.com</a>

### 12. National Institute of Malaria Research (NIMR), New Delhi

Designation	Name	Contact Details Phone No and email address
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Administrators	Dr. Himmat Singh Sc.D	himmatpawar@gmail.com 9414242471
	Dr. Rajnikant Dixit, Sc.D	rkd1976.rajnikant@gmail.com 9540509397
	Mr. Sanjeev Kumar TO-C	sanjeevgupta40@gmail.com 991117398
Technical Team	Dr. KC Pandey Sc.E	pandey.kailash70@gmail.com 8700612122 8826712145
	Dr. Prashank Mallick, Sc.C	pkmmrc@gmail.com 9999657602
	Dr. Mradul Mohan, Sc.B	<a href="mailto:mradul_mohan@yahoo.com">mradul_mohan@yahoo.com</a>

	Dr. CP Yadav, Sc.B	8860253935 cpyadav123@gmail.com 8010153329
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### 13. Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh

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Logistics Coordinator	Dr Gursimran Kaur Mohi Assistant Professor	Email: <a href="mailto:gkmohi@gmail.com">gkmohi@gmail.com</a> 8427850107, 9337300001

### 14. King George's Medical University (KGMU), Lucknow

Designation	Name	Contact Details Phone No and email address
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Administrators	Prof. Amita Jain HoD, Microbiology  Prof. A.A. Mahdi HoD, Biochemistry	Phone: 9415023928 Email: <a href="mailto:amita602002@yahoo.com">amita602002@yahoo.com</a>  Phone: 989838100 Email: <a href="mailto:abbasalihdhi@gmail.com">abbasalihdhi@gmail.com</a>
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Packaging Coordinator	Dr. Navin Kumar Associate Professor Department of Radiotherapy	Phone: 9140726847 Email: navinkgmu@gmail.com
Logistics Coordinator	Dr. Kushagr Gaurav Assistant Professor	Phone: 8932985717 Email: <a href="mailto:amita602002@yahoo.com">amita602002@yahoo.com</a>

### 15. National Institute of Epidemiology (NIE), Chennai

Designation	Name	Contact Details Phone No and email address
Depot Supervisor	Dr. Manoj Murhekar Director	9444414663 mmurhekar@nieicmr.org.in
Administrators	Dr. C.P. Girish Kumar Scientist –E	9840304596 <a href="mailto:girishmicro@gmail.com">girishmicro@gmail.com</a>
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Technical Team	Dr. B. Gulam Scientist B	7780971737 <a href="mailto:drgulamvet@gmail.com">drgulamvet@gmail.com</a>
	Dr. Ramesh Kumar Scientist B	8056746164 <a href="mailto:rameshmicrobiologist@gmail.com">rameshmicrobiologist@gmail.com</a>
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### 16. Gauhati Medical College and Hospital (GMC), Guwahati

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Logistics Coordinator	Dr. Pran Pratim Saikia, Demonstrator	9435569350 spranpratim@gmail.com



**INDIAN COUNCIL OF MEDICAL RESEARCH  
NEW DELHI**

**OFFICE ORDER**

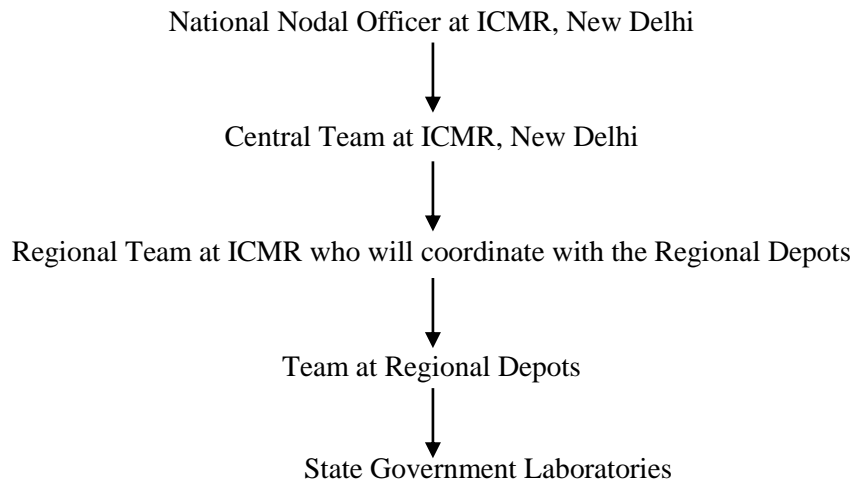
April 21, 2020

**MECHANISM AND TEAMS FOR DISTRIBUTION OF KITS/ REAGENTS FOR COVID TESTING FROM ICMR/DEPOT TO LABORATORIES**

The daily COVID-19 testing capacity at various laboratories in the country is being increased and is expected to reach to 1 lakh tests per day by 31st May 2020. To meet the increased requirement of testing material with increasing number of tests, the current model of inventory stocking and distribution is being scaled up significantly.

Accordingly a total of 16 regional depots have been set up and are modelled into self-contained units by strengthening manpower, resources and infrastructure. There are 16 Regional Depots. Depots at NIMR, New Delhi and NIV, Pune would also function as Central Depots.

For ensuring effective coordination between the ICMR; Central Depots; Regional Depots and State Govt. Laboratories; following arrangements have been made:



1. A team for each of the 16 depots has been created under the overall coordination of the Director/ Vice Chancellor/ Principal of the Institute. This team consists of Administrators, Technical Experts, Packaging coordinator and a Logistic Coordinator (Annexure I).
2. The 16 Depots have been classified under 4 zones- (1) North, (2) South, (3) East/North East and (4) West. For each of the 4 zones, one Regional team consisting of three persons have been created at ICMR. These teams will be responsible for coordinating with the depot Incharge and having an inventory check at each of the laboratory under their region. These 4 teams will be responsible for facilitating delivery of the kits to the laboratories. Incase of any issue, the regional team will try to resolve themselves or bring it to the notice of Central team.
3. All the 4 Regional Team may create a Whatsapp group for their respective region; which should include the contact persons from the labs; depots in their region and all the 3 team members of



their regional team.

4. The overall work of all the 4 Regional Teams will further be facilitated by a Central Team at ICMR who would be keeping record for the inventory status for all 16 depots and will ensure supply of kits on the basis of regional teams; inventory assessment and availability of kits/reagents. The Central Team will meet twice every day, i.e. at 10.30 AM and 4PM.
5. A Whatsapp group to be created with members of the Central Team and 12 members of the 4 Regional teams.
6. To ensure decentralization, the team members of the Regional Teams will coordinate with the Depot Incharges; whereas the requisition for the supply of the kits from the Central Depot to the Regional Depot will be managed by the member of the Central Team for that respective zone in coordination with the Regional Team.
7. The National Nodal Officer will be overall in-charge of all depots and all teams will report to him.

*em*  
*21/04/2020*  
(Dr. GSG Ayyangar)  
Sr. DDG(A)

## CENTRAL DEPOTS

1. ICMR- National Institute for Malaria Research (NIMR), New Delhi
2. ICMR- National Institute of Virology (NIV), Pune

The distribution of the depots in the four regions, the states to be covered by each depot and the number of Government laboratories under them is given below:

## REGIONAL DEPOTS

Region	Depots	States Covered	Approx. Number of Govt Laboratories (other than DST, CSIR, DBT etc)
<b>North</b> <b>(4 Depots)</b>	NIMR, New Delhi	Delhi, Western UP (NCR), Uttarakhand, Haryana	16
	PGI, Chandigarh	Punjab, J&K, Himachal Pradesh, Ladakh, Chandigarh	13
	KGMU, Lucknow	Uttar Pradesh (other than Western UP)	13
	NIREH, Bhopal	Madhya Pradesh	8
		<b>Sub-Total</b>	<b>50</b>
<b>South</b> <b>(3 Depots)</b>	NIV Field Unit, Bangalore	Karnataka	13
	NIN, Hyderabad	Telangana	6
	NIE, Chennai	Tamil Nadu, Andhra Pradesh, Puducherry, Kerala, Lakshdweep	43
		<b>Sub-Total</b>	<b>62</b>
<b>East/North-East</b> <b>(5 Depots)</b>	RMRI, Patna	Bihar	6
	NICED, Kolkata	West Bengal, Tripura, Jharkhand, Sikkim, Andaman & Nicobar	16
	RMRC, Bhubaneswar	Orissa, Chattisgarh	8
	RMRC, Dibrugarh	Arunachal, Assam (Upper Assam), Meghalaya	8
	GMC, Guwahati	Manipur, Mizoram, Nagaland	3
		<b>Sub-Total</b>	<b>41</b>
<b>West</b> <b>(4 Depots)</b>	NIIRNCD, Jodhpur	Rajasthan	9
	NIOH, Ahmedabad	Gujarat, Dadra & Nagar Haveli and Daman & Diu	11
	NIRRH, Mumbai	Maharashtra	19
	NIV, Pune	Goa	1
		<b>Sub-Total</b>	<b>40</b>
<b>16 Depots</b>		<b>Total</b>	<b>193</b>

\*Details of functional Government lab is given in Annexure II

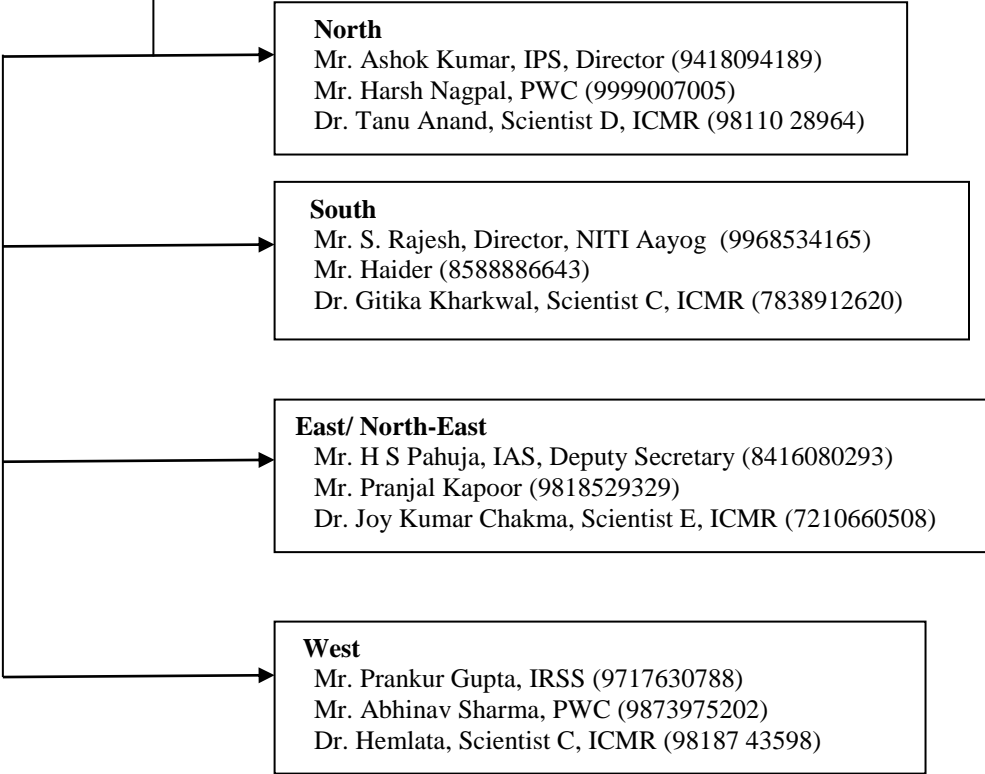
**NATIONAL NODAL OFFICER**  
Dr. G.S.Toteja  
Additional Director General, ICMR  
(9868388075)



**CENTRAL TEAM AT ICMR, NEW DELHI**

1. Dr. Aparna Mukherjee, Scientist E, ICMR (99684 08999)*East/North East*
2. Mr. Karan Thapar, Deputy Secretary to Govt. of India (98996 68546)- *North*
3. Dr. Priyanka G Bansal, Scientist C, ICMR (9818312053)- *West*
4. Dr. Harmanmeet Kaur, Scientist C, ICMR (9999707557)- *South*
  
5. Dr. A.M.Khan, Scientist G, Division of ECD, ICMR (9954481760)- *Technical Support*
6. Dr. Himmat Singh, Scientist D, ICMR-NIMR, New Delhi (9414242471)- *Technical Support*

**REGIONAL TEAMS**



**INDIAN COUNCIL OF MEDICAL RESEARCH  
NEW DELHI**

Date: April 19, 2020

**Subject: Regional Depots for storage and transportation of COVID KITS**

The daily COVID-19 testing capacity at various laboratories in the country is being increased and is expected to reach to 1 lakh tests per day by 31st May 2020. To meet the increased requirement of testing material with increasing number of tests, the current model of inventory stocking and distribution is being scaled up significantly.

Accordingly a total of 16 regional depots are being set up and are modelled into self-contained units by strengthening manpower, resources and infrastructure. Besides 16 Regional Depots; Depots at NIMR, New Delhi and NIV, Pune would also function as Central Depots.

The Roles and Responsibilities of Regional Depots are as follows:

1. Receiving stock from central depots and repackaging for lab-level and state-level consignments as per ICMR guidelines and commodity requirements.
2. Processing lab-level and state-level stock requests and deciding quantity and items to be dispatched to each linked state and lab.
3. Mapping commodity specifications with lab-level infrastructure (machine type, available storage etc.) and deciding appropriate commodities for labs.
4. Assisting labs on technical issues related to testing by receiving, understanding and disseminating ICMR / central depot guidelines
5. Preparing consignments by repackaging stock received from national nodes and considering special requirements such as refrigeration and packing.
6. Coordinating logistics with recipient state, Government and private service provider (such as India Post, Indian Railways, Jeena Logistics etc.)
7. Keeping tab on inventory level and dispatch trends, and requesting stock well in advance of a potential stock-out.
8. Daily data entry of dispatch and inventory details on ICMR MIS.

**The manpower structure for the Regional Depots is as follows:**

<b>Designation</b>	<b>Function</b>
Depot Supervisor	Overall Supervision
Administrators	<ol style="list-style-type: none"> <li>1. Nodal person for signing off the receipts and authorizing dispatch.</li> <li>2. Keeping tab on inventory level and dispatch trends, and requesting stock well in advance of a potential stock-out with the assistance of Management team.</li> <li>3. Ensuring daily data entry of dispatch and inventory details on ICMR MIS by data entry operators.</li> <li>4. Supervision of Management Team deputed at the depot location for processing lab-level and state-level stock requests and deciding quantity and items to be dispatched to each linked state and lab.</li> </ol>
Technical Team	<ol style="list-style-type: none"> <li>1. Mapping commodity specifications with lab-level infrastructure (machine type, available storage etc.) and deciding appropriate commodities for labs.</li> <li>2. Assisting labs on technical issues related to testing by receiving, understanding and disseminating ICMR / central depot guidelines</li> </ol>

Packaging Coordinator	<ol style="list-style-type: none"> <li>1. Receiving stock from central depots and repackaging for lab-level and state-level consignments as per ICMR guidelines and commodity requirements</li> <li>2. Preparing consignments by repackaging stock received from national nodes and considering special requirements such as refrigeration and packing.</li> </ol>
Logistics Coordinator	Coordinating logistics with recipient state, Government & private provider (such as India Post, Indian Railways, Jeena Logistics, etc.)

The details of the Regional Depots are given below:

### 1. National Institute for Cholera and Enteric Diseases (NICED), KOLKATA

Designation	Name	Contact Details Phone No and email address
Depot Supervisor	Dr. Shanta Dutta Director	Phone: 9830152971 E-mail: drshantadutta@gmail.com
Administrators	Dr. Mamta Chawla Sarkar Scientist F	Phone: 9830660999 E-mail: chawlam70@gmail.com
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Technical Team	Dr. Asish K. Mukhopadhyay Scientist F	Phone: 9830468362 E-mail: asish1967@gmail.com
	Dr. Sandipan Ganguly Scientist F	Phone: 9830064739 E-mail: sandipanganguly@hotmail.com
	Dr. S. S. Das Scientist F	Phone: 9830160665 E-mail: santasabujdas@yahoo.com
Packaging Coordinator	Dr. Alok Kr. Deb Scientist F	Phone: 9831149779 E-mail: adeb02@yahoo.com
	Dr. Hemanta Koley Scientist E	Phone: 9831031307 E-mail: hemantakoley@hotmail.com
Logistics Coordinator	Dr. Ranjan Kr. Nandy Scientist F	Phone: 9433525652 E-mail: nandyrk.niced@gov.in
	Dr. Debjit Chakraborty Scientist D	Phone: 8296875975 E-mail: djsmile_1979@yahoo.com

### 2. National Institute for Implementation Research on Non-Communicable Diseases (NIIR-NCD), Jodhpur

Designation	Name	Contact Details Phone No and email address
Depot Supervisor	Dr. G.S.Toteja Director	Phone: 9868368075 E-mail: gstoteja@gmail.com

Administrators	Dr. S.S.Mohanty Scientist E	Phone: 8058642995 E-mail: <a href="mailto:ssnimr@gmail.com">ssnimr@gmail.com</a>
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	Dr. Elantamilan Scientist C	8794726173 dentamilan@gmail.com
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Logistics Coordinator	Dr. Mahender Thakore Scientist B	8511194590 MAHENDRA15519@GMAIL.COM

### 3. National Institute of Occupational Health (NIOH), Ahmedabad

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	Dr Kuldeep Upadhyay Scientist B	Phone: 8780829397 <a href="mailto:drkuldeep_upadhyay@rediffmail.com">drkuldeep_upadhyay@rediffmail.com</a>
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	Dr. Avinash Pagdhune Scientist B	9975629029; 9405030435 <a href="mailto:pagdhune.av@icmr.gov.in">pagdhune.av@icmr.gov.in</a> <a href="mailto:dravinashpd@gmail.com">dravinashpd@gmail.com</a>
Packaging Coordinator	Dr. Rakesh B. Scientist D	9535228260 <a href="mailto:rakesh.bal@icmr.gov.in">rakesh.bal@icmr.gov.in</a> <a href="mailto:balachandar.rakesh@gmail.com">balachandar.rakesh@gmail.com</a>
Logistics Coordinator	Dr. Ankit Viramgami Scientist B	9998191447 <a href="mailto:draviramgami86@yahoo.in">draviramgami86@yahoo.in</a>

### 4. National Institute for Research in Environmental Health (NIREH), Bhopal

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	Dr. Y. D. Sabde, Sc E	Ph: 9926329273 email: <a href="mailto:sabdeyogesh@gmail.com">sabdeyogesh@gmail.com</a>
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### 5. National Institute For Research In Reproductive Health (NIRRH), Mumbai

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Administrators	Dr Rajendra Katkam, Sr Technical Officer III  Dr Kiran Munne, Scientist B	<a href="mailto:katkamrajendra@gmail.com">katkamrajendra@gmail.com</a> +919967416155  <a href="mailto:dr.kiranmunne@gmail.com">dr.kiranmunne@gmail.com</a> +919923334435
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Packaging Coordinator	Mr. Sunil Choraghe, Lower Division Clerk	<a href="mailto:chorgesunil1988@gmail.com">chorgesunil1988@gmail.com</a> +919967692616
Logistics Coordinator	Mr. Kunal Pawar, Lower Division Clerk	<a href="mailto:kunalpawar1995@gmail.com">kunalpawar1995@gmail.com</a> +919820912591

Helpline No. +912224192168; +912224192170

Technical Queries: [depotnirrh@gmail.com](mailto:depotnirrh@gmail.com)

### 6. National Institute of Virology (NIV), Pune

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Email ID for Technical queries: niv.influenza@gmail.com

Helpline no: 91-20-26006260, 26006273, 26006270

### 7. Regional Medical Research Centre (RMRC), Bhubaneswar

Designation	Name	Contact Details Phone No and email address
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	Dr K C Sahoo, Scientist-C	Phone; 8658889942 Email; <a href="mailto:sahookrushna@yahoo.com">sahookrushna@yahoo.com</a>

### 8. Regional Medical Research Centre (RMRC), Dibrugarh

Designation	Name	Contact Details Phone No and email address
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कल्याण मंत्रालय, भारत सरकार

Indian Council of Medical Research  
Department of Health Research, Ministry of Health  
and Family Welfare, Government  
of India

Date: 20/04/2020

**Total Operational (initiated independent testing) Government Laboratories reporting to ICMR 201 + 03 collection sites:**

S. No.	Names of States	Names of Medical Colleges
1.	Andhra Pradesh (7)	1. Sri Venkateswara Institute of Medical Sciences, Tirupati 2. Rangaraya Medical College, Kakinada 3. Sidhartha Medical College, Vijaywada 4. Govt. Medical College, Ananthpur 5. Guntur Medical College, Guntur 6. Rajiv Gandhi Institute of Medical Sciences, Kadapa 7. Andhra Medical College, Visakhapatnam
2.	Assam (6)	8. Gauhati Medical College, Guwahati 9. Regional Medical Research Center, Dibrugarh 10. Jorhat Medical College, Jorhat 11. Silchar Medical College, Silchar 12. Fakhruddin Ali Ahmed Medical College, Barpeta 13. Tezpur Medical College, Tezpur
3.	Bihar (6)	14. Rajendra Memorial Research Institute of Medical Sciences, Patna 15. Indira Gandhi Institute Medical Sciences, Patna 16. Patna Medical College, Patna 17. Darbhanga Medical College, Darbhanga 18. SKMCH, Muzaffarpur 19. All India Institute of Medical Sciences, Patna
4.	Chandigarh (3)	20. Post Graduate Institute of Medical Education & Research 21. Govt. Medical College 22. *Institute of Microbial Technology
5.	Chhattisgarh (3)	23. All India Institute of Medical Sciences, Raipur 24. Late Baliram Kashyap M Govt. Medical College, Jagdalpur 25. JNM Medical College, Raipur
6.	Delhi (8)	26. All India Institute Medical Sciences 27. Lady Hardinge Medical College 28. National Centre for Disease Control 29. Ram Manohar Lohia Hospital 30. Institute of Liver & Biliary Sciences 31. Army Hospital Research & Referral 32. Maulana Azad Medical College

<b>S. No.</b>	<b>Names of States</b>	<b>Names of Medical Colleges</b>
		33. Vardhman Mahavir Medical College & Safdarjung Hospital
7.	Gujarat (10)	34. BJ Medical College, Ahmedabad 35. MP Shah Govt Medical College, Jamnagar 36. Govt. Medical College, Surat 37. Govt. Medical College, Bhavnagar 38. Govt. Medical College, Vadodara 39. Govt. Medical College, Rajkot 40. NHL Medical College, Ahmedabad 41. GMERS, Ahmedabad 42. National Institute of Occupational Health, Ahmedabad 43. Surat Municipal Institute of Medical Education & Research (SMIMER), Surat
8.	Goa (1)	44. Goa Medical College, Goa
9.	Haryana (6)	45. Pt. B.D. Sharma Post Graduate Inst. Of Med. Sciences, Rohtak, Haryana 46. BPS Govt. Medical College, Sonipat 47. ESIC Hospital, Faridabad 48. Kalpana Chawla Govt. Medical College, Karnal 49. *ICAR-National Research Centre on Equines, Hisar 50. *Translational Health Science & Technology Institute, Faridabad
10.	Himachal Pradesh (3)	51. Indira Gandhi Medical College, Shimla 52. Dr. Rajendra Prasad Govt. Medical College, Tanda 53. Central Research Institute, Kasauli
11.	Jammu & Kashmir (4)	54. Govt. Medical College, Jammu 55. Command Hospital (NC) Udhampur 56. Sher-i-Kashmir Institute of Medical Sciences, Srinagar 57. Govt. Medical College, Srinagar
12.	Jharkhand (4)	58. MGM Medical College & Hospital, Jamshedpur 59. Rajendra Institute of Medical Sciences, Ranchi 60. Patliputra Medical College & Hospital, Dhanbad 61. Itki Aarogyashala, Ranchi
13.	Karnataka (13)	62. Hassan Inst. Of Med. Sciences, Hassan 63. Mysore Medical College & Research Institute, Mysore 64. Shivamogga Institute of Medical Sciences, Shivamogga 65. Command Hospital (Air Force), Bengaluru 66. Bangalore Medical College & Research Institute, Bengaluru 67. National Institute of Virology, Bangalore Field Unit, Bengaluru 68. Gulbarga Institute of Medical Sciences, Gulbarga 69. Vijaynagar Institute of Medical Sciences, Bellary 70. National Institute of Mental Health and Neuro-Sciences, Bangalore

<b>S. No.</b>	<b>Names of States</b>	<b>Names of Medical Colleges</b>
		71. Wenlock District Hospital, Mangalore 72. Karnataka Institute of Medical Sciences, Hubli 73. National Institute of Traditional Medicine, Belagavi 74. Dharwad Institute of Mental Health & Neurosciences, Dharwad
14.	Kerala (13)	75. National Institute of Virology, Field Unit, Allapuzha 76. Govt. Medical College, Thiruvananthapuram 77. Govt. Medical College, Kozhikode 78. Govt. Medical College, Thrissur 79. Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram 80. Sree Chitra Tirunal Institute of Medical Sciences, Thiruvananthapuram 81. State Public Health Laboratory, Trivandrum 82. Inter University, Kottayam 83. Malabar Cancer Center, Thalassery 84. Central University of Kerala, Periyar, Kasaragod 85. Govt. Medical College, Ernakulum 86. Govt. Medical College, Manjeri 87. Govt. Medical College, Kottayam
15.	Maharashtra (22)	88. National Institute of Virology, Pune 89. Seth GS Medical College & KEM Hospital, Mumbai 90. Kasturba Hospital for Infectious Diseases, Mumbai 91. National Institute of Virology Field Unit, Mumbai 92. Armed Forces Medical College, Pune 93. BJ Medical College, Pune 94. Indira Gandhi Govt. Medical College, Nagpur 95. Grant Medical College & Sir JJ Hospital, Mumbai 96. Govt. Medical College, Aurangabad 97. V. M. Government Medical College, Solapur 98. Haffkine Institute, Mumbai 99. Shree Bhausaheb Hire Govt. Medical College, Dhule 100. Government Medical College, Miraj 101. All India Institute of Medical Sciences, Nagpur 102. Nagpur Veterinary College, MAFSU, Nagpur 103. Govt. Medical College, Akola 104. National Institute for Research on Reproductive Health, Mumbai 105. Rajiv Gandhi Medical College & CSM Hospital, Kalwa, Thane, Mumbai 106. National AIDS Research Institute, Pune 107. *Tata Memorial Centre ACTREC, Mumbai 108. *National Centre for Cell Sciences, Pune 109. *National Environmental Engineering Research Institute, Nagpur

<b>S. No.</b>	<b>Names of States</b>	<b>Names of Medical Colleges</b>
16.	Madhya Pradesh (10)	110. All India Institute of Medical Sciences, Bhopal 111. National Institute for Research on Tribal Health, Jabalpur 112. Mahatma Gandhi Memorial Medical College, Indore 113. Gandhi Medical College, Bhopal 114. Bhopal Memorial Hospital & research Centre, Bhopal 115. Gajra Raja Medical College, Gwalior 116. Bundelkhand Medical College, Sagar 117. SS Medical College, Rewa 118. *Defence Research & Development Organization, Gwalior 119. *ICAR-NIHSAD, Bhopal
17.	Manipur (2)	120. Jawaharlal Nehru Institute of Med. Sciences, Imphal-East, Manipur 121. Regional Institute of Medical Sciences, Imphal
18.	Meghalaya (1)	122. North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong, Meghalaya
19.	Mizoram (1)	123. Zoram Medical College
20.	Odisha (6)	124. Regional Medical Research Centre, Bhubaneswar ( <i>High-throughput Laboratory</i> ) 125. All India Institute of Medical Sciences, Bhubaneswar 126. SCB Medical College and Hospital, Cuttack 127. MKCG Medical College, Berhampur 128. Ispat General Hospital, Rourkela 129. *Institute of Life Sciences, Bhubaneswar
21.	Puducherry (1)	130. Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry
22.	Punjab (3)	131. Govt. Medical College, Amritsar 132. Govt. Medical College, Patiala 133. Guru Gobind Singh Medical University, Faridkot
23.	Rajasthan (9)	134. Sawai Man Singh Medical College, Jaipur 135. Dr. Sampurnan and Medical College, Jodhpur 136. Jhalawar Medical College, Jhalawar 137. RNT Medical College, Udaipur 138. SP Medical College, Bikaner 139. All India Institute of Medical Sciences, Jodhpur 140. JLN Medical College, Ajmer 141. Govt. Medical College, Kota 142. National Institute for Implementation Research on Non-Communicable Diseases (Formerly DMRC), Jodhpur
24.	Tamil Nadu (22)	143. King Institute of Preventive Medicine & Research, Chennai 144. Madras Medical College, Chennai 145. Govt. Theni Medical College, Theni 146. Tirunelveli Medical College, Tirunelveli 147. Govt. Medical College, Thiruvarur



<b>S. No.</b>	<b>Names of States</b>	<b>Names of Medical Colleges</b>
		148. Kumar Mangalam Govt. Medical College, Salem 149. Coimbatore Medical College, Coimbatore 150. Govt. Medical College, Villupuram 151. Madurai Medical College, Madurai 152. K A P Viswanatham Govt. Medical College, Trichy 153. Perundurai Medical College, Perundurai 154. Govt. Dharmapuri Medical College, Dharmapuri 155. Govt. Medical College, Vellore 156. Thanjavur Medical College, Thanjavur 157. State Public Health Laboratory, Chennai 158. National Institute of Epidemiology, Chennai 159. Kanyakumari Govt. Medical College, Nagercoil 160. Govt. Thoothukudi Medical College, Thoothukudi 161. Institute of Vector Control & Zoonoses, Hosur 162. Pasteur Institute of India, Coonoor 163. Govt. Kilpauk Medical College, Chennai 164. Govt. Medical College & ESIC Hospital, Coimbatore
25.	Telangana (8)	165. Gandhi Medical College, Secunderabad 166. Osmania Medical College, Hyderabad 167. Sir Ronald Ross of Tropical & Communicable Diseases, Hyderabad. 168. Nizam's Institute of Medical Sciences, Hyderabad 169. Institute of Preventive Medicine, Hyderabad 170. ESIC Medical College, Hyderabad 171. *Centre for Cellular & Molecular Biology, Hyderabad 172. *Centre for DNA Fingerprinting & Diagnostics, Hyderabad
26.	Tripura (1)	173. Government Medical College, Agartala
27.	Uttar Pradesh (15)	174. King George Medical University, Lucknow 175. Institute of Medical Sciences, Banaras Hindu University, Varanasi 176. Jawaharlal Nehru Medical College, Aligarh 177. Command Hospital, Lucknow 178. Lala Lajpat Rai Memorial Medical College, Meerut 179. Sanjay Gandhi Post Graduate Institute, Lucknow 180. MLN Medical College, Allahabad 181. Uttar Pradesh University of Medical Sciences (Formerly Uttar Pradesh RIMS), Saifai 182. MLB Medical College, Jhansi 183. Regional Medical Research Centre, Gorakhpur 184. SN Medical College, Agra 185. RML Hospital, Lucknow 186. Govt. Institute of Medical Sciences, Noida 187. GSVM Medical College, Kanpur 188. National Institute of Biologicals, Noida ( <i>High-throughput Laboratory</i> )
28.	Uttarakhand (2)	189. Govt. Medical College, Haldwani

<b>S. No.</b>	<b>Names of States</b>	<b>Names of Medical Colleges</b>
		190. All India Institute of Medical Sciences, Rishikesh
29.	West Bengal (9)	191. National Institute of Cholera & Enteric Diseases, Kolkata 192. Institute of Post Graduate Medical Education & Research, Kolkata 193. Midnapore Medical College, Midnapore 194. North Bengal Medical College, Darjeeling 195. School of Tropical Medicine, Kolkata 196. Malda Medical College & Hospital, Malda 197. Command Hospital, Kolkata 198. Chittaranjan National Cancer Institute, Kolkata 199. R.G. Kar Medical College & Hospital, Kolkata
30.	Andaman & Nicobar Islands (1)	200. Regional Medical Research Centre, Port Blair
31.	Dadra & Nagar Haveli (1)	201. Shri Vinoba Bhave Civil Hospital, Silvassa
<b>Collection sites only</b>		
31.	Sikkim (1)	202. Sir Thutob Namgyal Memorial (STNM), Gangtok
32.	Ladakh (1)	203. Sonam Norboo Memorial Hospital (SNMH), Leh
33.	Arunachal Pradesh (1)	204. Tomo Riba Institute of Health & Medical Sciences (TRIHMS), Naharlagun

\*CSIR/DBT/DST/DAE/ICAR/DRDO Labs. No support is sought from ICMR/ State Govt.

## GUIDANCE DOCUMENT FOR POEs, STATES AND UTs FOR SURVEILLANCE OF 2019-nCoV

**Scope of the guidance:** It is mainly targeted towards health personnel involved in entry screening at Points of Entries (designated Airports) and in community surveillance through the mechanism of IDSP.

### **Objectives of the guidance:**

- *To establish system for screening of travellers from 2019 nCoV affected countries (China) at Points of Entries:*
  - In flight announcement and filling of Self declaration form in the flight (Annexure 1)
  - Suspect case of 2019 nCoV based on WHO case definition (identified during screening at APHO) will be referred to designated Hospital and information shared with CSU IDSP/NCDC immediately (Annexure 6).
  - Close contacts of the suspect case (co passengers seated in the same row, 3 rows in front and 3 rows behind along with some of the cabin crew) – Information be shared as per interim guidelines (page no. 5) in the format (Annexure 2)
  - List of passengers who have history of close contact (as per self declaration form) will be shared to IH Division and State/District for in-country surveillance by IDSP on daily basis.
- *To establish In country/ community surveillance through the Integrated Disease Surveillance Programme network(IDSP)*
  - SSU/DSU will receive line list / emails of Passengers under observation, coming from 2019-nCoV affected countries\* from APHO, Office of Emergency Medical Relief, MEA or CSU and information collected in Format A & B. (Annexure 3 & 4)
  - Health Status of these passengers to be shared with CSU in Format C (Annexure 5) as per SoPs (Page no. 3).
  - Passengers who have history of close contact will be followed by IDSP officials on daily basis.
  - Close contacts of the suspect case – Information be shared as per interim guidelines in the format (Annexure 2)

## **PROTOCOL FOR SENDING DAILY HEALTH STATUS OF PASSENGERS UNDER OBSERVATION**

### **SOPs for SSOs**

- 1) SSU will receive line list / emails of Passengers under observation, coming from 2019-nCoV affected countries\* from APHO, Office of Emergency Medical Relief, MEA or CSU.
- 2) SSU will share the line list / mails with DSUs immediately and Ensure immediate tracing of Passengers under observation by DSUs.
- 3) Information regarding any passenger who travels to another State will be immediately notified to the concerned State Health authority and comment shared in Format C.
- 4) SSU will receive complete investigation details in enclosed Format A from DSU as soon as possible on the same day.
- 5) SSU will ensure daily follow up of Passengers under observation for 28 days starting from date of last exposure/arrival.
- 6) SSU to compile the line list of all Passengers under observation daily, updating daily health status of Travelers / Suspects in enclosed Format B and share daily report of health status of Passengers under observation with CSU / EMR daily (Format C).
- 7) If any passenger is not traceable initially or during any duration while being followed up should be immediately notified to CSU.

All SSUs will keep themselves updated by routinely checking WHO and NCDC website on 2019-nCoV. Any guidelines shared by MoHFW on 2019-nCoV will be disseminated to concerned State/District authorities.

### **SOPs for DSU**

- 1) Receive line list/ email of Passengers under observation from SSU/CSU/APHO.
- 2) Immediately trace the Passengers under observation and begin investigation and fill the enclosed format A. On first visit, passenger is to be provided a mask to be put on immediately in case symptoms such as fever and cough develop.
- 3) Passenger will be provided following advice during first visit by Health care provider:
  - a. You will also receive daily calls/visit from health department to ask your health status for the day, kindly cooperate with them.
  - b. You are requested to self-monitor for development of symptoms suggestive of 2019-nCoV i.e. Fever and Cough for 28 days from the date of arrival from 2019-nCoV affected countries\*.
  - c. In case you initiation of symptoms (fever and cough), put on the mask immediately, restrict your outdoor movement and contact 24 hours helpline number 011-23978046. The Call operator will tell you whom to contact further. In the meanwhile, keep yourself isolated in your house/room.
- 4) DSU has to ensure daily follow up of Passengers under observation for 28 days starting from date of possible exposure/arrival. Passengers will also be counseled for self-reporting of illness suggestive of 2019-nCoV.

- 5) Information regarding any passenger who travels to another District will be immediately notified to the concerned District Health authority and SSU.
- 6) In case, Passengers under observation develop symptoms suggestive of ARI/ILI, S/he has to be shifted to identified health facility with isolation unit (as transmission pattern of the virus is still unclear). Laboratory guidelines will be shared soon.
- 7) Daily follow up of Passengers under observation to be continued for 28 days starting from the date of last exposure/departure.
- 8) If any passenger is not traceable initially or during any duration while being followed up should be immediately notified to SSU/CSU.
- 9) Daily health status to be shared with SSU every day by 12:00 PM.

\*Currently China only.

Advisory:

1. Format C to be sent positively every day to [idsnp-npo@nic.in](mailto:idsnp-npo@nic.in) by 12:00 pm including 'Nil' report.
2. The passenger has to be observed from 28 days from the day of possible exposure/arrival to India.
3. **In case passenger develop any symptom, s/he will be requested to wear a mask. Health care provider will arrange for the transfer of such patient from home to isolation facility. During the procedure, standard infection control practice for eg. wearing mask and hand washing should be performed by Health care providers.**

## **Interim Guidelines for community based Tracing and Management of Contacts for 2019- nCoV Case**

### **Contact tracing: the process**

Contact tracing is the process of identifying, assessing, and managing people who have been exposed to a disease to prevent onward transmission. People who may have been exposed to 2019-nCoV are to be followed for 28 days from the date of the probable last exposure/arrival from 2019-nCoV affected countries.

Any person who has had contact with a patient under investigation/treatment for suspected, probable or confirmed case of 2019-nCoV (refer WHO case definition) should be carefully monitored for the appearance of symptoms of 2019-nCoV.

### **Contact is defined as:**

Anyone who provided care for the suspect or confirmed case, including a health care worker or family member, or who had other similarly close physical contact;

Anyone who stayed at the same place (e.g. lived with, visited) while the suspect or confirmed case was symptomatic.

Note: This should include health workers (including those involved in cleaning, waste management, laboratory technicians, healthcare workers, etc.)

If symptoms of 2019-nCoV appear within the first 28 days following the contact, the individual should be considered a probable case and reported through IDSP network to NCDC.

### **Community based Contact Tracing Implementation Guidelines**

1. As soon as the single event (identification of suspect or confirmed case) is detected, contact tracing must be aggressively implemented (preferably to be completed within 48 hours).
2. The contact tracing shall preferably be done by visiting the local residence of the contact(s) by a Health Personnel. Other methods of communication like telephone may be used in certain circumstances or for follow-up.
3. On meeting the 'contact person' the visiting Health Personnel should introduce him (her)-self, explain the purpose of contact tracing and should collect data in the prescribed format (Annex).
4. Contact tracing must include identification of extended social networks and travel history of cases during the 28 days after onset of illness.
5. Contacts of confirmed cases should be traced and monitored for at least 28 days after the last exposure to the case patient for evidence of 2019-nCoV symptoms as per case definition.
6. Information about contacts can be obtained from: a. Patient, his/her family members, persons at patient's workplace or school associates, or b. others with knowledge about the patient's recent activities and travels.
7. Case wise Line-listing (Performa enclosed at Annex) of all exposed contacts shall be maintained with the following information: a. demographic information, b. date of last

exposure or date of contact with the case patient, c. date of onset of fever or other symptoms developed, if any.

**Advisory for Symptomatic contacts:**

Refer persons with fever and cough and history of contact with a confirmed case within last 28 days for:

1. Isolation for strict infection control
2. Collection and transportation of sample for laboratory testing at designated lab.
3. Appropriate medical care for management of patient.

Depending on the severity of illness, acceptability, and availability of hospital beds, ill contacts may be isolated at a health-care facility or at home while awaiting test-results. However, once confirmed by laboratory, such cases must be managed in a designated health facility.

**Advisory for Asymptomatic Contacts:**

- Remain at home (home quarantine) for at least 28 days after the last exposure with the case.
- Initiate self-health monitoring for the development of fever or cough within 28 days after the last exposure to the case patient and maintain a list of contacts on daily basis.
- If above described symptoms develop, person must put on the mask, self-isolate him in the home and inform the identified Local Health Official/District CMO/DSO by telephone and further management must be done at a designated health facility.
- Active monitoring (e.g. daily visits or telephone calls) for 28 days after the last exposure shall be done by the identified Local Health Officials.

**Health and safety precautions for the contact tracing official:**

- Maintain a distance of at least 2 meter (as advised by WHO\*) from the contact.
- Personal protective equipment (PPE) is not needed for Contact Follow-up Teams and should not be worn. However, masks should be worn by the contact tracing team.
- Maintain standard infection prevention and control measures and hand washing should be performed.

## ANNEXURE 1 – SELF DECLARATION FORM



Ministry of Health and Family Welfare  
Government of India

### SELF REPORTING FORM

#### FOR ALL TRAVELLERS ARRIVING from 2019-nCoV affected countries\* (TO BE PRESENTED AT THE IMMIGRATION COUNTER)

All persons coming to India from 2019-nCoV affected countries are required to fill-up this proforma. You are requested to provide the following information to safeguard your own health.

#### Personal Information

1	Name of the passenger		
	Seat No.	3. Flight No.	
4	Passport No.		
5	Date of Arrival		
6	Port of origin of Journey		
7	Port of final destination		

#### Contact Address in India for Indian Nationals:

1	House Number	
2	Street/ Village	
3	Tehsil	
4	District/ City	
5	State	
6	Pin	
7	Residence Number	
8	Mobile Number	
9	E mail ID	

#### (PART-A)

- I) During your visit to China, what all cities did you visit? \_\_\_\_\_
- II) Have you visited Wuhan city in Hubei province, China in last 14 days? Yes/ No
- If yes, period and duration \_\_\_\_\_
- III) In the Last 14 days during your visit, did you#:
- a. Visit any sea food/animal food market? Yes / No
- b. Come in close contact of any person suffering from Fever and cough? Yes / No
- c. Visit any health facility in China? Yes / No
- IV) Are you suffering from any of the following symptoms\*\*
- Fever Yes No
  - Cough Yes No
  - Respiratory distress Yes No

Signature of the passenger

\*CHINA

# If answer to any of the above questions is "yes", Consider them as close contact.

\*\*If answer to any of the above questions is "yes", please present yourself to the Airport Health counter for preliminary screening.



*In case you develop symptoms such as fever and cough within 28 days of leaving this airport, restrict your outdoor movement and contact MoHFW's 24 hours helpline number 011-23978046. Call operator will tell you whom to contact further. In the meanwhile, keep yourself isolated in your house/room.*

**ANNEXURE 2 – Format For Case-Wise Contact Listing And Follow – Up**

Case Information									
Name		Age (yrs)		Sex (M/F)		Address	District	Date of Symptom Onset	Any other information

Contact Information and follow up																														
S. No.	Date of Contact	Name	Age (yrs)	Sex (M/F)	Address	District	Phone Number	Day of follow - up (Put a 'X' if the contact has no symptom and put a '√' if the contact has one of the following symptoms listed below)																						
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

**ANNEXURE 3**

**Format A - for surveillance of Passenger for 2019-nCoV (To be filled by District Surveillance Unit and send to SSU daily)**

Full Name:							
Age in years:							
Gender:							
Passport number:							
Complete Address (For Indian passport holders)							
Place of Stay during visit to India (For International tourists)							
Landline number with STD code (In India)							
Mobile number (In India)							
Countries visited in last 14 days							
Date of <b>arrival</b> from 2019-nCoV affected country to India							
Passenger History:							
<b>Clinical details: write 'N' for No &amp; 'Y' for Yes</b>							
<b>Day</b>	<b>Date</b>	<b>Fever</b>	<b>Cough</b>	<b>Day</b>	<b>Date</b>	<b>Fever</b>	<b>Cough</b>
1				15			
2				16			
3				17			
4				18			
5				19			
6				20			
7				21			
8				22			
9				23			
10				24			
11				25			
12				26			
13				27			
14				28			
<b>In case of any symptoms the passenger should be immediately isolated at designated hospital following standard Infection, control practices.</b>							

Filled by.....

**ANNEXURE 4**

**Format B (Linelist of Format A from all DSU to be updated on daily basis by SSU)**

**NAME OF State:**

<b>LINELIST FORMAT FOR REPORTING OF DAILY HEALTH STATUS OF PASSENGERS UNDER OBSERVATION</b>												
<b>Sl.No.</b>	<b>Name</b>	<b>Age</b>	<b>Gender</b>	<b>Address</b>	<b>Phone</b>	<b>District</b>	<b>Country of visit</b>	<b>Date of departure from affected country</b>	<b>Date of receipt of information</b>	<b>Observation started from</b>	<b>Today's Health status</b>	<b>Comments</b>

- New passengers enrolled for observation:
- Cumulative number of Passengers under observation:
- No. of passengers who have completed 28 days observation period:

## ANNEXURE 5

### FORMAT FOR DAILY REPORTING OF HEALTH STATUS OF PASSENGERS ARRIVING FROM 2019-nCoV AFFECTED COUNTRY.

Date:.....

Time:.....

S. No.	State	New passengers enrolled for observation	Cumulative number of Passengers under observation	No. of passengers who have completed 28 days observation period	Number of passengers found symptomatic & referred	Comments
1	A&N Island					
2	Andhra Pradesh					
3	Arunachal Pradesh					
4	Assam					
5	Bihar					
6	Chandigarh					
7	Chhattisgarh					
8	D N Haveli					
9	Daman & Diu					
10	Delhi					
11	Goa					
12	Gujarat					
13	Haryana					
14	Himachal Pradesh					
15	Jammu & Kashmir					
16	Jharkhand					
17	Karnataka					
18	Kerala					
19	Lakshadweep					
20	Madhya Pradesh					
21	Maharashtra					
22	Manipur					
23	Meghalaya					
24	Mizoram					
25	Nagaland					
26	Odisha					
27	Puducherry					
28	Punjab					
29	Rajasthan					
30	Sikkim					
31	Tamil Nadu					

32	Telangana					
33	Tripura					
34	Uttar Pradesh					
35	Uttarakhand					
36	West Bengal					
	<b>TOTAL</b>					

**ANNEXURE 6**

**Suspect Case Referral Form: For any passenger developing symptom as per case definition of 2019-nCoV, requisite information will be shared to NCDC/CSU/SSU immediately**

Full Name:	
Age in years:	
Gender:	
Passport number:	
Complete Address (For Indian passport holders)	
Place of Stay during visit (For International tourists)	
Landline number with STD code (In India)	
Mobile number (In India)	
Countries visited in last 28 days	
Date of departure from 2019-nCoV affected country	
Passenger Clinical History:	
Travel History after arrival in India:	
Name & Contact details of the Hospital where currently admitted:	

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

**Applications invited from Government & Private Medical Colleges for setting up COVID-19 testing facility:**

ICMR invites applications from all Government and Private Medical Colleges for establishing a COVID-19 testing facility. All Medical Colleges with following infrastructure and expertise may apply:

- i. Availability of a BSL-2 level laboratory facility including a molecular biology setup for virological diagnosis and a functioning and calibrated Biosafety cabinet type 2A/2B in the laboratory.
- ii. Availability of cold centrifuge/microfuge for RNA extraction
- iii. Availability of a functioning and calibrated real-time PCR machine.
- iv. Staff Requirements:
  - A. *Availability of following minimum staff:*
    - Medical Microbiologists – 1 or more with experience of work in Molecular Virology.
    - Technicians – At least 4-6 (2-3/shift) with relevant experience of work in Molecular Virology.
    - Multi-Task Staff – 1 or more for washing / cleaning
  - B. *Desired expertise of the staff:*
    - Good understanding of laboratory biosafety and biosecurity, trained for handling respiratory samples for viral diagnosis, RNA extraction and real-time PCR.
    - Experience of work in virology and handling clinical specimens, especially respiratory samples.
- v. A robust Institutional policy on biomedical waste management of human origin.
- vi. Well defined arrangement for segregation and discarding of biomedical waste.

*Additionally, for all applicants from Private Medical Colleges, it is essential to submit a copy of the NABL accreditation certificate and scope of accreditation for real-time PCR for RNA viruses.*

*Separate information should be provided on each of the above component (i to vii).*

**Detailed guidance on requirements for infrastructure and consumables for real-time RT-PCR Laboratory are placed at Annexure 2.**

**Interested Medical Colleges may apply to:**

Dr. Nivedita Gupta  
Scientist F  
Division of Epidemiology & Communicable Diseases  
Indian Council of Medical Research, Ansari Nagar, New Delhi

Applications should be accompanied with pictures of the laboratory infrastructure covering points i to iii and vi separately.

All applications should be submitted by email at: [arvind.nccs@gmail.com](mailto:arvind.nccs@gmail.com) and [jitunarayan@gmail.com](mailto:jitunarayan@gmail.com)



## EQUIPMENT AND CONSUMABLE REQUIREMENTS FOR SETTING UP A REAL TIME PCR TESTING FACILITY

### On-site requirements of existing functional equipment

- Biosafety cabinet (BSC) class 2A (calibrated)
- -20 °C deep freezer with UPS, for storage of reagents (primers/ probes/ positive controls)
- -80°C deep freezer with UPS, for storage of aliquoted samples/ viral RNA in cryovials
- 4°C refrigerator (for storage of viral transport medium, and for short term storage of samples and extracted RNA)
- UPS (2 nos., 2KVA each, with 2 hours back-up, for real time PCR instrument and nucleic acid extraction systems – if not available, then to be carried); and confirm about power backup for the two deep freezers (check about duration of power outages, if any)
- Real-time PCR machine
- Microcentrifuge / Refrigerated Centrifuge

### Required equipment and consumables

- I. **For sample collection:**
  - a. **Personal protective equipment (PPE)**
  - b. **Viral Transport Medium (VTM)**
  - c. **Flocked Dacron swabs** (2 swabs/ sample collection from 1 patient)
- II. **During processing**
  - a. **Biosafety cabinet class IIA/ IIB**
  - b. Personal protective equipment: N95 masks, coveralls (protective against blood and body fluids), nitrile gloves, shoe cover, head cover
  - c. Vortex mixer
  - d. Microcentrifuge (Cold centrifuge)
  - e. Cryovials (2 ml)
  - f. Cryobox
  - g. Pipette aid
  - h. Disposable plastic pipettes
  - i. Spirit lamp
  - j. Forceps (if no spirit lamp, then disposable forceps for each sample)
  - k. 70 % ethanol (also required for next stage, i.e., extraction)
  - l. 1% sodium hypochlorite (4% stock, to be freshly reconstituted daily to 1% with water)
  - m. Discarding jars
  - n. Biomedical waste disposal (BMW) bags (with ties for sealing; preferably autoclavable, if discarding autoclave is available/ used locally) and bins
  - o. Iceboxes with gel packs or regular ice supply in laboratory (from icemaker)
  - p. Tube rack (15 ml tubes)

- q. For tube / cryovial labelling - Marker pens, cellotape, or label printouts (printer with label maker)

### III. Nucleic acid extraction

- Manual extraction using kits for Viral RNA extraction: Viral RNA mini kits (Qiagen) or other viral RNA extraction kits for manual extraction
- 1.7 ml Eppendorf tubes (separate ones also required for next step)
- Cryovial/ Eppendorf tube rack (separate ones also required for next step)
- Microcentrifuge (small equipment)
- Micropipettes- 100-1000ul, 20-200ul (additional separate micropipettes of required volumes also listed for next stage, i.e. real time PCR)
- Filter barrier tips: 1000ul, 200ul
- Tissue rolls
- Hand sanitizers
- Biohazard labels

### IV. Real time PCR

- **Real time PCR machine (open system)** – calibrated for the fluorophore dyes which are present on the probes
- **Reagents for setting up Real-time**
  - PCR primers and probes specific for SARS-CoV2 targets
  - PCR master mix reagents (e.g., Thermo Fisher/ Invitrogen AgPath/ Superscript III Platinum real time PCR reagents) with buffer and enzyme
- **PCR reagents**
  - **Primers for E gene screening and**
  - **Probes for E gene screening and RDRP/ ORF 1b targets**
  - **PCR Buffer and enzyme mix**
  - **Positive control**
- PCR workstations – 1 for mastermix preparation; 1 for RNA addition
- Cryovial racks
- PCR tubes/ PCR plates
- PCR plate adhesive seals and plate sealer
- Micropipettes- 0.5-10ul (2 nos., 1 for PCR master mix and 1 for RNA addition), 2-20ul, 20-200ul
- Filter barrier tips – 10ul, 20ul, 200ul
- Microspin (small equipment)
- Plate centrifuge (small equipment)
- Electronic micropipette (optional small equipment, but convenient and reduces time duration of testing)
- Nuclease free water - for PCR
- RNaseP



सत्यमेव जयते

**प्रोफेसर (डा.) बलराम भार्गव**, पदम श्री

एमडी, डीएम, एफआरसीपी (जी.), एफआरसीपी (ई.), एफएसीसी,  
एफएएचए, एफएएमएस, एफएनएएस, एफएएससी, एफ.एन.ए., डी.एस.सी.

**सचिव, भारत सरकार**

स्वास्थ्य अनुसंधान विभाग

स्वास्थ्य एवं परिवार कल्याण मंत्रालय एवं

महानिदेशक, आई सी एम आर

**Prof. (Dr.) Balram Bhargava**, Padma Shri

MD, DM, FRCP (Glasg.), FRCP (Edin.),  
FACC, FAHA, FAMS, FNAsc, FASc, FNA, DSc

**Secretary to the Government of India**

Department of Health Research

Ministry of Health & Family Welfare &

**Director-General, ICMR**



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**भारतीय आयुर्विज्ञान अनुसंधान परिषद**

स्वास्थ्य अनुसंधान विभाग

स्वास्थ्य एवं परिवार कल्याण मंत्रालय

भारत सरकार

वी. रामलिंगस्वामी भवन, अंसारी नगर

नई दिल्ली - 110 029

**Indian Council of Medical Research**

Department of Health Research

Ministry of Health & Family Welfare

Government of India

V. Ramalingaswami Bhawan, Ansari Nagar

New Delhi - 110 029

**D.O.No. VIR/4/2020/ECD-I (Vol.I)**

Dated: 17<sup>th</sup> April 2020

**Addl.Chief Secretaery/Secretary/Principal Secretary Health (All States)**

**Sub: Protocol for using 'Rapid antibody test' in Hot area – epidemiological studies and surveillance**

I am writing to you with reference to the rapid antibody test kits for COVID-19 testing. It is understood that many States intend to use these kits in affected areas.

2. The National Task Force at ICMR has carefully reviewed the data evolving from various countries on use of such kits. Based on available evidence, the testing strategy for COVID-19 has been revised further. The revised document is enclosed for your reference.

3. It is critical to understand the following key facts while using the rapid antibody tests:

- Gold standard frontline test for COVID-19 diagnosis is **real time PCR based molecular test**, which is aimed at early virus detection.
- The rapid antibody test cannot replace the frontline test.
- The rapid Antibody test is a **supplementary tool** to assess the prevalence of the diseases within a specific area / perimeter.
- The rapid antibody test will **only be of utility after a minimum of 7 days of onset of symptoms**.
- Data about these rapid tests is emerging and understanding of their utility for diagnosis is still evolving.
- The rapid tests are useful for **epidemiological studies and surveillance purposes**.
- **THE TEST HAS TO BE DONE UNDER STRICT MEDICAL SUPERVISION.**

4. The enclosed ICMR advisory is for Hot spots. In case your state does not have a Hot spot, these tests may be used for:-

a) Any hotspot which may emerge in future

OR

b) As a surveillance tool for epidemiological purposes in such areas where cases have not emerged so far.

5. Before starting the rapid test, it should be registered on covid19cc.nic.in/ICMR and data related to the test should be reported on the same.

With best regards

Yours sincerely

*Balram Bhargava*

( Balram Bhargava )

Enclosed: As above

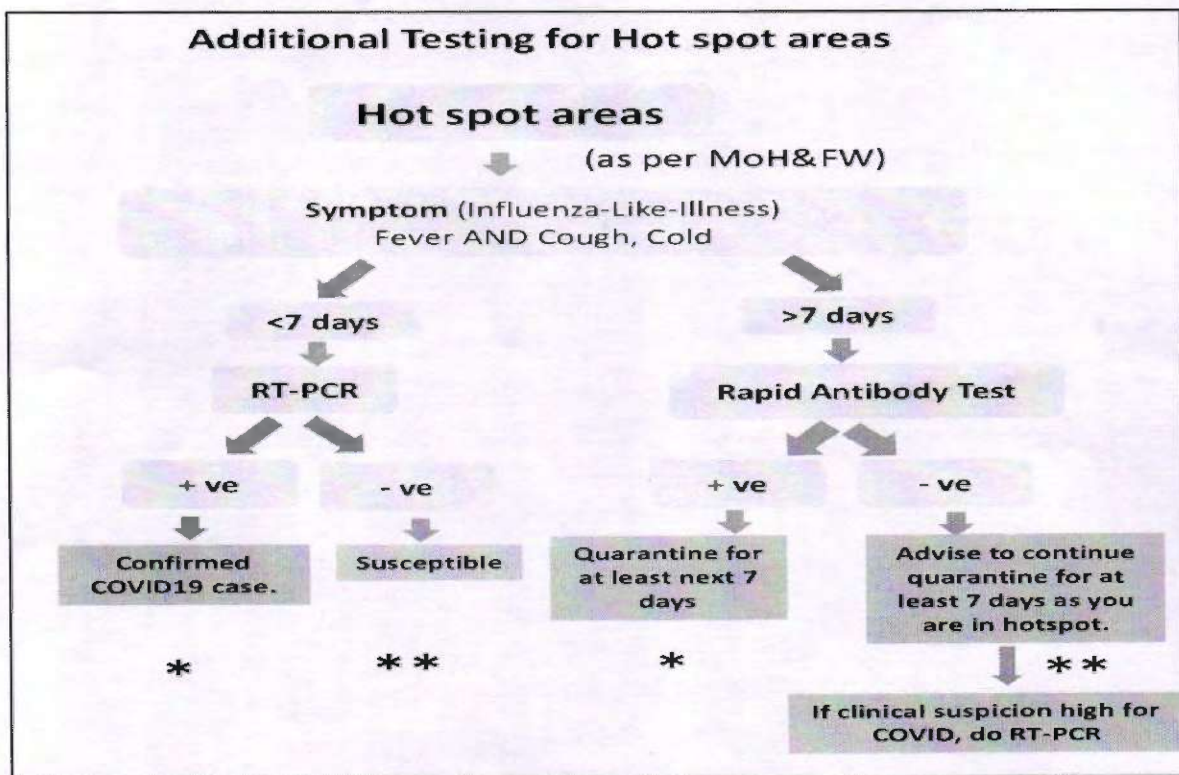
CC: Chief Secretary/Administrators

**A. COVID-19 Testing Strategy for India (Recommended for the entire country)**

Real-Time PCR (RT-PCR) test and Point-of-Care molecular diagnostic assays are recommended for diagnosis of COVID-19 among individuals belonging to the following categories:

- All symptomatic individuals who have undertaken international travel in the last 14 days
- All symptomatic contacts of laboratory confirmed cases
- All symptomatic health care workers
- All patients with Severe Acute Respiratory Illness (fever AND cough and/or shortness of breath)
- Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact

**B. Additional (in addition to A) Testing recommended in hot spots**



- \* Refer to Hospital if symptoms appear / worsen
- \*\* Follow precautions, social distancing, use masks, frequent hand washing, avoid unnecessary travel)

*Balwan Dhalgou*



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कल्याण मंत्रालय, भारत सरकार

Indian Council of Medical Research  
Department of Health Research, Ministry of Health  
and Family Welfare, Government of India

Date: 10/04/2020

## Notice

ICMR has identified the following 04 national institutes for validation of non US FDA EUA/CE IVD approved kits for COVID-19 testing.

S. No.	Name of Institute	Officer's Name, Designation and Contact Details
1.	ICMR – National Institute of Virology (NIV), Pune	Dr Priya Abraham Director Email: priya.abraham@icmr.gov.in Mob: +91-8940843532
2.	ICMR - National AIDS Research Institute (NARI), Pune	Dr Samiran Panda, Director Email: spanda@nariindia.org Mob. +91-9830908475
3.	ICMR-National Institute of Pathology (NIP), New Delhi	Dr Nasreen Z Ehtesham Director- in-Charge Email: nzehtesham@gmail.com Mob: +91-8826377433
4.	ICMR – National Institute of Cholera and Enteric Diseases (NICED), Kolkata	Dr Shanta Dutta Director Email: shanta.niced@icmr.gov.in Mob: +91-9830152971

- All the above centres are advised to share validation report of the test kit with the concerned company.
- Validation of US-FDA and European CE/IVD approved kits is not to be done.



Date: 12/04/2020

## Validation Centres for qRT-PCR Diagnostics for COVID-19

ICMR has identified the following 05 Centres of Excellence for validation of non-US FDA and non-EUA/CE-IVD approved kits for COVID-19 testing.

S. No.	Name of Institute	Officer's Name, Designation and Contact Details
1.	ICMR – National Institute of Virology (NIV), Pune	Dr Priya Abraham Director Email:director.niv@icmr.gov.in Mob: +91-8940843532
2.	ICMR - National AIDS Research Institute (NARI), Pune	Dr Samiran Panda, Director Email: spanda@nariindia.org Mob. +91-9830908475
3.	ICMR-National Institute of Pathology (NIP), New Delhi	Dr Nasreen Z Ehtesham Director- in-Charge Email: nzehtesham@gmail.com Mob: +91-8826377433
4.	ICMR – National Institute of Cholera and Enteric Diseases (NICED), Kolkata	Dr Shanta Dutta Director Email: shanta.niced@icmr.gov.in Mob: +91-9830152971
5.	CSIR – Centre of Cellular & Molecular Biology, Hyderabad	Dr. Rakesh K Mishra, Director Email: mishra@ccmb.res.in Phone No.040-27160789

- All the above centres are advised to share validation report of the test kit with the concerned company.
- Validation of US-FDA and European CE/IVD approved kits is not to be undertaken.

## Guidance on Rapid antibody kits for COVID-19

### Not recommended for diagnosis of COVID-19 infection

- Can be done on blood/serum/plasma samples
- Test result is available within 30 minutes
- Test comes positive after 7-10 days of infection
- The test remains positive for several weeks after infection
- Positive test indicates exposure to SARS-CoV-2
- Negative test does not rule out COVID-19 infection

*These tests are not recommended for diagnosis of COVID-19 infection*

**Till date, 23 antibody based rapid tests have been validated at NIV Pune, and the following were found to be satisfactory. 9 of these kits are manufactured in India.**

S.No.	Kit Detail	*Lot no./Batch no.
1.	SARS-CoV-2 Antibody test (Lateral flow method): Guangzhou Wondfo Biotech, Mylan Laboratories Limited (CE-IVD) M R Roofs Private Ltd Abbott Laboratories Zydus Cadilla	W19500309 W19500302 W19500351 W19500338
2.	COVID-19 IgM IgG Rapid Test: BioMedomics (CE-IVD)	20200226
3.	COVID-19 IgM/IgG Antibody Rapid Test: ZHUHAI LIVZON DIAGNOSTICS (CE-IVD)	CK2003010410
4.	New Coronavirus (COVID-19) IgG/IgM Rapid Test: Voxtur Bio Ltd, India	PCCV200301S
5.	COVID-19 IgM/IgG Antibody Detection Card Test: VANGUARD Diagnostics, India	RCOVID200301T
6.	Makesure COVID-19 Rapid test: HLL Lifecare Limited, India	CVCT030420 CVCT0204203 CVCT0104202
7.	YHLO iFlash-SARS-CoV-2 IgM and IgG detection kit (additional equipment required): CPC Diagnostics	20200206
8.	ACCUCARE IgM/IgG Lateral Flow Assay kit: LAB-CARE Diagnostics (India Pvt. Ltd)	CVC 200401
9.	Abchek COVID-19 IgM/IgG Antibody Rapid Test: NuLifecare	NUL/COV-19/R&D/001
10.	One Step Corona Virus (COVID-19) IgM/IgG Antibody Test: ALPINE BIOMEDICALS	A10420 A20420
11.	COVID 19 IgM/IgG Rapid Test Kit; Medsource Ozone Biomedicals (ver 2.0)	COV-002
12.	Immuno Quick Rapid Test for Detection of Novel Coronavirus (COVID-19) IgM/IgG Antibodies: Immuno Science India Pvt. Ltd	E142001
13.	Standard Q Covid -19 IgM/IgG Duo test – One Step Rapid Antibody test: SD Biosensors	E054002 E054004
14.	COVID-19 IgG/IgM Rapid Test Kit Rafael Diagnostic: BMT Diagnostics	COV20030059 COV20030059-1

\*Above listed kits are validated with the mentioned batch number only. Responsibility for batch to batch consistency lies with the manufacturer.

## Guidance on Rapid antibody kits for COVID-19

### **Antibody based rapid tests which are CE-IVD approved**

The complete list of CE-marked rapid SARS-CoV-2 antibody tests is available at (<https://www.finddx.org/covid-19/pipeline/>). CE-IVD approved kits can be used directly after due marketing approval from DCGI.





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स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार  
वी. रामलिंगस्वामी भवन, अंसारी नगर नई दिल्ली-110029

**Indian Council of Medical Research**  
Department of Health Research  
Ministry of Health & Family Welfare, Govt. of India  
V. Ramalingaswami Bhawan, Ansari Nagar, New Delhi - 110029

डॉ. जी. एस. टोटेजा  
अपर महानिदेशक  
**Dr. G. S. Toteja**  
Additional Director General

D.O.No.ECD/COVID19/Misc./2020  
Dated: 22<sup>nd</sup> April 2020

To

**Chief Secretaries**  
(all States)

**Subject: Protocol for using Rapid antibody test – regarding**

I am writing to you, with respect to issues raised by a few states about rapid antibody tests. In its advisory dated 17<sup>th</sup> April 2020, ICMR had clearly laid down the scope, purpose and usage of the rapid antibody tests.

ICMR has always emphasized that the confirmatory test for diagnosis of COVID-19 infection is RT – PCR test of throat and/ or nasal swab, which detects virus at early stage.

I would again reiterate that antibody rapid tests are largely to be used as a tool for surveillance with respect to formation of antibody in persons exposed to the virus. Globally also, the utility of this test is evolving and it is currently being used for detecting the formation of antibodies in individuals. These test results are also dependent on field conditions.

We have been given to understand that many States have procured such kits and on State's request, ICMR has also arranged and made available rapid antibody test kits with the clear understanding that these tests cannot replace the RT-PCR tests to diagnose the COVID-19 cases.

However, to further assist the States, ICMR will continue to collect data from various States to assess the scope and extent of utility of these rapid antibody tests in fields conditions of our country and will keep advising the States on regular basis.

In view of this, States are advised to follow the prescribed protocol for these tests and use it for the purposes for which these are meant. It is reiterated that to contain Corona Virus infection, RT-PCR tests must be continued vigorously as the principal diagnostic tests.

With kind regards,

Yours sincerely,

( G.S. Toteja )



**icmr**  
INDIAN COUNCIL OF  
MEDICAL RESEARCH  
Serving the nation since 1911

**भारतीय आयुर्विज्ञान अनुसंधान परिषद्**

स्वास्थ्य अनुसंधान विभाग

स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार

वी. रामलिंगस्वामी भवन, अंसारी नगर नई दिल्ली-110029

**Indian Council of Medical Research**

Department of Health Research

Ministry of Health & Family Welfare, Govt. of India

V. Ramalingaswami Bhawan, Ansari Nagar, New Delhi - 110029

**डॉ. जी. एस. टोटेजा**  
अपर महानिदेशक  
**Dr. G. S. Toteja**  
Additional Director General

**D.O.No. ECD / COVID19 / Misc. / 2020**

**Dated: 27<sup>th</sup> April 2020**

To

**Chief Secretaries**

All States / UTs

**Subject:** Advisory on Rapid Antibody Blood Tests - regarding

**Sir / Madam**

1. ICMR advocates that RT-PCR throat/nasal swab test is the best use for diagnosis of Covid 19. RT-PCR test detects the virus early and is the best strategy to identify and isolate the individual.
2. Several States have procured rapid antibody test kits and on their demand, ICMR has also provided these kits with clear instructions that they are to be used only for surveillance purpose. Some States have raised issues regarding their performance during the testing exercise that they have undertaken.
3. ICMR, thereafter, has also evaluated the kits of Guangzhou Wondfo Biotech and Zhuhai Livzon Diagnostics in field conditions. The results have shown wide variation in their sensitivity, despite early promise of good performance for surveillance purposes.
4. In view of this, States are advised to stop using these kits procured from the above-mentioned companies and return them to be sent back to the suppliers.

With kind regards,

Yours sincerely,

( G.S. Toteja )

Additional Director General

**Copy to:**

Principal Secretary / Secretary (Health), all States / UTs for information and necessary action.

**Performance evaluation of commercial kits for detection of SARS-CoV-2 RNA by Real Time PCR****Validation by ICMR institutes**

**Till date, 37 real-time PCR kits have been validated by ICMR validation centres, and the following were found to be satisfactory.**

S. No	Name of Company	Name of the Kit	*Batch number
1	Altona Diagnostics	RealStar SARS-CoV-2 RT-PCR kit 1.0	023005
2	MY LAB	Patho Detect	PP00005-C-032001
3	Seegene	Allplex 2019-nCoV assay	RP4520A01
4	SD Biosensor	nCoV Real-Time Detection kit	MNCO 0120004
5	KILPEST (BLACKBIO)	TRUPCR SARS-CoV-2RT-qPCR kit version 2	COV-19/V2/2020/01
6	Huwel Lifesciences	Quantiplus CoV detection kit ver 2.0	QLCNV0620
7	BGI	Real Time Fluorescent RT-PCR Kit for detecting 2019-nCoV	6020200107
8	ABI (Applied bio systems)	TaqMan 2019-nCoV Control Kit v1	47532-020720
9	Medsorce Ozone Biomedicals	COVID-19 RT-PCR kit	20200433
10	Helini Biomolecules, Chennai, India	Helini Coronavirus [COVID 19] Real-time PCR kit	01/2020 MFD: 04/2020
11	ADT Biotech Sdn Bhd, Malaysi2	LyteStar 2019 nCoV RT-PCR kit 1.0	nCoV-2003-06; nCoV-2004-02; nCoV-2004-03
12	OSANG Health Care	Gene Finder COVID-19	2003-R45-22
13	Cepheid	Xpert Xpress SARS-CoV-2	1000191996, 1000191998, 1000191999
14	Biogenomics (India)	BIO COVID ID/ COVID-19 qualitative PCR detection kit v. 2	BGL/IVD/COV/0420 /004
15	Meril Diagnostics	Meril COVID-19 One-step RT-PCR Kit	MRD091
16	Gene Matrix	NeoPlex COVID-19 detection kit	NR05A
17	IIT Delhi	Covid 19 Probe-free Real Time PCR Diagnostic Kit	09042020

\*Above listed kits are validated with the mentioned batch number only. Responsibility for batch to batch consistency lies with the manufacturer.

**Performance evaluation of commercial kits for detection of SARS-CoV-2 RNA by Real Time PCR**

**Real-time PCR kits which are US-FDA and/or CE-approved**

The complete list of US-FDA and/or CE-approved SARS-CoV-2 real-time PCR kits is available at (<https://www.finddx.org/covid-19/pipeline/>). US-FDA and/or CE-IVD approved kits can be used directly after due marketing approval from DCGI.

**Performance evaluation of commercial kits for detection of SARS-CoV-2 RNA by Real Time PCR****Validation by ICMR institutes**

Till date, 45 real-time PCR kits have been validated by ICMR validation centres, and the following were found to be satisfactory. 10 of these companies are from India.

S. No	Name of Company	Name of the Kit	*Batch number
1	Altona Diagnostics	RealStar SARS-CoV-2 RT-PCR kit 1.0	023005
2	MY LAB	Patho Detect	PP00005-C-032001 PP00005-C-0420001 PP00005-C-0320002
3	Seegene	Allplex 2019-nCoV assay	RP4520A01
4	SD Biosensor	nCoV Real-Time Detection kit	MNCO 0120004
5	KILPEST (BLACKBIO)	TRUPCR SARS-CoV-2RT-qPCR kit version 2	COV-19/V2/2020/01
6	Huwel Lifesciences	Quantiplus CoV detection kit ver 2.0	QLCNAV0620
7	BGI	Real Time Fluorescent RT-PCR Kit for detecting 2019-nCoV	6020200107
8	ABI (Applied bio systems)	TaqMan 2019-nCoV Control Kit v1	47532-020720
9	Medsorce Ozone Biomedicals	COVID-19 RT-PCR kit	20200433
10	Helini Biomolecules, Chennai, India	Helini Coronavirus [COVID 19] Real-time PCR kit	01/2020 MFD: 04/2020
11	ADT Biotech Sdn Bhd, Malaysia	LyteStar 2019 nCoV RT-PCR kit 1.0	nCoV-2003-06 nCoV-2004-02 nCoV-2004-03 SARS-2004-01 SARS-2004-02
12	OSANG Health Care	Gene Finder COVID-19	2003-R45-22
13	Cepheid	Xpert Xpress SARS-CoV-2	1000191996, 1000191998, 1000191999
14	Biogenomics (India)	BIO COVID ID/ COVID-19 qualitative PCR detection kit v. 2	BGL/IVD/COV/0420 /004
15	Meril Diagnostics	Meril COVID-19 One-step RT-PCR Kit	MRD091 MRD097 MRD098
16	Gene Matrix	NeoPlex COVID-19 detection kit	NR05A
17	IIT Delhi	Covid 19 Probe-free Real Time PCR Diagnostic Kit	09042020
18	Cosara Diagnostics	SARAGENE™ Corona Virus (2019 NCV) Test kit	20C11PE-01
19	Labcare Diagnostics	Accucare COVID One step RT-pCR kit	RPCR200401



**Performance evaluation of commercial kits for detection of SARS-CoV-2 RNA by Real Time PCR**

20	POCT services Pvt Ltd	Q-line Molecular Coronavirus (COVID-19) RT-PCR kit	P200401
21	GCC Biotech, West Bengal, India	DiAGSure nCov-19 Detection assay	20115K1278 20115K1251

\*Above listed kits are validated with the mentioned batch number only. The tests have been performed as per the manufacturers' instructions. Responsibility for batch to batch consistency lies with the manufacturer.

**Real-time PCR kits which are US-FDA and/or CE-approved**

The complete list of US-FDA and/or CE-approved SARS-CoV-2 real-time PCR kits is available at (<https://www.finddx.org/covid-19/pipeline/>). US-FDA and/or CE-IVD approved kits can be used directly after due marketing approval from DCGI.

	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : First Line Screening assay</h2>		

**Purpose:** This protocol is designed to detect 2019-nCoV in human clinical specimens

**Introduction:** The purpose of this document is to provide interim guidance to laboratories and stakeholders involved in laboratory testing of patients who meet the definition of suspected case of pneumonia associated with a novel coronavirus identified in Wuhan, China.  
<https://www.who.int/health-topics/coronavirus/laboratorydiagnostics-for-novel-coronavirus>

**Principle:** The real time assay uses the TaqMan fluorogenic probe based chemistry that uses the 5' nuclease activity of Taq DNA polymerase and enables the detection of a specific PCR product as it accumulates during PCR cycles.

Coronaviruses under the subgenus Sarbecovirus that includes 2019-nCoV, SARS-CoV and bat SARS-like coronaviruses were used to generate a non-redundant alignment. Three assays based on their matching to the Wuhan virus as per inspection of the sequence alignment were designed

**First line screening assay: E gene assay**

**PI note along with novel corona real time PCR protocol, sample should be tested for Influenza detection**



**Reference:**  
<https://www.who.int/health-topics/coronavirus/laboratory-diagnostics-for-novel-coronavirus>

**Requirements:**

**a. Instruments:**

- Real Time PCR machines (Make : ABI, Rm. Real time PCR room)
  - Model:7500 Fast: Serial no: 275012996
  - Model:7500 Fast Dx: Serial no: 275030301
  - Model:7500: Serial no: 275006294
  - Model: 7500 Fast Dx: Serial no: 275005234
  - Model:7500 Step one Plus: Serial no: 27200433



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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : First Line Screening assay</h2>		

2. Biosafety cabinet (Make: Micro FITT, Model: MFI BIO4X2, Serial no: 14476, Rm no: Reagent preparation room)
- b. Pipettes**
1. Rm. Reagent preparation room
- For reagent dilutions
- 0.5-10 µl (Make: BIOHiT, Serial no: 6519410)
- 20-200 µl ( Make: Thermo, Serial no: CH17505)
- 100-1000 µl ( Make: Thermo, Serial no: CH28611)
- For master mix preparation( Make: Thermo)
- 0.5-10 µl (Serial no:V44877)
- 2-20µl ( Serial no: V42740)
- 20-200 µl (Serial no: U75613)
- 100-1000 µl (Serial no: CH01229)
- 2.Rm. RNA addition room:
- 5-100 µl multichannel (Make: BIOHiT, Serial no. 6545582)
- 2-20 µl (Make: Thermo, Serial no. V17267)
3. Rm. Real Time PCR room ( Positive control addition)
- 2-20 µl (Make: Thermo, Serial no.V90525)
- c. Small equipments**
- Vortex V1 plus: (Make: BIOSAN, Serial no: 15975, Location: Rm no: Reagent preparation room),
- Minispin: (Make: TAESON, Serial no: 1775, Location: Rm no: Reagent preparation room, Hood: (Make: Serial no. V-14971, Rm: Real time PCR room)
- Miniplate spinner: (Make: Labnet, Serial no. V-15725, Rm: Real Time PCR room)
- d. Plastic ware:** MicroAmp Fast reaction tubes (8 tubes/strip) , 96 Thin wall PCR plates, 96 Thin wall PCR plates 0.1 ml, 1.7ml Eppendorf tubes, stand, micro tips, 96 well cooler
- e. Consumables:** Disposable powder free gloves, Lab coats, aerosol barrier tips (20ul, 200ul and 1000ul), Laboratory marking pen, tissue paper rolls
- f. Reagents:**
1. Invitrogen SuperScript™ III Platinum® One-Step Quantitative Kit (Cat. No.11732088)
  2. AgPath-ID™ One-Step RT-PCR
  3. QIAamp Viral RNA Mini Kit (QIAGEN, Cat#52906) or equivalent RNA extraction Kit
  4. Nuclease Free Water

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	<b>ICMR-National Institute of Virology (ICMR-NIV), Pune</b>	
	<b>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : First Line Screening assay</b>	

5. Ethanol (96–100%)

**Primers and Probes**

Assay/ Use	Oligonucleotide ID	Sequence (5'–3')
<b>E gene</b>	<b>E_Sarbeco_F1</b>	<b>ACAGGTACGTTAATAGTTAATAGCGT</b>
	<b>E_Sarbeco_R2</b>	<b>ATATTGCAGCAGTACGCACACA</b>
	<b>E_Sarbeco_P1</b>	<b>FAM- ACACTAGCCATCCTTACTGCGCTTCG -BHQ</b>
<b>RNaseP gene (Internal Control)</b>	<b>RNaseP Forward</b>	<b>AGATTTGGACCTGCGAGCG</b>
	<b>RNaseP Reverse</b>	<b>GAGCGGCTGTCTCCACAAGT</b>
	<b>RNaseP Probe</b>	<b>FAM- TTCTGACCTGAAGGCTCTGCGCG- BHQ</b>

R is G/A; FAM, 6-carboxyfluorescein; BHQ, Black Hole Quencher

**Documentation:**

- Clinical sample register
- RNA extraction Laboratory book
- Real time PCR Laboratory book
- Result record book

**Procedure/Protocol:**

1. Perform RNA extraction of clinical samples according to “RNA extraction- QIAmp viral RNA Mini Kit” protocol in RNA extraction area.
2. Perform real time PCR reactions as shown in table for E gene assays and RNaseP housekeeping gene.
3. Determine the number of reactions (N) to set up per assay. In addition, include Negative control, Positive control and MOCK (human source cell line) in the test.
4. Prepare excess reaction cocktail to account for pipetting error.

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If number of samples (n) including controls = 1 to 10, then  $N = n + 1$

5. In the **clean reagent preparation room** prepare the Master Mix:

Calculate the amount of each reagent to be added for each Primer /probe set reaction master mix.

The calculations are as follows:

Component	Volume for E gene	Volume for RNasP
H <sub>2</sub> O (RNase free)	5 µl	5 µl
2x Reaction mix	12.5 µl	12.5 µl
PP mix	1.5 µl	1.5 µl
AgPath One-Step RT-PCR *	1 µl	1 µl
Template RNA	5 µl	5 µl
<b>Total</b>	<b>25 µl</b>	<b>25 µl</b>

**\* Invitrogen SuperScrip III Platinum One-Step Quantitative Kit, use 0.5ul and adjust the water volume to 5.5µl**

6. Mix reaction mixtures by pipetting up and down. Do not vortex.
7. Centrifuge for 5-10 sec to collect contents at bottom of the tube, and then place the tube in cold rack.
8. Set up reaction strip tubes or plates in 96-well cooler rack.
9. Dispense 20µl of each master mix into each well as per the plate set up.
10. Before moving the plate to the nucleic acid handling area. Pipette 5ul of the nuclease free water into NTC wells. Cap NTC wells.
11. **In the nucleic acid extraction room**, add 5ul of each sample and 5ul of Mock extraction control into respective wells as per the set up.
12. Cap the column or cover the plate with tissue paper to which the samples and mock control has been added.

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13. Finally, pipette 5 µl of positive viral template control (E gene invitro transcribed RNA and for RNasP add pooled influenza control) into all VTC wells in **positive control addition area**. Cap VTC wells/ or seal the plate with optical sealer. Centrifuge the plate for 10 seconds. Make sure that bubbles are eliminated from the bottom of the reaction tubes.
14. For real time PCR set up follow the instructions given by the Real-time PCR system manual for plate set up. **Save your plate setup!**
15. The reaction volume is 25 µl. Program the run method as follows:



Reverse Transcription*	55°C for 30 min
Taq inhibitor inactivation	95°C for 3 min
PCR amplification (45 Cycles)	95°C for 15 Sec 58°C for 30 sec* (data collection)

- Fluorescence data should be collected during the 58°C incubation step.
16. After completion of the run, save the run and analyze the collected data.

**Interpretation/examination:**

1. The NTC reactions for primer / probe sets **should not exhibit** fluorescence growth curves that cross the threshold line. If a false positive occurs with one or more of the primer and probe NTC reactions, sample contamination may have occurred. Invalidate the run and repeat the assay with stricter adherence to the procedure guidelines.
2. All clinical samples should **exhibit RNase P reaction curves** that cross the threshold line at or before **35 cycles**, thus indicating the presence of sufficient RNA from human RNase P gene indicating the specimen is of acceptable quality.

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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : First Line Screening assay</h2>		



However, it is possible that some samples may fail to give positive reactions due to low cell numbers in the original clinical sample.

Failure to detect RNase P in any of the clinical samples may indicate:

- a. Improper extraction of nucleic acid from clinical materials resulting in loss of
- b. RNA or carry-over of RT-PCR inhibitors from clinical specimens
- c. Absence of sufficient human cellular material in sample to enable detection
- d. Improper assay set up and execution
- e. Reagent or equipment malfunction

3. The MOCK should NOT exhibit fluorescence growth curves for primer/probe sets for 2019-nCoV E gene. Only in RP target, MOCK should show fluorescence growth curve. If any 2019-nCoV E gene specific primer/probes exhibit a growth curve that crosses the threshold line, interpret as follows:
  - a. Contamination of RNA extraction reagents may have occurred. Invalidate the run and confirm reagent integrity of RNA extraction reagents prior to further testing.
  - b. Cross contamination of samples occurred during RNA extraction procedures or assay setup. Invalidate the run and repeat the assay with stricter adherence to procedure guidelines.
4. PTC reactions should produce a positive result with the 2019-nCoV E gene and RNaseP reactions between 20 and 30 cycles. If expected positive reactivity is not achieved, invalidate the run and repeat the assay with stricter adherence to procedure guidelines. Do not use PTC reagents that do not generate expected result.
5. When all controls meet stated requirements, a specimen is considered presumptive positive for 2019-nCoV reaction growth curves cross the threshold line within 35 cycles.
6. Immediately send the sample to Reference laboratory i.e NIV Pune

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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : First Line Screening assay</h2>		

**Limitations**

1. Analysts should be trained and familiar with testing procedures and interpretation of results prior to performing the assay.
2. A false negative result may occur if inadequate numbers of organisms are present in the specimen due to improper collection, transport or handling.
3. A false negative result may occur if an excess of DNA/RNA template is present in the reaction. If inhibition of the RP control reaction is noted for a particular sample, extracted RNA can be tested at 2 or more dilutions (e.g., 1:10 and 1:100) to verify result.



**If the sample is positive, immediately send the sample to Reference laboratory i.e. ICMR –NIV Pune for Confirmatory testing. It is only after confirmatory test becomes positive, then the sample can be declared positive**

**Confirmatory assay Available at ICMR NIV**

- ORF 1b
- RdRp gene assay
- E gene assay
- N gene assay

**Report: Communicate the result on daily basis to ICMR NIV Pune**

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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay</h2>		

**Purpose:** This protocol is designed to detect 2019-nCoV in human clinical specimens

**Introduction:** The purpose of this document is to provide interim guidance to laboratories and stakeholders involved in laboratory testing of patients who meet the definition of suspected case of pneumonia associated with a novel coronavirus identified in Wuhan, China. (<https://www.who.int/health-topics/coronavirus/laboratorydiagnostics-for-novel-coronavirus>)

**Principle:** The real time assay uses the TaqMan fluorogenic probe based chemistry that uses the 5' nuclease activity of Taq DNA polymerase and enables the detection of a specific PCR product as it accumulates during PCR cycles.

Coronaviruses under the subgenus Sarbecovirus that includes 2019-nCoV, SARS-CoV and bat SARS-like coronaviruses were used to generate a non-redundant alignment. Confirmatory assays designed based on their matching to the Wuhan virus as per inspection of the sequence alignment. Suspected human sample should be first tested for E gene assay and then confirmatory assay by RdRp and N gene assay.

- **Confirmatory assay: RdRp, ORF gene assay**

**Reference:**



<https://www.who.int/health-topics/coronavirus/laboratory-diagnostics-for-novel-coronavirus>

**Requirements:**

**a. Instruments:**

1. Real Time PCR machines (Make : ABI, Rm. Real time PCR room)
  - Model:7500 Fast: Serial no: 275012996
  - Model:7500 Fast Dx: Serial no: 275030301
  - Model:7500: Serial no: 275006294
  - Model: 7500 Fast Dx: Serial no: 275005234
  - Model:7500 Step one Plus: Serial no: 27200433
2. Biosafety cabinet (Make: Micro FITT, Model: MFI BIO4X2, Serial no: 14476, Rm no: Reagent preparation room)

Document No.: SP.02	Document Name: Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay		
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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay</h2>		

### b. Pipettes

#### 1. Rm. Reagent preparation room

For reagent dilutions

0.5-10 µl (Make: BIOHiT, Serial no: 6519410)

20-200 µl ( Make: Thermo, Serial no: CH17505)

100-1000 µl ( Make: Thermo, Serial no: CH28611)

For master mix preparation( Make: Thermo)

0.5-10 µl (Serial no:V44877)

2-20µl ( Serial no: V42740)

20-200 µl (Serial no: U75613)

100-1000 µl (Serial no: CH01229)

#### 2.Rm. RNA addition room:

5-100 µl multichannel (Make: BIOHiT, Serial no. 6545582)

2-20 µl (Make: Thermo, Serial no. V17267)

#### 3. Rm. Real Time PCR room ( Positive control addition)

2-20 µl (Make: Thermo, Serial no.V90525)

### c. Small equipments

Vortex V1 plus: (Make: BIOSAN, Serial no: 15975, Location: Rm no: Reagent preparation room),

Minispin : (Make: TAESON, Serial no: 1775, Location: Rm no: Reagent preparation room, Hood: (Make: Serial no. V-14971, Rm: Real time PCR room)

Miniplate spinner: (Make: Labnet, Serial no. V-15725, Rm: Real Time PCR room)

### d. Plastic ware: MicroAmp Fast reaction tubes (8 tubes/strip) , 96 Thin wall PCR plates, 96



Thin wall PCR plates 0.1 ml, 1.7ml Eppendorf tubes, stand, micro tips, 96 well cooler

### e. Consumables: Disposable powder free gloves, Lab coats, aerosol barrier tips (20ul, 200ul and 1000ul), Laboratory marking pen, tissue paper rolls

### f. Reagents:

1. Invitrogen SuperScript<sup>TM</sup>III Platinum® One-Step Quantitative Kit (Cat. No.11732088)
2. AgPath-ID<sup>TM</sup> One-Step RT-PCR
3. QIAamp Viral RNA Mini Kit (QIAGEN, Cat#52906) or equivalent RNA extraction Kit
4. Nuclease Free Water
5. Ethanol (96–100%)

Document No.: SP.02	Document Name: Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay		
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	<b>ICMR-National Institute of Virology (ICMR-NIV), Pune</b>	
	<b>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay</b>	

### Primers and Probes

Assay/ Use	Oligonucleotide ID	Sequence (5'–3')
RdRp	RdRP_SARSr-F2	GTGARATGGTCATGTGTGGCGG
	RdRP_SARSr-R1	CARATGTTAAASACACTATTAGCATA
	RdRP_SARSr-P2 Specific for Wuhan-CoV	FAM-CAGGTGGAACCTCATCAGGAGATGC- QSY
HKU ORF gene	HKU-ORF1b-nsp14F	TGGGGYTTTACRGGTAACCT'
	HKU-ORF1b-nsp14 R	AACRCGCTTAACAAAGCACTC
	HKU-ORF1b-nsp14 P	FAM-TAGTTGTGATGCWATCATGACTAG- QSY

FAM, 6-carboxyfluorescein; QSY Quencher (select quencher none in plate set up )

#### Documentation:

- Clinical sample register
- RNA extraction Laboratory book
- Real time PCR Laboratory book
- Result record book

#### Procedure/Protocol:

1. Perform RNA extraction of clinical samples according to “RNA extraction- QIAmp viral RNA Mini Kit” protocol in RNA extraction area.
2. Perform real time PCR reactions as shown in table for RdRp, ORF and N gene assays Determine the number of reactions (N) to set up per assay. In addition, include Negative control, Positive control and MOCK (human source cell line) in the test.
3. Prepare excess reaction cocktail to account for pipetting error.

If number of samples (n) including controls = 1 to 10, then N = n + 1

Document No.: SP.02	Document Name: Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay		
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4. In the **clean reagent preparation room** prepare the Master Mix:  
Calculate the amount of each reagent to be added for each Primer /probe set reaction master mix. The calculations are as follows:

Component	Volume for RdRp gene	Volume for ORF
H <sub>2</sub> O (RNase free)	5 µl	5 µl
2x Reaction mix	12.5 µl	12.5 µl
PP Mix	1.5 µl	1.5 µl
AgPath One-Step RT-PCR *	1 µl	1 µl
Template RNA	5 µl	5 µl
<b>Total</b>	<b>25 µl</b>	<b>25 µl</b>

**\* Invitrogen SuperScrip III Platinum One-Step Quantitative Kit, use 0.5ul and adjust the water volume to 5.5µl**

5. Mix reaction mixtures by pipetting up and down. Do not vortex.
6. Centrifuge for 5-10 sec to collect contents at bottom of the tube, and then place the tube in cold rack.
7. Set up reaction strip tubes or plates in 96-well cooler rack.
8. Dispense 20µl of each master mix into each well as per the plate set up.
9. Before moving the plate to the nucleic acid handling area. Pipette 5ul of the nuclease free water into NTC wells. Cap NTC wells.
10. **In the nucleic acid extraction room**, add 5ul of each sample and 5ul of Mock extraction control into respective wells as per the set up.
11. Cap the column or cover the plate with tissue paper to which the samples and mock control has been added.

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12. Finally, pipette 5ul of positive viral template control into all VTC wells in **positive control addition area**. Cap VTC wells/ or seal the plate with optical sealer. Centrifuge the plate for 10 seconds. Make sure that bubbles are eliminated from the bottom of the reaction tubes.
13. For real time PCR set up follow the instructions given by the Real-time PCR system manual for plate set up. **Save your plate setup!**
14. The reaction volume is 25ul. Program the run method as follows:

Reverse Transcription	55°C for 30 min
Taq inhibitor inactivation	95°C for 3 min
PCR amplification (45 Cycles)	95°C for 15 Sec 58°C for 30 sec* (data collection)



Fluorescence data should be collected during the 58<sup>0</sup>C incubation step.

15. After completion of the run, save the run and analyze the collected data.

**Interpretation/examination:**

1. The NTC reactions for primer / probe sets **should not exhibit** fluorescence growth curves that cross the threshold line. If a false positive occurs with one or more of the primer and probe NTC reactions, sample contamination may have occurred. Invalidate the run and repeat the assay with stricter adherence to the procedure guidelines.
2. The MOCK should NOT exhibit fluorescence growth curves for primer/probe sets for 2019-nCoV RdRp, ORF and N gene. Only in RP target, MOCK should show fluorescence growth curve. If any 2019-nCoV RdRp, ORF and N gene specific primer/probes exhibit a growth curve that crosses the threshold line, interpret as follows:
  - a. Contamination of RNA extraction reagents may have occurred. Invalidate the run and confirm reagent integrity of RNA extraction reagents prior to further testing.

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	<h1>ICMR-National Institute of Virology (ICMR-NIV), Pune</h1>	
<h2>Standard Operating Procedure For Detection of 2019 novel coronavirus (2019-nCoV) in suspected human cases by rRT-PCR : confirmation assay</h2>		

- b. Cross contamination of samples occurred during RNA extraction procedures or assay setup. Invalidate the run and repeat the assay with stricter adherence to procedure guidelines.
3. PTC reactions should produce a positive result with the 2019-nCoV RdRp, and ORF and N gene reactions between 20 and 30 cycles. If expected positive reactivity is not achieved, invalidate the run and repeat the assay with stricter adherence to procedure guidelines. Do not use PTC reagents that do not generate expected result.
4. When all controls meet stated requirements, a specimen is considered confirmed positive for 2019-nCoV reaction growth curves cross the threshold line within 35 cycles for E gene, and both RdRp, ORF Or either RdRp or ORF

**Limitations**

1. Analysts should be trained and familiar with testing procedures and interpretation of results prior to performing the assay.
2. A false negative result may occur if inadequate numbers of organisms are present in the specimen due to improper collection, transport or handling.
3. A false negative result may occur if an excess of DNA/RNA template is present in the reaction.

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Amend No.:	Amend Date:	Prepared by : MLC	Reviewed By: VAP Approved by: Director

## **Phase II Convalescent Plasma Study: Update**

**Date: 19/04/2020**

ICMR launched the call for intent for the study titled “A Phase II, Open Label, Randomized Controlled Study to Assess the Safety and Efficacy of Convalescent Plasma to Limit COVID-19 Associated Complications” on April 12<sup>th</sup>, 2020. The response has been overwhelming and we have received 99 applications expressing their interest in participating in the study.

The generic protocol has been approved by the DCGI. We are attaching the DCGI approval. Each Institute that wishes to participate in the study will need to mandatorily obtain ethics clearance locally through their Institutional Ethics Committee.

ICMR will collaborate with eligible institutes from the pool of applicants based on the criteria:

1. Prior experience in conducting clinical studies.
2. Presence of necessary expertise, equipment and infrastructure for the study.
3. Ability to support the cost of care of study participants.
4. Institutional Ethics Committee registered with the CDSCO.
5. Each participating institute will have to buy trial insurance and ICMR will reimburse the premium costs as per rules.

Eligible institutes will be funded by ICMR for study related activities after completion of requisite documentation.

**File No. X.11026/78/2020-BD**  
**Government of India**  
**Directorate General of Health Services**  
**Central Drugs Standard Control Organisation**  
**(Biological Division)**

FDA Bhawan, Kotla Road,  
New Delhi, 110002

Dated: 14/4/2020

To

Indian Council of Medical Research,  
Department of Health Research, Ministry of Health and family Welfare  
V. Ramalingaswami Bhawan, New Delhi

**Subject:** Permission for approval of protocol for a multi-center two arm prospective, phase-II open labeled randomized controlled trial of convalescent plasma in COVID-19 patients-Regarding

Sir,

Please refer to your letter dated 07.04.2020 on the above subject. Your proposal was deliberated in the 68<sup>th</sup> SEC meeting (Anti microbial and Antiviral) held on 13.04.2020 at CDSCO (HQ), New Delhi, wherein your representative made presentation before the committee. After detailed deliberation, the committee recommended that the protocol can be approved in principle subject to certain conditions, out of which you have submitted revised protocol. However, Inclusion criteria mentioned at point no. 5 is not deleted, Details of the study sites is annexed, undertaking of the investigators etc., should be submitted

Based on the recommendations of the SEC and your revised protocol, this Directorate has no objection for the conduct of proposed Clinical trial protocol as per protocol version 1.1 dated 12.04.2020 submitted to this office in the light of COVID-19 outbreak subject to the following conditions:

- (i) Clinical trial at each site shall be initiated after approval of the clinical trial protocol and other related documents by the Ethics Committee of that site, registered with the Central Licensing Authority under Rule 8;
- (ii) Where a clinical trial site does not have its own Ethics Committee, clinical trial at that site may be initiated after obtaining approval of the protocol from the Ethics Committee of another trial site; or an independent Ethics Committee for clinical trial constituted in accordance with the provisions of Rule 7:

Provided that the approving Ethics Committee for clinical trial shall in such case be responsible for the study at the trial site or the centre, as the case may be:

Provided further that the approving Ethics Committee and the clinical trial site or the bioavailability and bioequivalence centre, as the case may be, shall be located within the same city or within a radius of 50 kms of the clinical trial site;

- iii) In case an ethics committee of a clinical trial site rejects the approval of the protocol, the details of the same shall be submitted to the Central Licensing Authority prior to seeking approval of another Ethics Committee for the protocol for conduct of the clinical trial at the same site;
- iv) The Central Licensing Authority shall be informed about the approval granted by the Ethics Committee within a period of fifteen working days of the grant of such approval;

- v) Clinical trial shall be registered with the Clinical Trial Registry of India maintained by the Indian Council of Medical Research before enrolling the first subject for the trial;
- vi) Clinical trial shall be conducted in accordance with the approved clinical trial protocol and other related documents and as per requirements of Good Clinical Practices Guidelines and the provisions of these rules;
- vii) Status of enrolment of the trial subjects shall be submitted to the Central Licencing Authority on quarterly basis or as appropriate as per the duration of treatment in accordance with the approved clinical trial protocol, whichever is earlier;
- viii) Six monthly status report of each clinical trial, as to whether it is ongoing, completed or terminated, shall be submitted to the Central Licencing Authority;
- ix) In case of termination of any clinical trial the detailed reasons for such termination shall be communicated to the Central Licencing Authority within thirty working days of such termination;
- x) Any report of serious adverse event occurring during clinical trial to a subject of clinical trial, shall, after due analysis, be forwarded to the Central Licencing Authority, the chairperson of the Ethics Committee and the institute where the trial has been conducted within fourteen days of its occurrence as per Table 5 of the Third Schedule and in compliance with the procedures as specified in Chapter VI of the New Drugs and Clinical Trials Rules, 2019;
- xi) In case of injury during clinical trial to the subject of such trial, complete medical management and compensation shall be provided in accordance with the Chapter VI of the said Rules and details of compensation provided in such cases shall be intimated to the Central Licencing Authority within thirty working days of the receipt of order issued by Central Licencing Authority in accordance with the provisions of the said Chapter;
- xii) In case of clinical trial related death or permanent disability of any subject of such trial during the trial, compensation shall be provided in accordance with the Chapter VI and details of compensation provided in such cases shall be intimated to the Central Licencing Authority within thirty working days of receipt of the order issued by the Central Licencing Authority in accordance with the provisions of the said Chapter;
- xiii) The premises of the sponsor including his representatives and clinical trial sites, shall be open for inspection by officers of the Central Licencing Authority who may be accompanied by officers of the State Licencing Authority or outside experts as authorised by the Central Licencing Authority, to verify compliance of the requirements of these rules and Good Clinical Practices Guidelines, to inspect, search and seize any record, result, document, investigational product, related to clinical trial and furnish reply to query raised by the said officer in relation to clinical trial;
- xiv) Where the New Drug or Investigational New Drug is found to be useful in clinical development, the sponsor shall submit an application to the Central Licencing Authority for permission to import or manufacture for sale or for distribution of new drug in India, in accordance with Chapter X of these rules, unless otherwise justified;
- xv) The Laboratory owned by any person or a company or any other legal entity and utilised by that person to whom permission for clinical trial has been granted used for research and development, shall be

- deemed to be registered with the Central Licensing Authority and may be used for test or analysis of any drug for and on behalf of Central Licensing Authority;
- xvi) The Central Licencing Authority may, if considered necessary, impose any other condition in writing with justification, in respect of specific clinical trials, regarding the objective, design, subject population, subject eligibility, assessment, conduct and treatment of such specific clinical trial.
- xvii) The sponsor and the investigator shall maintain the data integrity of the data generated during clinical trial.
- xix) Undertaking by the investigator involved in the conduct of the study should be submitted to CDSCO as per table 4 of third schedule New Drug and Clinical trial Rules 2019 before initiation of the study.
- xx) Informed Consent Documents (ICD) viz. Patient Information Sheet (PIS) and Informed Consent Form (ICF) complete in all respect & must be got approved from the respective Ethics committee and submitted to CDSCO before initiation of the study.
- xxii) For grant of formal permission in Form CT-06 of the New Drug and Clinical trial Rules, 2019 for the conduct of clinical trial, application in Form CT-04 should be submitted to this office before initiation of the study.

Yours faithfully,

(Dr. V. G. Somani)  
Drugs Controller General (India)

Dr. V. G. SOMANI  
Drugs Controller General (India)  
Dte. General of Health Services  
Ministry of Health and Family Welfare  
FDA Bhawan, Kotla Road, I.T.O.  
New Delhi-110002

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

Date: 12/04/2020

**Augmented plan to fast-track the COVID-19 testing laboratory scale-up**

ICMR has taken cognizance of the need to expeditiously expand COVID-19 testing facilities in all parts of the country. Following efforts are being made:

1. Proactive search of potential laboratories which could be enabled for COVID-19 testing.
2. Inviting applications from all eligible Private and Government Medical Colleges.
3. As per directives of Hon'ble Union Minister of Home Affairs & Union Minister of Health & Family Welfare, under a core team of Director, All India Institute of Medical Sciences (AIIMS), Delhi; Director and Director General, ICMR, a total of 14 Centres of Excellence have been designated. These Centres have been delegated a responsibility of mentoring all the Govt. & Private Medical Colleges in their catchment area and eventually create state-of-art molecular virology setups.

The list of mentor Institutes and designated Medical Colleges are annexed.



**Prof. (Dr.) Balram Bhargava**  
**Secretary, DHR & DG.ICMR**  
**Government of India**  
**Ministry of Health & Family Welfare**  
**Member, Board of Governors**  
**Medical Council of India**



**Prof. (Dr.) Randeep Guleria**  
**Director, AIIMS, New Delhi**  
**Government of India**  
**Ministry of Health & Family Welfare**  
**Member, Board of Governors**  
**Medical Council of India**

**MOST IMMEDIATE**

**D.O.No.VIR/4/2020/ECD-I**  
**10<sup>th</sup> April, 2020**

**Dear All Directors (List) attached**

It has been directed by Hon'ble Union Minister of Home Affairs & Hon'ble Union Minister of Health & Family Welfare to increase capacity for COVID-19 testing in all Government and Private Medical Colleges of the country on urgent basis.

This work will involve significant due diligence, interaction with various Medical Colleges, training and handholding. Therefore, it has been decided to distribute the responsibility evenly across various Institutions of eminence all across the country. These Institutions are expected to serve as mentors of the Medical Colleges in their allotted area and facilitate the establishment of COVID-19 testing facilities in the respective States. All these Institutions will work in close coordination with the respective State Governments.

You have been designated as mentor Institution for your nearby States. Please find enclosed the following Annexures for reference :

- List of proposed Mentor Institutes along with allocated States: **Annexure-1**
- Terms of Reference of the Mentor Institutes : **Annexure-2**
- Detailed guidance on requirements for infrastructure and consumables for real-time RT-PCR Laboratory : **Annex-3**
- Suggestive list of good quality consumables: **Annexure-4**
- List of mentor Institutes along with allocated States & Medical Colleges: **Annexure-5**
- Existing COVID-19 testing laboratories in Government & Private Medical Colleges: **Annexure-6**

You are requested to start the designated activities at the earliest in close coordination with the State Govt.

With best regards,

(Prof.Randeep Guleria)

Yours sincerely,

(Prof.Balram Bhargava)

Enclosed: **As above**

- 1.Principal Secretary to Hon'ble Prime Minister of India
- 2.Home Secretary, Govt. of India
- 3.Secretary , Health & F.W., Govt. of India
4. Secretary General, Medical Council of India – for urging all medical colleges accordingly
- 5.Principal Secretary (Health) of all States
- 6.PS to Hon'ble Union Minister for Home, Govt. of India –for information of Hon'ble Home Minister
- 7.PS to Hon'ble Union Minister of Health, Govt . of India-for information of Hon'ble H&FW Minister

<b>Name of Director / Dean</b>
1. Dr. Jagat Ram Director PGIMER, Sector-12, Chandigarh - 160 012 Email: pgimer-chd@nic.in
2. Dr. Randeep Guleria Director All India Institute of Medical Sciences, Ansari Nagar, New Delhi – 110029 Email: director@aiims.edu
3. Dr Sanjeev Misra AIIMS Jodhpur Director, Basni Industrial area, MIA 2 <sup>nd</sup> Phase, Basni Jodhpur Rajasthan 342005 Email: director@aiimsjodhpur.edu.in
4. Lt Gen Nardeep Naithani, Director & Commandant Armed Forces Medical College Southern Command, Pune - Solapur Rd, near Racecourse, Wanowrie, Pune, Maharashtra 411040 Email: coladm.afma@nic.in
5. Dr Vibha Dutta AIIMS Nagpur, Plot no-2, Sector 20, MIHAN Nagar- 441108 Email: aiimsnagpur1@gmail.com
6. Prof. B N Gangadhar National Institute of Mental Health and Neurosciences (NIMHANS) Hosur Road / Marigowda Road, (Lakkasandra, Wilson Garden) Bangalore – 560029, Karnataka Email: ms@nimhans.ac.in
7. Dr Asha Kishore Jai Nagar W Rd Chalakkuzhi, Trivandrum 695011 Email: sct@sctimst.ac.in
8. Dr. Rakesh Aggarwal, Director JIPMER Campus Rd, Gorimedu, Dhanvantari Nagar, Puducherry, 605006 Email: dean@jipmer.edu.in
9. Dr. Gitanjali Batmanabane Sijua, Patrapada, Bhubaneswar, Odisha 751019 Email: director@aiimsbhubaneswar.edu.in
10. Prof. MLB Bhatt, Vice Chancellor Shah Mina Rd, Chowk, Lucknow, Uttar Pradesh 226003 Email: info@kgmcindia.edu
11. Dr. Sarman Singh Saket Nagar, AIIMS Campus, Saket Nagar, Bagh Swaniya, Bhopal, Madhya Pradesh 462020 Email: director@aiimsbhopal.edu.in

<p>12. Dr. Nitin Nagarkar, Director Great Eastern Rd, AIIMS Campus, Tatibandh, Raipur, Chhattisgarh 492099 E-mail: <a href="mailto:director@aiimsraipur.edu.in">director@aiimsraipur.edu.in</a></p>
<p>13. Devinder Mohan Thappa NEIGRIHMS Mawdiangdiang Shillong-793018 Meghalaya Email: <a href="mailto:Info.neigrihms@nic.in">Info.neigrihms@nic.in</a></p>
<p>14. Dr. K. Manohar, Nizam's Institute of Medical Sciences (NIMS), Punjgutta, Hyderabad - 500082, Telangana, INDIA. Email: <a href="mailto:director@nims.edu.in">director@nims.edu.in</a></p>

## List of mentor Institutes alongwith allocated States:

S. No.	Name of the Mentor Institute	States Allocated
1.	Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh	Jammu & Kashmir, Ladakh, Punjab, Haryana, Himachal Pradesh, Chandigarh, Uttarakhand
2.	All India Institute of Medical Sciences (AIIMS), Delhi	Delhi & Bihar
3.	All India Institute of Medical Sciences (AIIMS), Jodhpur	Rajasthan & Gujarat
4.	Armed Force Medical College (AFMC), Pune	Mumbai & Pune
5.	All India Institute of Medical Sciences (AIIMS), Nagpur	Remaining Maharashtra & Goa, Dadra & Nagar Haveli, Daman & Diu
6.	National Institute of Mental Health & Neurosciences (NIMHANS), Bengaluru	Karnataka
7.	Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST), Thiruvananthapuram	Kerala, Andaman & Nicobar Islands, Lakshwadeep
8.	Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER), Puducherry	Tamil Nadu, Andhra Pradesh, Telangana, Puducherry
9.	All India Institute of Medical Sciences (AIIMS), Bhubaneshwar	Odisha & West Bengal
10.	King George Medical University (KGMU), Lucknow	Uttar Pradesh
11.	All India Institute of Medical Sciences (AIIMS), Bhopal	Madhya Pradesh
12.	All India Institute of Medical Sciences (AIIMS), Raipur	Chattisgarh & Jharkhand
13.	North-Eastern Indira Gandhi Regional Institute of Health & Medical Sciences (NEIGRIHMS), Shillong	Assam, Meghalaya, Sikkim, Tripura, Manipur, Mizoram, Arunachal Pradesh, Nagaland
14.	Nizam's Institute of Medical Sciences (NIMS), Punjgutta, Hyderabad - 500082, Telangana, INDIA.	Telangana

**Terms of Reference of Mentor Institutes:**

1. To constitute a core team of Director, Microbiologists, other faculty, administrators and other relevant staff (as deemed appropriate) to conduct site assessments and mentor the allocated Government & Private Medical Colleges for setting up COVID-19 diagnostic facility.
2. To conduct a comprehensive review of the allocated Government and Private Medical Colleges to assess the feasibility of setting up a real-time RT-PCR testing facility for COVID-19 as per the requirements laid down by ICMR.
3. To prepare a comprehensive list of available and deficit infrastructure, space, staff, expertise, equipments and consumables at each of the designated Medical Colleges and submit it to the respective State Governments for fulfilment of necessary gaps.
4. To maintain a daily follow-up of all the allocated Institutions to monitor progress of work in-terms of setting up a COVID-19 diagnostic facility.
5. To conduct onsite / offsite trainings of all designated staff of the proposed COVID-19 testing facility on the following aspects:
  - Appropriate laboratory biosafety and biosecurity procedures.
  - Respiratory sample collection and processing
  - RNA extraction and setting up of real-time RT-PCR experiment
  - Appropriate disinfection and decontamination of laboratory spaces
6. To give approval to the respective State Government Medical College Laboratories to start testing.
7. To ensure expansion of COVID-19 testing facilities as per geographic distribution.
8. To ensure data entry by the designated testing laboratories into the central portal of MoH&FW/ICMR.
9. To assign dedicated space and staff to maintain a stockpile of testing reagents [Viral Transport Media (VTM), swabs, RNA extraction kits, real-time PCR kits etc) in the specified temperature through sources indicated by the State Govt.
10. To provide the reagents / kits to allocated functional laboratories, maintain a logbook of supplies and replenish supplies of reagents / kits from sources earmarked by the State Government.
11. To develop plan for QA/QC of the allocated laboratories and implement it.
12. To conduct regular safety audits of the allocated laboratories.

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

**Pre-requisites for establishing COVID-19 testing facility in Government and Private  
Medical Colleges:**

It is proposed to establish real-time RT-PCR testing facility in all the existing Government & Private Medical Colleges of India with help of the network of Medical Institutes of Eminence.

**I. Following infrastructure and expertise is essentially required:**

- i. Availability of a BSL-2 level laboratory facility including a molecular biology setup for virological diagnosis and a functioning and calibrated Biosafety cabinet type 2A/2B in the laboratory.
  - ii. Availability of cold centrifuge/microfuge for RNA extraction
  - iii. Availability of a functioning and calibrated real-time PCR machine.
  - iv. Staff and expertise requirements:
    - A. *Availability of following minimum staff is required (for 8 hours shift / day):*
      - Medical Microbiologists – 1 or more with experience of work in Molecular Virology.
      - Technicians - Atleast 4-6 (2-3/shift) with relevant experience of work in Molecular Virology.
      - Multi-Task Staff – 1 or more for washing / cleaning
- \*The staff requirements will change based on numbers of shifts.*
- B. *Desired expertise of the staff:*
    - Good understanding of laboratory biosafety and biosecurity, trained for handling respiratory samples for viral diagnosis, RNA extraction and real-time PCR.
    - Experience of work in virology and handling clinical specimens, especially respiratory samples.
  - v. A robust Institutional policy on biomedical waste management of human origin.
  - vi. Well defined arrangement for segregation and discarding of biomedical waste.

*Additionally, for all applicants from Private Medical Colleges, it is essential to submit a copy of the NABL accreditation certificate and scope of accreditation for real-time PCR for RNA viruses.*

Separate information should be provided on each of the above component (i to vi).

**II. Desired Laboratory workspaces for setting up a real-time RT-PCR laboratory for infectious pathogens:**

- Separate sample receiving area
- Handwashing & PPE donning/doffing zone
- Designated area for Biosafety cabinet and sample handling
- Designated pre-PCR (RNA extraction & template addition), PCR (for running the assay) and post PCR (for result interpretation & analysis) rooms.
- Separate autoclave facility.
- Space for handling biomedical waste

## EQUIPMENT AND CONSUMABLE REQUIREMENTS FOR SETTING UP A REAL TIME PCR TESTING FACILITY

### On-site requirements of equipment (installed, calibrated and functional)

- Biosafety cabinet (BSC) class 2A (calibrated)
- -20 °C deep freezer with UPS, for storage of reagents (primers/ probes/ positive controls)
- -80°C deep freezer with UPS, for storage of aliquoted samples/ viral RNA in cryovials
- 4°C refrigerator (for storage of viral transport medium, and for short term storage of samples and extracted RNA)
- UPS (2 nos., 2KVA each, with 2 hours back-up, for real time PCR instrument and nucleic acid extraction systems – if not available, then to be carried); and confirm about power backup for the two deep freezers (check about duration of power outages, if any)
- Real-time PCR machine calibrated for the fluorophore dyes which are present on the probes.
- Microcentrifuge / Refrigerated Centrifuge

### Required consumables

- I. **For sample collection:**
  - a. Personal protective equipment (PPE)
  - b. Viral Transport Medium (VTM)
  - c. Flocked Dacron swabs (2 swabs/ sample collection from 1 patient)
- II. **During processing**
  - a. Personal protective equipment: N95 masks, coveralls (protective against blood and body fluids), nitrile gloves, shoe cover, head cover
  - b. Vortex mixer
  - c. Microcentrifuge (Cold centrifuge)
  - d. Cryovials (2 ml)
  - e. Cryobox
  - f. Pipette aid
  - g. Disposable plastic pipettes
  - h. Sprit lamp
  - i. Forceps (if no spirit lamp, then disposable forceps for each sample)
  - j. 70 % ethanol (also required for next stage, i.e., extraction)
  - k. 1% sodium hypochlorite (4% stock, to be freshly reconstituted daily to 1% with water)
  - l. Discarding jars
  - m. Biomedical waste disposal (BMW) bags (with ties for sealing; preferably autoclavable, if discarding autoclave is available/ used locally) and bins
  - n. Iceboxes with gel packs or regular ice supply in laboratory (from icemaker)
  - o. Tube rack (15 ml tubes)
  - p. For tube / cryovial labelling - Marker pens, cellotape, or label printouts (printer with label maker)

### III. Nucleic acid extraction

- a. Manual extraction using kits for Viral RNA extraction: Viral RNA mini kits (Qiagen) or other viral RNA extraction kits for manual extraction
- b. 1.7 ml Eppendorf tubes (separate ones also required for next step)
- c. Cryovial/ Eppendorf tube rack (separate ones also required for next step)
- d. Microcentrifuge (small equipment)
- e. Micropipettes- 100-1000ul, 20-200ul (additional separate micropipettes of required volumes also listed for next stage, i.e. real time PCR)
- f. Filter barrier tips: 1000ul, 200ul
- g. Tissue rolls
- h. Hand sanitizers
- i. Biohazard labels

### IV. Real time PCR

- a. Reagents for setting up Real-time
  - o PCR primers and probes specific for SARS-CoV2 targets
  - o PCR master mix reagents (e.g., Thermo Fisher/ Invitrogen AgPath/ Superscript III Platinum real time PCR reagents) with buffer and enzyme
- b. PCR reagents
  - o Primers for E gene screening and
  - o Probes for E gene screening and RDRP/ ORF 1b targets
  - o PCR Buffer and enzyme mix
  - o Positive control
- c. PCR workstations – 1 for mastermix preparation; 1 for RNA addition
- d. Cryovial racks
- e. PCR tubes/ PCR plates
- f. PCR plate adhesive seals and plate sealer
- g. Micropipettes- 0.5-10ul (2 nos., 1 for PCR master mix and 1 for RNA addition), 20ul, 20-200ul
- h. Filter barrier tips – 10ul, 20ul, 200ul
- i. Microspin (small equipment)
- j. Plate centrifuge (small equipment)
- k. Electronic micropipette (optional small equipment, but convenient and reduces time duration of testing)
- l. Nuclease free water - for PCR
- m. RNaseP



Annexure 4:

List of various brands of Real time PCR machine, RNA extraction kit, Automated RNA extractor and Viral transport medium, which may be suggested for a facility planning on starting real-time PCR for SARS-CoV2 testing.

Real Time PCR Machine	RNA Extraction Kit	Automated RNA Extractor	Viral Transport Medium
Thermofisher Scientific: 7500, 7500Dx, Quant Studio 5	QIA amp VIRAL RNA MINIKIT by Qiagen	Thermofisher: Kingfisher automated RNA extractor	Hi-Media: Hi-Viral Transport Kit
Biorad= CFX96 Touch Real-Time PCR Detection System	PureLink RNA Mini kit (Invitrogen)	QIAGEN QIACube	BD universal viral transport (UVT) system
Abbott: M2000	GenElute Total RNA Purification Kit	Eppendorf epMotion	Viral Transport kit (TM Media)
Eppendorf: Master Cycler epRealPlex	ReliaPrep RNA Miniprep System	Roche: MagnaPune	Medireach Viral Transport kit
Roche: Light Cycler 480	RNASure Virus Kit	--	Note: VTM for sample collection (2 swabs, throat and Nasal swab should be put in 1 VTM tube)
Qiagen: Rotor gene	--	--	--

**NOTE:** This is not a comprehensive list and is based on personal experience of various laboratories who have used these.

## List of Mentor Institutes alongwith allocated States and Medical Colleges

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
1.	PGIMER, Chandigarh	<p><b>Ladakh:</b> No Medical College</p> <p><b>Jammu &amp; Kashmir:</b></p> <ol style="list-style-type: none"> <li>1. Government Medical College, Anantnag (G)</li> <li>2. Government Medical College, Baramulla (G)</li> <li>3. Acharya Shri Chander College of Medical Sciences, Jammu (P)</li> <li>4. Government Medical College, Kathua (G)</li> <li>5. Government Medical College &amp; Associated Hospital, Rajouri (G)</li> </ol> <p><b>Himachal Pradesh:</b></p> <ol style="list-style-type: none"> <li>1. Pt. Jawahar Lal Nehru Government Medical College, Chamba (G)</li> <li>2. Dr. Radhakrishnan Government Medical College, Hamirpur (G)</li> <li>3. Shri Lal Bahadur Shastri Government Medical College, Mandi (G)</li> <li>4. Government Medical College, Nahan, Sirmour (G)</li> <li>5. Maharishi Markandeshwar Medical College &amp; Hospital, Solan (P)</li> </ol> <p><b>Punjab:</b></p> <ol style="list-style-type: none"> <li>1. Sri Guru Ram Das Institute of Medical Sciences and Research, Sri Amritsar (P)</li> <li>2. Adesh Institute of Medical Sciences &amp; Research, Bhatinda (P)</li> <li>3. Punjab Institute of Medical Sciences, Jalandhar (P)</li> <li>4. Christian Medical College, Ludhiana (P)</li> <li>5. Dayanand Medical College &amp; Hospital, Ludhiana (P)</li> </ol> <p><b>Haryana:</b></p> <ol style="list-style-type: none"> <li>1. Maharaja Agrasen Medical College, Agroha (P)</li> <li>2. Markandeshwar Institute of Medical Sciences &amp; Research, Mullana, Ambala (P)</li> <li>3. Al Falah School of Medical Sciences &amp; Research Centre, Faridabad (P)</li> <li>4. Employees State Insurance Corporation Medical College, Faridabad (G)</li> <li>5. Faculty of Medicine and Health Sciences, Gurgaon (P)</li> <li>6. World College of Medical Sciences &amp; Research, Jhajjar (P)</li> <li>7. Kalpana Chawala Govt. Medical College, Karnal (P)</li> <li>8. N.C. Medical College &amp; Hospital, Panipat (P)</li> <li>9. Shaheed Hasan Khan Mewati Government Medical College, Nalhar (P)</li> <li>10. Adesh Medical College and Hospital, Shahabad, Kurukshetra (P)</li> </ol> <p><b>Chandigarh:</b> NIL</p> <p><b>Uttarakhand:</b></p> <ol style="list-style-type: none"> <li>1. Doon Medical College, Dehradun (G)</li> <li>2. Shri Guru Ram Rai Institute of Medical &amp; Health Sciences, Dehradun (P)</li> <li>3. Himalayan Institute of Medical Sciences, Dehradun (P)</li> <li>4. Veer Chandra Singh Garhwali Govt. Medical Sc. &amp; Research Instt, Srinagar, Pauri Garhwal (P)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
2.	AIIMS, Delhi	<p><b>Delhi:</b></p> <ol style="list-style-type: none"> <li>1. University College of Medical Sciences &amp; GTB Hospital, New Delhi</li> <li>2. Hamdard Institute of Medical Sciences &amp; Research, New Delhi North Delhi Municipal Corporation Medical College,</li> <li>3. Dr. Baba Saheb Ambedkar Medical College, Rohini, Delhi</li> </ol> <p><b>Bihar:</b></p> <ol style="list-style-type: none"> <li>1. Jawaharlal Nehru Medical College, Bhagalpur (G)</li> <li>2. Anugrah Narayan Magadh Medical College, Gaya (G)</li> <li>3. Katihar Medical College, Katihar Mata Gujri Memorial Medical College, Kishanganj (P)</li> <li>4. Madhubani Medical College, Madhubani (P)</li> <li>5. Vardhman Institute of Medical Sciences, Pawaripuri, Nalanda (G)</li> <li>6. Nalanda Medical College, Patna (G)</li> <li>7. All India Institute of Medical Sciences, Patna (G)</li> <li>8. Narayan Medical College &amp; Hospital, Sasaram (P)</li> <li>9. Lord Buddha Koshi Medical College and Hospital, Saharsa (P)</li> <li>10. Government Medical College, Bettiah (G)</li> </ol>
3.	AIIMS, Jodhpur	<p><b>Gujarat:</b></p> <ol style="list-style-type: none"> <li>1. Ahmedabad Municipal Coporation Medical Education Trust Medical College, Ahmedabad (G)</li> <li>2. Dr. M.K. Shah Medical College &amp; Research Centre, Ahmedabad (P)</li> <li>3. GCS Medical College, Ahmedabad (P)</li> <li>4. Smt. N. H. L Municipal Medical College, Ahmedabad (G)</li> <li>5. Shantabaa Medical College, Amreli (P)</li> <li>6. Pramukhswami Medical College, Karmsad (P)</li> <li>7. Banas Medical College and Research Institute, Palanpur (P)</li> <li>8. Gujarat Adani Institute of Medical Sciences, Bhuj (P)</li> <li>9. Zydus Medical College and Hospital Dahod (P)</li> <li>10. GMERS Medical College, Dharpur Patan (G)</li> <li>11. GMERS Medical College, Gandhinagar (G)</li> <li>12. GMERS Medical College, Gotri, Vadodara (G)</li> <li>13. GMERS Medical College, Junagadh (G)</li> <li>14. GMERS Medical College, Hadiyol, Himmatnagar Patan (G)</li> <li>15. GMERS Medical College, Sola, Ahmedabad (G)</li> <li>16. GMERS Medical College, Vadnagar, Mehsana (G)</li> <li>17. GMERS Medical College, Valsad (G)</li> <li>18. Nootan Medical College and Research Centre, Mehsana (P)</li> <li>19. Dr. N.D. Desai Faculty of Medical Science and Research, Nadiad (P)</li> <li>20. Surat Municipal Inst. of Medical Education &amp; Research Center, Surat (G)</li> <li>21. CU Shah Medical College, Surendra Nagar (P)</li> <li>22. Parul Institute of Medical Sciences &amp; Research, Vadodara (P)</li> <li>23. SBKS Medical Inst. and Research Center, Vadodara (P)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
		<p><b>Rajasthan:</b></p> <ol style="list-style-type: none"> <li>1. Government Medical College, Barmer (G)</li> <li>2. American International Institute of Medical Sciences, Bedwas (P)</li> <li>3. Government Medical College, Bharatpur, Rajasthan (G)</li> <li>4. Government Medical College, Bhilwara, Rajasthan (G)</li> <li>5. Government Medical College, Churu (G)</li> <li>6. Government Medical College, Dungarpur (G)</li> <li>7. Jaipur National University Institute of Medical Sciences and Research Centre, Jagatpura, Jaipur (P)</li> <li>8. Mahatma Gandhi Medical College and Hospital, Jaipur (P)</li> <li>9. National Institute of Medical Science &amp; Research, Jaipur (P)</li> <li>10. RUHS College of Medical Sciences, Jaipur (G)</li> <li>11. Government Medical College, Pali (G)</li> <li>12. Ananta Institute of Medical Sciences &amp; Research Centre, Rajsamand (P)</li> <li>13. Geetanjali Medical College &amp; Hospital, Udaipur (P)</li> <li>14. Pacific Institute of Medical Sciences, Umarda, Udaipur (P)</li> <li>15. Pacific Medical College &amp; Hospital, Bhilo Ka Bedla, Udaipur (P)</li> </ol>
4.	AFMC, Pune	<p><b>Maharashtra including Mumbai &amp; Pune:</b></p> <ol style="list-style-type: none"> <li>1. H.B.T. Medical College &amp; Dr. R.N. Cooper Municipal General Hospital, Juhu, Mumbai (G)</li> <li>2. KJ Somaiyya Medical College &amp; Research Centre, Mumbai (P)</li> <li>3. Lokmanya Tilak Municipal Medical College, Sion, Mumbai (G)</li> <li>4. Seth GS Medical College, Mumbai (G)</li> <li>5. Mahatma Gandhi Missions Medical College, Navi Mumbai (P)</li> <li>6. Padmashree Dr. D.Y. Patil Medical College, Navi Mumbai (P)</li> <li>7. Rajiv Gandhi Medical College and Chhatrapati Shivaji Maharaj Hospital, Thane (G)</li> <li>8. Topiwala Medical College, Mumbai (G)</li> <li>9. Terna Medical College, Navi Mumbai (P)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
5.	AIIMS, Nagpur	<p><b>Rest of the Maharashtra:</b></p> <ol style="list-style-type: none"> <li>1. Dr. Vithalrao Vikhe Patil Foundations Medical College &amp; Hospital, Ahmednagar (P)</li> <li>2. Dr. Panjabrao Alias Bhausahab Deshmukh Memorial Medical College, Amravati (P)</li> <li>3. Mahatma Gandhi Missions Medical College, Aurangabad (P)</li> <li>4. Government Medical College &amp; Hospital, Baramati (G)</li> <li>5. Government Medical College, Chandrapur (G)</li> <li>6. ACPM Medical College, Dhule (P)</li> <li>7. Dr. Ulhas Patil Medical College &amp; Hospital, Jalgaon (P)</li> <li>8. Government Medical College, Jalgaon (G)</li> <li>9. Indian Institute of Medical Science &amp; Research, Jalna (P)</li> <li>10. Krishna Institute of Medical Sciences, Karad (P)</li> <li>11. Dr. D Y Patil Medical College, Kolhapur (P)</li> <li>12. Rajashree Chatrapati Shahu Maharaj Government Medical College, Kolhapur (G)</li> <li>13. Government Medical College, Latur (G)</li> <li>14. Maharashtra Institute of Medical Sciences &amp; Research, Latur (P)</li> <li>15. Rural Medical College, Loni (P)</li> <li>16. N.K.P. Salve Instt. of Medical Sciences and Research Centre and Lata Mangeshkar Hospital, Nagpur (P)</li> <li>17. Dr. Shankarrao Chavan Govt. Medical College, Nanded (G)</li> <li>18. Dr. Vasant Rao Pawar Med. Col. Hosp. &amp; Research Centre, Nasik (P)</li> <li>19. Bharati Vidyapeeth University Medical College, Pune (P)</li> <li>20. Dr. D Y Patil Medical College, Hospital and Research Centre, Pimpri, Pune (P)</li> <li>21. B.K.L. Walawalkar Rural Medical College, Ratnagiri (P)</li> <li>22. Bharati Vidyapeeth Deemed University Medical College &amp; Hospital, Sangli (P)</li> <li>23. Prakash Institute of Medical Sciences &amp; Research, Sangli (P)</li> <li>24. Ashwini Rural Medical College, Hospital &amp; Research Centre, Solapur (P)</li> <li>25. Dr Vaishampayan Memorial Medical College, Solapur (G)</li> <li>26. Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha (P)</li> <li>27. Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha (P)</li> <li>28. Shri Vasant Rao Naik Govt. Medical College, Yavatmal (G)</li> <li>29. Smt. Kashibai Navale Medical College and Hospital, Pune (P)</li> <li>30. SMBT institute of Medical Insitutes Sciences and Research Center, Nashik (P)</li> <li>31. SRTR Medical College, Ambajogai (G)</li> <li>32. Vedanata Institute of Medical Sciences , Palghar (P)</li> </ol>
		<p><b>Goa:</b> Only one Medical College is functional</p>
		<p><b>Dadra &amp; Nagar Haveli:</b> Only one Medical College is functional</p>
		<p><b>Daman &amp; Diu:</b> No Medical College</p>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
6.	NIMHANS, Bengaluru	<p><b>Karnataka</b></p> <ol style="list-style-type: none"> <li>1. S. Nijalingappa Medical College &amp; HSK Hospital &amp; Research Centre, Bagalkot (P)</li> <li>2. BGS Global Institute of Medical Sciences, Bangalore (P)</li> <li>3. Bowring &amp; Lady Curzon Medical College &amp; Research Institute, Bangalore (G)</li> <li>4. Dr BR Ambedkar Medical College, Bangalore (P)</li> <li>5. East Point College of Medical Sciences &amp; Research Centre, Bangalore (P)</li> <li>6. Employees State Insurance Corporation Medical College, Bangalore (G)</li> <li>7. Kempegowda Institute of Medical Sciences, Bangalore (P)</li> <li>8. M S Ramaiah Medical College, Bangalore (P)</li> <li>9. MVJ Medical College and Research Hospital, Bangalore (P)</li> <li>10. Rajarajeswari Medical College &amp; Hospital, Bangalore (P)</li> <li>11. Sapthagiri Institute of Medical Sciences &amp; Research Centre, Bangalore (P)</li> <li>12. Sri Siddhartha Institute of Medical Sciences &amp; Research Centre, Bangalore (P)</li> <li>13. St. Johns Medical College, Bangalore (P)</li> <li>14. Belagavi Institute of Medical Sciences, Belagavi (G)</li> <li>15. Jawaharlal Nehru Medical College, Belgaum (P)</li> <li>16. Adichunchanagiri Institute of Medical Sciences Bellur (P)</li> <li>17. The Oxford Medical College, Hospital &amp; Research Centre, Bangalore (P)</li> <li>18. Bidar Institute of Medical Sciences, Bidar (G)</li> <li>19. Al-Ameen Medical College, Bijapur (P)</li> <li>20. Chamrajnagar Institute of Medical Sciences, Chamrajnagar (G)</li> <li>21. Basaveswara Medical College and Hospital, Chitradurga (P)</li> <li>22. JJM Medical College, Davangere (P)</li> <li>23. S S Institute of Medical Sciences &amp; Research Centre, Davangere (P)</li> <li>24. Akash Institute of Medical Sciences &amp; Research Centre, Devanhalli, Bangalore (P)</li> <li>25. SDM College of Medical Sciences &amp; Hospital, Sattur, Dharwad (P)</li> <li>26. Gadag Institute of Medical Sciences, Mallasamudra, Mulgund Road, Gadag (G)</li> <li>27. Khaja Bandanawaz University - Faculty of Medical Sciences, Gulbarga (P)</li> <li>28. Mahadevappa Rampure Medical College, Gulbarga (P)</li> <li>29. Employees State Insurance Corporation Medical College, Gulbarga (G)</li> <li>30. Karwar Institute of Medical Sciences, Karwar (G)</li> <li>31. Kodagu Institute of Medical Sciences, Kodagu (G)</li> <li>32. Sambharam Institute of Medical Sciences &amp; Research, Kolar (P)</li> <li>33. Sri Devaraj URS Medical College, Kolar (P)</li> <li>34. Koppal Institute of Medical Sciences, Koppal (G)</li> <li>35. Mandya Institute of Medical Sciences, Mandya (G)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
		36. A J Institute of Medical Sciences & Research Centre, Mangalore (P) 37. Father Mullers Medical College, Mangalore (P) 38. K S Hegde Medical Academy, Mangalore (P) 39. Yenepoya Medical College, Mangalore (P) 40. Kasturba Medical College, Mangalore (P) 41. Kanachur Institute of Medical Sciences, Mangalore (P) 42. Kasturba Medical College, Manipal (P) 43. JSS Medical College, Mysore (P) Navodaya Medical College, Raichur (P) 44. Navodaya Medical College, Raichur (P) 45. Raichur Institute of Medical Sciences, Raichur (G) 46. Subbaiah Institute of Medical Sciences, Shimoga, Karnataka (P) 47. Srinivas Institute of Medical Research Centre, Srinivasnagar (P) 48. K V G Medical College, Sullia (P) 49. Shridevi Institute of Medical Sciences & Research Hospital, Tumkur (P) 50. Shri B M Patil Medical College, Hospital & Research Centre, Vijayapura(Bijapur) (P)

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
7.	SCTIMST, Thiruvananthapuram	<p><b>Kerala:</b></p> <ol style="list-style-type: none"> <li>1. T D Medical College, Alleppey (Alappuzha) (G)</li> <li>2. Amrita School of Medicine, Elamkara (P)</li> <li>3. Government Medical College, Ernakulam (G)</li> <li>4. Sree Narayana Instt. of Medical Sciences, Chalakka, Ernakulam (P)</li> <li>5. Kannur Medical College, Kannur (P)</li> <li>6. Malankara Orthodox Syrian Church Medical College, Kolenchery (P)</li> <li>7. Azeezia Instt of Medical Science, Meeyannoor, Kollam Kerala (P)</li> <li>8. Government Medical College, Parippally, Kollam (G)</li> <li>9. Travancore Medical College, Kollam (P)</li> <li>10. Government Medical College, Kottayam (G)</li> <li>11. KMCT Medical College, Kozhikode, Calicut (P)</li> <li>12. Malabar Medical College, Kozhikode (P)</li> <li>13. Government Medical College, Manjeri, Malapuram Dist (G)</li> <li>14. M E S Medical College, Perintalmanna Malappuram (P)</li> <li>15. Government Medical College (Institute of Integrated Medical Sciences), Yakkara, Palakkad (G)</li> <li>16. Karuna Medical College, Palakkad (P)</li> <li>17. P K Das Institute of Medical Sciences, Palakkad (P)</li> <li>18. Academy of Medical Sciences, Pariyaram, Kannur (P)</li> <li>19. Mount Zion Medical College, Chayalode, Ezhamkulam Adoor, Pathanamthitta (P)</li> <li>20. Believers Church Medical College Hospital, Thiruvalla (P)</li> <li>21. Dr. Somervel Memorial CSI Hospital &amp; Medical College, Karakonam, Thiruvananthapuram (P)</li> <li>22. Medical College, Thiruvananthapuram (G)</li> <li>23. S.R. Medical College &amp; Research Centre, Akathumjuri, Vennicode, Varkala, Thiruvananthapuram (P)</li> <li>24. Al-Azhar Medical College and Super Speciality Hospital, Thodupuzha (P)</li> <li>25. Amala Institute of Medical Sciences, Thrissur (P)</li> <li>26. Jubilee Mission Medical College &amp; Research Institute, Thrissur (P)</li> <li>27. Pushpagiri Institute of Medical Sciences and Research Centre, Tiruvalla (P)</li> <li>28. Sree Gokulam Medical College Trust &amp; Research Foundation, Trivandrum (P)</li> <li>29. Sree Uthradom Thiurnal Academy of Medical Sciences, Trivandrum (P)</li> <li>30. DM Wayanad Institute of Medical Sciences, Wayanad (P)</li> </ol>



S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
		<b>Andaman &amp; Nicobar Islands:</b> 1. Andaman And Nicobar Institute of Medical Sciences, Port Blair (G)
		<b>Lakshwadeep:</b> No Medical College
8.	JIPMER, Puducherry	<b>Puducherry</b> 1. Aarupadai Veedu Medical College, Pondicherry (P) 2. Mahatma Gandhi Medical College & Research Institute, Pondicherry (P) 3. Pondicherry Institute of Medical Sciences & Research, Pondicherry (P) 4. Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry (P) 5. Sri Manakula Vinayagar Medical College & Hospital, Pondicherry (P) 6. Sri Venkateswaraa Medical College, Hospital & Research Centre, Pondicherry (P) 7. Vinayaka Missions Medical College, Karaikal, Pondicherry (P) 8. Indira Gandhi Medical College & Research Institute, Puducherry (G)
		<b>Andhra Pradesh:</b> 1. ACSR Government Medical College, Nellore (G) 2. All India Institute of Medical Sciences, Mangalagiri, Vijayawada (G) 3. Alluri Sitaram Raju Academy of Medical Sciences, Eluru (P) 4. Andhra Medical College, Visakhapatnam (G) 5. Apollo Institute of Medical Sciences and Research, Chittoor (P) 6. Dr. P.S.I. Medical College, Chinoutpalli (P) 7. Fathimalnstt. of Medical Sciences, Kadapa (P) 8. Gayathri Vidya Parishad Institute of Health Care & Medical Technology, Visakhapatnam (P) 9. GITAM Institute of Medical Sciences and Research, Visakhapatnam (P) 10. Great Eastern Medical School and Hospital, Srikakulam (P) 11. GSL Medical College, Rajahmundry (P) 12. Katuri Medical College, Guntur (P) 13. Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram (P) 14. Maharajah Institute of Medical Sciences, Vizianagaram (P) 15. Narayana Medical College, Nellore (P) 16. Nimra Institute of Medical Sciences, Krishna Dist., A.P. (P) 17. NRI Institute of Medical Sciences, Visakhapatnam (P) 18. Rajiv Gandhi Institute of Medical Sciences, Ongole, AP (G) 19. Rajiv Gandhi Institute of Medical Sciences, Srikakulam (G) 20. P E S Institute Of Medical Sciences and Research, Kuppam (P) 21. Santhiram Medical College, Nandyal (P) 22. Viswabharathi Medical College, Kurnool (P)

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
		<p><b>Tamil Nadu:</b></p> <ol style="list-style-type: none"> <li>1. Rajah Muthiah Medical College, Annamalainagar (G)</li> <li>2. Kanya Kumari Government Medical College, Asaripallam (G)</li> <li>3. Chengalpattu Medical College, Chengalpattu (G)</li> <li>4. ACS Medical College and Hospital, Chennai (P)</li> <li>5. ESI-PGIMSR, ESI Hospital, K.K Nagar, Chennai (G)</li> <li>6. Kilpauk Medical College, Chennai (G)</li> <li>7. Madha Medical College and Hospital, Thandalam, Chennai (P)</li> <li>8. SreeBalaji Medical College and Hospital, Chennai (P)</li> <li>9. Sri Muthukumaran Medical College, Chennai (P)</li> <li>10. Stanley Medical College, Chennai (G)</li> <li>11. Tagore Medical College and Hospital, Chennai (P)</li> <li>12. Government Medical College &amp; ESIC Hospital, Coimbatore (G)</li> <li>13. Karpagam Faculty of Medical Sciences &amp; Research, Coimbatore (P)</li> <li>14. KMCH Institute of Health Sciences and Research, Coimbatore (P)</li> <li>15. PSG Institute of Medical Sciences, Coimbatore (P)</li> <li>16. Government Dharmapuri Medical College, Dharmapur (G)</li> <li>17. Shri SatyaSai Medical College and Research Institute, Kancheepuram (P)</li> <li>18. Meenakshi Medical College and Research Institute, Enathur (P)</li> <li>19. SRM Medical College Hospital &amp; Research Centre, Kancheepuram (P)</li> <li>20. Chettinad Hospital &amp; Research Institute, Kanchipuram (P)</li> <li>21. Melmaruvathur Adiparasakthi Instt. Medical Sciences and Research, Kanchipuram (P)</li> <li>22. SreeMookambika Institute of Medical Sciences, Kanyakumari (P)</li> <li>23. Government Medical College, Karur (G)</li> <li>24. Velammal Medical College Hospital and Research Institute, Madurai (P)</li> <li>25. KarpagaVinayaga Institute of Medical Sciences, Maduranthagam (P)</li> <li>26. Government Medical College, Omandurar (G)</li> <li>27. Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur (P)</li> <li>28. Government Medical College, Pudukottai (G)</li> <li>29. Annapoorna Medical College &amp; Hospital, Salem (P)</li> <li>30. Vinayaka Missions KirupanandaVariyar Medical College, Salem (P)</li> <li>31. Government Sivagangai Medical College, Sivaganga (G)</li> <li>32. Government Thiruvannamalai Medical College, Thiruvannamalai (G)</li> <li>33. Trichy SRM Medical College Hospital &amp; Research Centre, Trichy (P)</li> <li>34. Thoothukudi Medical College, Thoothukudi (G)</li> <li>35. Government Vellore Medical College, Vellore (G)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
	Nizam's Institute of Medical Sciences (NIMS), Telangana	<p><b>Telangana:</b></p> <ol style="list-style-type: none"> <li>1. Rajiv Gandhi Institute of Medical Sciences, Adilabad (G)</li> <li>2. Employees State Insurance Coporation Medical College, Sanath Nagar, Hyderabad (G)</li> <li>3. Deccan College of Medical Sciences, Hyderabad (P)</li> <li>4. Shadan Institute of Medical Sciences, Research Centre and Teaching Hospital, Peerancheru (P)</li> <li>5. Mallareddy Medical College for Womens, Hyderabad (P)</li> <li>6. Mediciti Institute Of Medical Sciences, Ghanpur (P)</li> <li>7. Prathima Institute of Medical Sciences, Karimnagar (P)</li> <li>8. Chalmeda Anand Rao Institute Of Medical Sciences, Karimnagar (P)</li> <li>9. Mamata Medical College, Khammam (P)</li> <li>10. Government Medical College, Mahabubnagar (G)</li> <li>11. S V S Medical College, Mehboobnagar (P)</li> <li>12. R.V.M. Institute of Medical Sciences and Research Centre, Medak (P)</li> <li>13. Maheshwara Medical College, Chitkul, Patancheru, Medak (P) Mamata Academy of Medical Sciences, Bachupally (P)</li> <li>14. Government Medical College, Nalgonda (G)</li> <li>15. Bhaskar Medical College, Yenkapally (P)</li> <li>16. Dr. Patnam Mahender Reddy Institute of Medical Sciences, Chevella, Rangareddy (P)</li> <li>17. Ayaan Institute of Medical Sciences, Teaching Hospital &amp; Research Centre, Kanaka Mamidi, R.R. District (P)</li> <li>18. Dr. VRK Womens Medical College, Aziznagar (P)</li> <li>19. MNR Medical College &amp; Hospital, Sangareddy (P)</li> <li>20. Government Medical College, Siddipet (G)</li> <li>21. Surabhi Institute of Medical Sciences, Siddipet, Telangana (P)</li> <li>22. Government Medical College, Suryapet (G)</li> <li>23. Mahavir Institute of Medical Sciences, Vikarabad (P)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
9.	AIIMS, Bhubaneswar	<p><b>Odisha:</b></p> <ol style="list-style-type: none"> <li>1. Government Medical College &amp; Hospital (Renamed as Bhima Bhoi Medical College &amp; Hospital), Balangir (G)</li> <li>2. Government Medical College &amp; Hospital (Renamed as Fakir Mohan Medical College &amp; Hospital), Balasore (G)</li> <li>3. Pt. Raghunath Murmu Medical College and Hospital, Baripada (G)</li> <li>4. MKCG Medical College, Berhampur (G)</li> <li>5. Hi-Tech Medical College &amp; Hospital, Bhubaneswar (P)</li> <li>6. Instt. Of Medical Sciences &amp; SUM Hospital, Bhubaneswar (P)</li> <li>7. Kalinga Institute of Medical Sciences, Bhubaneswar (P)</li> <li>8. Veer Surendra Sai Institute of Medical Sciences and Research, Burla (G)</li> </ol>
		<p><b>West Bengal:</b></p> <ol style="list-style-type: none"> <li>1. Bankura Sammilani Medical College, Bankura (G)</li> <li>2. Rampurhat Government Medical College &amp; Hospital, Rampurhat (G)</li> <li>3. Burdwan Medical College, Burdwan (G)</li> <li>4. Coochbehar Government Medical College &amp; Hospital, Coochbehar (G)</li> <li>5. Raiganj Government Medical College &amp; Hospital, Raiganj (G)</li> <li>6. Calcutta National Medical College, Kolkata (G)</li> <li>7. College of Medicine and Sagore Dutta Hospital, Kolkata (G)</li> <li>8. Medical College, Kolkata (G)</li> <li>9. Nirlatan Sircar Medical College, Kolkata (G)</li> <li>10. RG Kar Medical College, Kolkata (G)</li> <li>11. Jagannath Gupta Institute of Medical Sciences &amp; Hospital, Kolkata (P)</li> <li>12. KPC Medical College, Jadavpur, Kolkata (P)</li> <li>13. Murshidabad Medical College &amp; Hospital, Murshidabad (G)</li> <li>14. College of Medicine and JNM Hospital, Kalyani(G)</li> <li>15. Diamond Harbour Government Medical college &amp; Hospital (G)</li> <li>16. Gouri Devi Institute of Medical Sciences and Hospital, Dugapur (P)</li> <li>17. Shri Ramkrishna Institute of Medical Sciences &amp; Sanaka Hospitals, Durgapur (P)</li> <li>18. IQ-City Medical College, Burdwan (P)</li> <li>19. ICARE Institute of Medical Sciences &amp; Research, Haldia, Purba Midanpore (P)</li> <li>20. Employees State Insurance Corporation Medical College, Joka (G)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
10.	KGMU, Lucknow	<p><b>Uttar Pradesh:</b></p> <ol style="list-style-type: none"> <li>1. F.H. Medical College &amp; Hospital, Etamdapur, Agra (P)</li> <li>2. Mahamaya Rajkiya Allopathic Medical College, Ambedkarnagar</li> <li>3. Venkateshwara Institute of Medical Sciences, Gajraula (P)</li> <li>4. Government Medical College &amp; Super facility Hospital, Azamgarh</li> <li>5. Government Allopathic Medical College, Banda</li> <li>6. Hind Institute of Medical Sciences, Barabanki (P)</li> <li>7. Mayo Institute of Medical Sciences, Barabanki (P)</li> <li>8. Rajshree Medical Research Institute, Bareilly (P)</li> <li>9. Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly (P)</li> <li>10. Rohilkhand Medical College &amp; Hospital, Bareilly (P)</li> <li>11. Government Medical College, Rampur, Basti</li> <li>12. Rajkiya Allopathic Medical College, Bahraich</li> <li>13. Uttar Pradesh University of Medical Sciences, Etawah</li> <li>14. Government Medical College, Badaun</li> <li>15. Government Medical College, Faizabad</li> <li>16. Major S D Singh Medical College and Hospital, Fathehgarh, Farrukhabad (P)</li> <li>17. Government Medical College, Firozabad</li> <li>18. School of Medical Sciences &amp; Research, Greater Noida (P)</li> <li>19. Santosh Medical College, Ghaziabad (P)</li> <li>20. Manyavar Kanshi Ram Ji Government Allopathic Medical College, Jalaun</li> <li>21. Saraswati Institute of Medical Sciences, Hapur (P)</li> <li>22. G.S. Medical College &amp; Hospital, Hapur, UP (P)</li> <li>23. Rama Medical College Hospital and Research Centre, Hapur (P)</li> <li>24. Government Medical College, Kannauj</li> <li>25. Rama Medical College and Hospital , Kanpur (P)</li> <li>26. GSVM Medical College, Kanpur</li> <li>27. Era Lucknow Medical College, Lucknow (P)</li> <li>28. Prasad Institute of Medical Sciences, Lucknow G.C.R.G. Institute of Medical Sciences, Lucknow (P)</li> <li>29. T S Misra Medical College &amp; Hospital, Amausi, Lucknow (P)</li> <li>30. Integral Institute of Medical Sciences &amp; Research, Lucknow (P)</li> <li>31. Career Instt. of Medical Sciences &amp; Hospital, Lucknow (P)</li> <li>32. Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow Krishna Mohan Medical College &amp; Hospital, Mathura (P)</li> <li>33. K.D. Medical College Hospital &amp; Research Centre, Mathura (P)</li> <li>34. Subharti Medical College, Meerut (P)</li> <li>35. Mulayam Singh Yadav Medical College &amp; Hospital, Meerut (P)</li> <li>36. Teerthanker Mahaveer Medical College, Moradabad (P)</li> <li>37. Muzaffarnagar Medical College, Muzaffarnagar (P)</li> <li>38. Glocal Medical College, Super Specialty Hospital &amp; Research Center, Saharanpur (P)</li> <li>39. Shaikh-UL-Hind Maulana Mahmood Hasan Medical College, Saharanpur</li> <li>40. Varun Arjun Medical College, Banthra, Shahjahanpur (P)</li> <li>41. Government Medical College, Shahjahanpur</li> <li>42. Hind Institute of Medical Sciences, Sitapur (P)</li> <li>43. Heritage Institute of Medical Sciences, Varanasi(P)</li> <li>44. Sitapur Saraswati Medical College, Unnao (P)</li> </ol>

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
11.	AIIMS, Bhopal	<b>Madhya Pradesh:</b> <ol style="list-style-type: none"> <li>1. Chirayu Medical College and Hospital, Bairagarh, Bhopal (P)</li> <li>2. L.N. Medical College and Research Centre, Bhopal (P)</li> <li>3. Peoples College of Medical Sciences &amp; Research Centre, Bhanpur, Bhopal (P)</li> <li>4. RKDF Medical College Hospital &amp; Research Centre, Jatkhedi, Bhopal (P)</li> <li>5. Government Medical College, Chhindwara (G)</li> <li>6. Government Medical College, Datia (G)</li> <li>7. Amaltas Institute of Medical Sciences, Dewas (P)</li> <li>8. Index Medical College Hospital &amp; Research Centre, Indore (P)</li> <li>9. Sri Aurobindo Medical College and Post Graduate Institute, Indore (P)</li> <li>10. Netaji Subhash Chandra Bose Medical College, Jabalpur (G)</li> <li>11. Sukh Sagar Medical College and Hospital, Jabalpur (P)</li> <li>12. Government Medical College, Khandwa (G)</li> <li>13. Government Medical College, Ratlam (G)</li> <li>14. Shyam Shah Medical College, Rewa (G)</li> <li>15. Bundelkhand Medical College, Sagar (G)</li> <li>16. Government Medical College, Shahdol (G)</li> <li>17. Government Medical College, Shivpuri (G)</li> <li>18. Ruxmaniben Deepchand Gardi Medical College, Ujjain (P) Government Medical College, Vidisha (G)</li> </ol>
12.	AIIMS, Raipur	<b>Chhattisgarh:</b> <ol style="list-style-type: none"> <li>1. Shri Shankaracharya Institute of Medical Sciences, Bilhailai (P)</li> <li>2. Chhattisgarh Institute of Medical Sciences, Bilaspur (G)</li> <li>3. Chandulal Chandrakar Memorial Medical College, Durg (P)</li> <li>4. Late Shri Lakhi Ram Agrawal Memorial Govt. Medical College, Raigarh (G)</li> <li>5. Pt. J N M Medical College, Raipur (G)</li> <li>6. Raipur Institute of Medical Sciences (RIMS), Raipur (P)</li> <li>7. Government Medical College (Bharat Ratna Shri Atal Bihari Vajpayee Memorial Med. Col.), Rajnandgaon (G)</li> <li>8. Government Medical College, Ambikapur (Surguja), Chhattisgarh (G)</li> </ol>
		<b>Jharkhand:</b> <ol style="list-style-type: none"> <li>1. Patliputra Medical College, Dhanbad (G)</li> <li>2. Dumka Medical College, Dighi (G)</li> <li>3. Hazaribagh Medical College, Hazaribagh (G)</li> <li>4. Palamu Medical College, Palamu (G)</li> </ol>
13.	NEIGRIHMS, Shillong	<b>Manipur:</b> All Medical Colleges operational
		<b>Nagaland</b> No Medical College
		<b>Mizoram</b> Only Medical College is operational
		<b>Meghalaya</b> Only Medical College is operational

S. No.	Name of the Mentor Institute	Names of Medical Colleges (Govt. & Private) with no COVID-19 testing facility
		<b>Agartala</b> 1. Tripura Medical College and Dr. BRAM Teaching Hospital, Agartala (P)
		<b>Sikkim</b> 1. Sikkim Manipal Institute of Medical Sciences, Gangtok (P)
		<b>Assam</b> 1. Assam Medial College, Dibrugarh 2. Tezpur Medical College & Hospital, Tezpur
		<b>Arunachal Pradesh</b> 1. Tomo Riba Institute of Health & Medical Sciences, Naharlagun (G)

**INDIAN COUNCIL OF MEDICAL RESEARCH  
DEPARTMENT OF HEALTH RESEARCH**

Date: 10/04/2020

**Total Operational (initiated independent testing) Government Laboratories reporting to ICMR 146 + 3 collection sites:**

S. No.	Names of States	Names of Medical Colleges
1.	Andhra Pradesh (6)	1. Sri Venkateswara Institute of Medical Sciences, Tirupati 2. Rangaraya Medical College, Kakinada 3. Sidhartha Medical College, Vijaywada 4. Govt. Medical College, Ananthpur 5. Guntur Medical College, Guntur 6. Rajiv Gandhi Institute of Medical Sciences, Kadapa
2.	Assam (5)	7. Gauhati Medical College, Guwahati 8. Regional Medical Research Center, Dibrugarh 9. Jorhat Medical College, Jorhat 10. Silchar Medical College, Silchar 11. Fakkhruddin Ali Ahmed Medical College, Barpeta
3.	Bihar (4)	12. Rajendra Memorial Research Institute of Medical Sciences, Patna 13. Indira Gandhi Institute Medical Sciences, Patna 14. Patna Medical College, Patna 15. Darbhanga Medical College, Darbhanga
4.	Chandigarh (2)	16. Post Graduate Institute of Medical Education & Research, Chandigarh 17. Govt. Medical College, Chandigarh
5.	Chhattisgarh (2)	18. All India Institute of Medical Sciences, Raipur 19. Late Baliram Kashyap M Govt. Medical College, Jagdalpur
6.	Delhi (7)	20. All India Institute Medical Sciences 21. Lady Hardinge Medical College 22. National Centre for Disease Control 23. Ram Manohar Lohia Hospital 24. Institute of Liver & Biliary Sciences 25. Army Hospital Research & Referral 26. Maulana Azad Medical College
7.	Gujarat (6)	27. BJ Medical College, Ahmedabad 28. MP Shah Govt Medical College, Jamnagar 29. Govt. Medical College, Surat 30. Govt. Medical College, Bhavnagar 31. Govt. Medical College, Vadodara 32. Govt. Medical College, Rajkot 33. NHL Medical College, Ahmedabad
8.	Goa (1)	34. Goa Medical College, Goa
9.	Haryana (2)	35. Pt. B.D. Sharma Post Graduate Inst. Of Med. Sciences, Rohtak, Haryana 36. BPS Govt. Medical College, Sonapat
10.	Himachal Pradesh (2)	37. Indira Gandhi Medical College, Shimla 38. Dr. Rajendra Prasad Govt. Medical College, Tanda
11.	Jammu & Kashmir	39. Govt. Medical College, Jammu



S. No.	Names of States	Names of Medical Colleges
	(4)	40. Command Hospital (NC) Udampur 41. Sher-i-Kashmir Institute of Medical Sciences, Srinagar 42. Govt. Medical College, Srinagar
12.	Jharkhand (2)	43. MGM Medical College & Hospital, Jamshedpur 44. Rajendra Institute of Medical Sciences, Ranchi
13.	Karnataka (11)	45. Hassan Inst. Of Med. Sciences, Hassan 46. Mysore Medical College & Research Institute, Mysore 47. Shivamogga Institute of Medical Sciences, Shivamogga 48. Command Hospital (Air Force), Bengaluru 49. Bangalore Medical College & Research Institute, Bengaluru 50. National Institute of Virology, Bangalore Field Unit, Bengaluru 51. Gulbarga Institute of Medical Sciences, Gulbarga 52. Vijaynagar Institute of Medical Sciences, Bellary 53. National Institute of Mental Health and Neuro-Sciences, Bangalore 54. Wenlock District Hospital, Mangalore 55. Karnataka Institute of Medical Sciences, Hubli
14.	Kerala (10)	56. National Institute of Virology, Field Unit, Allapuzha 57. Govt. Medical College, Thiruvananthapuram 58. Govt. Medical College, Kozhikode 59. Govt. Medical College, Thrissur 60. Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram 61. Sree Chitra Tirunal Institute of Medical Sciences, Thiruvananthapuram 62. State Public Health Laboratory, Trivandrum 63. Inter University, Kottayam 64. Malabar Cancer Center, Thalassery 65. Central University of Kerala, Periyar, Kasaragod
15.	Maharashtra (16)	66. National Institute of Virology, Pune 67. Seth GS Medical College & KEM Hospital, Mumbai 68. Kasturba Hospital for Infectious Diseases, Mumbai 69. National Institute of Virology Field Unit, Mumbai 70. Armed Forces Medical College, Pune 71. BJ Medical College, Pune 72. Indira Gandhi Govt. Medical College, Nagpur 73. Grant Medical College & Sir JJ Hospital, Mumbai 74. Govt. Medical College, Aurangabad 75. V. M. Government Medical College, Solapur 76. Haffkine Institute, Mumbai 77. Shree Bhausahab Hire Govt. Medical College, Dhule 78. Government Medical College, Miraj 79. All India Institute of Medical Sciences, Nagpur 80. Nagpur Veterinary College, MAFSU, Nagpur 81. Tata Memorial Centre ACTREC, Mumbai
16.	Madhya Pradesh (6)	82. All India Institute of Medical Sciences, Bhopal 83. National Institute for Research on Tribal Health,

S. No.	Names of States	Names of Medical Colleges
		Jabalpur 84. Mahatma Gandhi Memorial Medical College, Indore 85. Gandhi Medical College, Bhopal 86. Bhopal Memorial Hospital & research Centre, Bhopal 87. Gajra Raja Medical College, Gwalior
17.	Manipur (2)	88. Jawaharlal Nehru Institute of Med. Sciences, Imphal-East, Manipur 89. Regional Institute of Medical Sciences, Imphal
18.	Meghalaya (1)	90. North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong, Meghalaya
19.	Mizoram (1)	91. Zoram Medical College
20.	Odisha (3)	92. Regional Medical Research Centre, Bhubaneswar 93. All India Institute of Medical Sciences, Bhubaneswar 94. SCB Medical College and Hospital, Cuttack
21.	Puducherry (1)	95. Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry
22.	Punjab (3)	96. Govt. Medical College, Amritsar 97. Govt. Medical College, Patiala 98. Guru Gobind Singh Medical University, Faridkot
23.	Rajasthan (8)	99. Sawai Man Singh Medical College, Jaipur 100. Dr. Sampurnan and Medical College, Jodhpur 101. Jhalawar Medical College, Jhalawar 102. RNT Medical College, Udaipur 103. SP Medical College, Bikaner 104. All India Institute of Medical Sciences, Jodhpur 105. JLN Medical College, Ajmer 106. Govt. Medical College, Kota
24.	Tamil Nadu (11)	107. King Institute of Preventive Medicine & Research, Chennai 108. Madras Medical College, Chennai 109. Govt. Theni Medical College, Theni 110. Tirunelveli Medical College, Tirunelveli 111. Govt. Medical College, Thiruvavarur 112. Kumar Mangalam Govt. Medical College, Salem 113. Coimbatore Medical College, Coimbatore 114. Govt. Medical College, Villupuram 115. Madurai Medical College, Madurai 116. K A P Viswanatham Govt. Medical College, Trichy 117. Perundurai Medical College, Perundurai
25.	Telangana (5)	118. Gandhi Medical College, Secunderabad 119. Osmania Medical College, Hyderabad 120. Sir Ronald Ross of Tropical & Communicable Diseases, Hyderabad. 121. Nizam's Institute of Medical Sciences, Hyderabad 122. Institute of Preventive Medicine, Hyderabad 123. Centre for Cellular & Molecular Biology, Hyderabad
26.	Tripura (1)	124. Government Medical College, Agartala
27.	Uttar Pradesh (12)	125. King George Medical University, Lucknow 126. Institute of Medical Sciences, Banaras Hindu

S. No.	Names of States	Names of Medical Colleges
		University, Varanasi 127. Jawaharlal Nehru Medical College, Aligarh 128. Command Hospital, Lucknow 129. Lala Lajpat Rai Memorial Medical College, Meerut 130. Sanjay Gandhi Post Graduate Institute, Lucknow 131. MLN Medical College, Allahabad 132. Uttar Pradesh University of Medical Sciences (Formerly Uttar Pradesh RIMS), Saifai 133. MLB Medical College, Jhansi 134. Regional Medical Research Centre, Gorakhpur 135. SN Medical College, Agra 136. RML Hospital, Lucknow
28.	Uttarakhand (2)	137. Govt. Medical College, Haldwani 138. All India Institute of Medical Sciences, Rishikesh
29.	West Bengal (6)	139. National Institute of Cholera & Enteric Diseases, Kolkata 140. Institute of Post Graduate Medical Education & Research, Kolkata 141. Midnapore Medical College, Midnapore 142. North Bengal Medical College, Darjeeling 143. School of Tropical Medicine, Kolkata 144. Malda Medical College & Hospital, Malda
30.	Andaman & Nicobar Islands (1)	145. Regional Medical Research Centre, Port Blair
31.	Dadra & Nagar Haveli	146. Shri Vonoba Bhave Civil Hospital, Silvassa
<b>Collection sites only</b>		
31.	Sikkim (1)	147. Sir Thutob Namgyal Memorial (STNM), Gangtok
32.	Ladakh (1)	148. Sonam Norboo Memorial Hospital (SNMH), Leh
33.	Arunachal Pradesh (1)	149. Tomo Riba Institute of Health & Medical Sciences (TRIHMS), Naharlagun

# Fast Track Funding Opportunities for Translational Immunology Approaches to COVID-19

## Focus areas:

- Cell based approaches for treatment or prevention of COVID-19 and associated disease sequelae
- Biologics or small molecule based modulation of immune system for therapy or prevention
- Immunogenetics and molecular epidemiology based population studies on COVID-19
- Novel diagnostic approaches for patient stratification and risk assessment for severity of sequelae.

**Background:** The entire world today is facing the greatest pandemic in a century caused by a novel coronavirus, Sars-CoV2 which has caused the disease COVID-19. The disease originated in China and spread worldwide, including India. The disease is characterised, in its most severe form, by acute immune responses that appear to render the patient susceptible to cytokine release syndrome and acute respiratory distress. However, there appears to be vast differences between patients that succumb to the disease and those who remain asymptomatic, further suggesting the key role that the host immune defence systems play. As the disease counts rise in India, it is of utmost importance that we understand the dynamics of the disease process better, identify at-risk population, develop alternate immunomodulatory agents that could be helpful in treating severe forms.

Currently, there are over 78 vaccine and over 600 therapy related trials taking place around the world. To address these gap in treatment options for the Indian population, the **Indian Council of Medical Research (ICMR)** invites full proposals (in ICMR Ad-hoc Project format) for fast track funding for **Translational Immunology and Cellular Therapeutics approach targeting COVID-19**. This call aims to fill the gaps in research thrust in India by providing emphasis on the above focus areas which require more attention to address the needs for the increasing patient base.

**Proposals:** Research proposals are invited in the following areas focused on the theme of mission modetranslational immunology:

- **Cell based approaches for treatment or prevention of COVID-19 and associated disease sequelae:**

The immune system is composed of various kinds of cells which need to be harnessed correctly in order for treating COVID-19. Approaches that harness this potential in various ways to modulate the infection process, alter severity of the immune sequelae or prevent the viral infection process including studying differential responses of different groups of patients, clinical outcomes, etc can be proposed. Proposals may cover novel genetic and non-genetic modifications of immune cells for therapy, but must clearly indicate which aspect of the disease - viral infection or propagation, immune response or exaggerated immune outcomes does the therapy target.

- **Biologics or small molecule based modulation of immune system for therapy or prevention**

The immune system is regulated by a variety of secreted factors which in turn modulate the immune cells or local parenchymal cells to establish the disease process. Understanding this modulation and harnessing key aspects using antibodies, recombinant proteins or specific immune targeting modulators in order to treat COVID-19 can be proposed. Studies on virus-host immune system interactions, including biochemical and molecular biology aspects may also be proposed. Investigators are urged to identify the molecular process and indicate which stage or aspect of the disease will their approach address. It should be noted that vaccine approaches can also be included here with clear definition of the process of vaccine development and the rationale of the expected immune response.

- **Immunogenetics and molecular epidemiology based population studies on COVID-19 - consortium approach**

It remains unknown why certain proportions in the population are at risk of high morbidity and mortality. While many clinical co-morbidities are being associated with COVID-19 such as hypertension, diabetes, AIDS, cancer, lung diseases, etc, the exact molecular basis is not understood fully. Further, in the general population, why certain subgroup with same exposure and co-morbidities remain asymptomatic, mildly symptomatic or require ICU care is not understood. The answer may lie in inherent genetic differences in their

immune system genes or their epigenetic regulation. The proposals in this area should include large numbers to reflect the breadth of the affected population in the disease. Investigators in the area are strongly urged to form consortia with multiple hospitals and diagnostic centres to have a large affected population cohort targeted genetic study proposals. Broad generalised sequencing proposals are not encouraged.

- **Novel diagnostic approaches for patient stratification and risk assessment for severity of sequelae.**

Currently, a variety of COVID-19 tests are already available that determine the viral genome from mucosal membrane swabs. While a variety of antibody tests are also available in the market, there is a lot of confusion regarding efficacy of such tests given the high percentage of asymptomatic population and the fact that detectable antibodies typically develop later in the disease. Therefore, diagnostic approach proposals will have to describe their novelty in terms of process, sensitivity, specificity, strength of risk stratification and scalability.

- ✓ All proposals must clearly define how samples are to be obtained, safety and documentation of sample collection process, transport and usage in the lab must be defined as per current COVID-19 sample handling guidelines issued by RCGM/DBT.
- ✓ Proposals requiring isolation of live virus and or testing of live virus mediated viral functions against a therapeutic agent must demonstrate access to verified BSL-3 facilities. They must also include the detailed SOPs for the same and obtain local IBSC and EC approvals prior to fund release.
- ✓ The proposals are expected to clearly outline and test a path towards translation into human application as therapy, prevention, diagnosis or stratification.
- ✓ If pre-clinical animal models cannot be used prior to the trial, the same must be clearly justified in the proposal.
- ✓ Proposals must address both efficacy and toxicity aspects of the therapeutic approach.
- ✓ Proposals involving human clinical trials must describe cGMP production, toxicity testing and scalability of the therapeutic product as per drug manufacturing regulations and will require approval from CDSCO.

- ✓ Additionally, immunologic readouts should be part of the study design to evaluate the therapeutic approach.

**Study duration:** All studies should be for a period of not more than 24 months given the urgency of the global health situation.

**Criteria for application:** The proposals should adhere to the focus areas and disease areas described. Collaborations between institutes and between research and clinical teams are encouraged. Investigators are encouraged to work with hospitals that have access to patients. The scientific team should have demonstrable expertise in the areas of disease focus and immunology. Proposals must be written in the English language and clearly titled in the ICMR format. Project descriptions and style should conform to ICMR guidelines and have all requisite approvals and permissions required.

**Timeline:**

- Launch of call date: 21<sup>st</sup> April 2020
- Project Submission Ends: 1<sup>st</sup> May 2020
- Announcement of Successful Projects: 10<sup>th</sup> May 2020
- Project(s) are expected to start in June 2020 and should complete latest by the end of May 2022.

**Eligibility:** All scientific institutions, including Universities, DSIR certified institutes and laboratories are eligible.

**Review process:** The applications will be screened for technical correctness. Thereafter, each proposal will be reviewed for feasibility of the techniques proposed, scientific applicability of the approach for disease, novelty of experimental design or delivery, clarity in experimental design, demonstration of prior experience/preliminary data, achievable milestones and timelines and potential for clinical translation.

**To submit a proposal to ICMR:**

Interested applicants are required to email the detailed proposal to [tximmun.icmr@gmail.com](mailto:tximmun.icmr@gmail.com). The guidelines and format for preparing the proposal, kindly refer to following link <http://icmrextramural.in/ICMR/>

**For further information contact:**

**Programme Coordinator:**

**Dr. Geeta Jotwani**

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Tel: 011-26589272



# Laboratory testing for coronavirus disease (COVID-19) in suspected human cases

Interim guidance  
19 March 2020



## Background

This document provides interim guidance to laboratories and stakeholders involved in COVID-19 virus laboratory testing of patients.

It is based in part on the interim guidance on laboratory testing for Middle East Respiratory Syndrome (MERS) coronavirus.<sup>1-6</sup> Information on human infection with the COVID-19 virus is evolving and WHO continues to monitor developments and revise recommendations as necessary. This document will be revised as new information becomes available. Feedback is welcome and can be sent to [WHElab@who.int](mailto:WHElab@who.int).

The virus has now been named SARS-CoV-2 by the International Committee of Taxonomy of Viruses (ICTV)<sup>7</sup> (2). This virus can cause the disease named coronavirus disease 2019 (COVID-19). WHO refers to the virus as COVID-19 virus in its current documentation.

## Laboratory testing guiding principles for patients who meet the suspect case definition.

The decision to test should be based on clinical and epidemiological factors and linked to an assessment of the likelihood of infection. PCR testing of asymptomatic or mildly symptomatic contacts can be considered in the assessment of individuals who have had contact with a COVID-19 case. Screening protocols should be adapted to the local situation. The case definitions are being regularly reviewed and updated as new information becomes available. For the WHO suspected case definition see: Global Surveillance for human infection with coronavirus disease (COVID-2019).<sup>8</sup>

Rapid collection and testing of appropriate specimens from patients meeting the suspected case definition for COVID-19 is a priority for clinical management and outbreak control and should be guided by a laboratory expert. Suspected cases should be screened for the virus with nucleic acid amplification tests (NAAT), such as RT-PCR.

If testing for COVID-19 is not yet available nationally, specimens should be referred. A list of WHO reference laboratories providing confirmatory testing for COVID-19 and shipment instructions are [available](#).

If case management requires, patients should be tested for other respiratory pathogens using routine laboratory procedures, as recommended in local management guidelines for community-acquired pneumonia. Additional testing should not delay testing for COVID-19. As co-infections can occur, all patients that meet the suspected case definition should be tested for COVID-19 virus regardless of whether another respiratory pathogen is found.

In an early study in Wuhan, the mean incubation period for COVID-19 was 5.2 days among 425 cases, though it varies widely between individuals.<sup>9-11</sup> Virus shedding patterns are not yet well understood and further investigations are needed to better understand the timing, compartmentalization, and quantity of viral shedding to inform optimal specimen collection. Although respiratory samples have the greatest yield, the virus can be detected in other specimens, including stool and blood.<sup>12,14</sup> Local guidelines on informed consent should be followed for specimen collection, testing, and potentially future research.

## Specimen collection and shipment

### Safety procedures during specimen collection

Ensure that adequate standard operating procedures (SOPs) are in use and that staff are trained for appropriate specimen collection, storage, packaging, and transport. All specimens collected for laboratory investigations should be regarded as potentially infectious.

Ensure that health care workers who collect specimens adhere rigorously to infection prevention and control guidelines. Specific WHO interim guidance has been published.<sup>16</sup>

### Box 1. Biosafety practices in the laboratory

Testing on clinical specimens from patients meeting the suspected case definition should be performed in appropriately equipped laboratories by staff trained in the relevant technical and safety procedures. National guidelines on laboratory biosafety should be followed in all circumstances. There is still limited information on the risk posed by COVID-19, but all procedures should be undertaken based on a risk assessment. Specimen handling for molecular testing would require BSL-2 or equivalent facilities. Attempts to culture the virus require BSL-3 facilities at minimum.

For more information related to COVID-19 risk assessment, see: [WHO interim guidance for laboratory biosafety related to 2019-nCoV](#). Samples that are potentially infectious materials (PIM) for polio need to be handled and stored as described in WHO document [Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses \(PIM Guidance\)](#). For general laboratory biosafety guidelines, see the [WHO Laboratory Biosafety Manual, 3rd edition](#) before the 4th edition is released.

**Specimens to be collected**

At minimum, respiratory material should be collected:

- upper respiratory specimens: nasopharyngeal and oropharyngeal swab or wash in ambulatory patients
- and/or lower respiratory specimens: sputum (if produced) and/or endotracheal aspirate or bronchoalveolar lavage in patients with more severe respiratory disease. (Note high risk of aerosolization; adhere strictly to infection prevention and control procedures).

Additional clinical specimens may be collected as COVID-19 virus has been detected in blood and stool, as had the coronaviruses responsible for SARS and MERS.<sup>12,14,17-19</sup> The duration and frequency of shedding of COVID-19 virus in stool and potentially in urine is unknown. In case of patients who are deceased, consider autopsy material including lung tissue. In surviving patients, paired serum (acute and convalescent) can be useful to retrospectively define cases as serological assays become available.

Further recommendations on materials to collect, including the testing of asymptomatic individuals, can be found in Table 1.

**Packaging and shipment of clinical specimens**

Specimens for virus detection should reach the laboratory as soon as possible after collection. Correct handling of specimens during transportation is essential. Specimens that can be delivered promptly to the laboratory can be stored and shipped at 2-8°C. When there is likely to be a delay in specimens reaching the laboratory, the use of viral transport medium is strongly recommended. Specimens may be frozen to -20°C or ideally -70°C and shipped on dry ice if further delays are expected (see Table 2). It is important to avoid repeated freezing and thawing of specimens.

Transport of specimens within national borders should comply with applicable national regulations. International transport of potentially COVID-19 virus containing samples should follow the UN Model Regulations, and any other applicable regulations depending on the mode of transport being used. More information may be found in the WHO Guidance on regulations for the Transport of Infectious Substances 2019-2020<sup>22</sup> and WHO interim guidance for laboratory biosafety related to coronavirus disease.<sup>16</sup>

**Ensure good communication with the laboratory and provide needed information.**

Alerting the laboratory before sending specimens encourages proper and timely processing of samples and timely reporting. Specimens should be correctly labelled and accompanied by a diagnostic request form (template provided in Annex I).

**Laboratory testing for COVID-19 virus**

Laboratories undertaking testing for COVID-19 virus should adhere strictly to appropriate biosafety practices.

**Nucleic acid amplification tests (NAAT) for COVID-19 virus.**

Routine confirmation of cases of COVID-19 is based on detection of unique sequences of virus RNA by NAAT such as real-time reverse-transcription polymerase chain reaction (rRT-PCR) with confirmation by nucleic acid sequencing when necessary. The viral genes targeted so far include the N, E, S and RdRP genes. Examples of protocols used may be found here. RNA extraction should be done in a biosafety cabinet in a BSL-2 or equivalent facility. Heat treatment of samples before RNA extraction is not recommended.

**Laboratory confirmation of cases by NAAT in areas with no known COVID-19 virus circulation.**

To consider a case as laboratory-confirmed by NAAT in an area with no COVID-19 virus circulation, one of the following conditions need to be met:

- A positive NAAT result for at least two different targets on the COVID-19 virus genome, of which at least one target is preferably specific for COVID-19 virus using a validated assay (as at present no other SARS-like coronaviruses are circulating in the human population it can be debated whether it must be COVID-19 or SARS-like coronavirus specific); OR
- One positive NAAT result for the presence of betacoronavirus, and COVID-19 virus further identified by sequencing partial or whole genome of the virus as long as the sequence target is larger or different from the amplicon probed in the NAAT assay used.

When there are discordant results, the patient should be resampled and, if appropriate, sequencing of the virus from the original specimen or of an amplicon generated from an appropriate NAAT assay, different from the NAAT assay initially used, should be obtained to provide a reliable test result. Laboratories are urged to seek confirmation of any surprising results in an international reference laboratory.

**Laboratory-confirmed case by NAAT in areas with established COVID-19 virus circulation.**

In areas where COVID-19 virus is widely spread a simpler algorithm might be adopted in which, for example, screening by rRT-PCR of a single discriminatory target is considered sufficient.

One or more negative results do not rule out the possibility of COVID-19 virus infection. A number of factors could lead to a negative result in an infected individual, including:

- poor quality of the specimen, containing little patient material (as a control, consider determining whether there is adequate human DNA in the sample by including a human target in the PCR testing).
- the specimen was collected late or very early in the infection.
- the specimen was not handled and shipped appropriately.

- technical reasons inherent in the test, e.g. virus mutation or PCR inhibition.

If a negative result is obtained from a patient with a high index of suspicion for COVID-19 virus infection, particularly when only upper respiratory tract specimens were collected, additional specimens, including from the lower respiratory tract if possible, should be collected and tested.

Each NAAT run should include both external and internal controls, and laboratories are encouraged to participate in external quality assessment schemes when they become available. It is also recommended to laboratories that order their own primers and probes to perform entry testing/validation on functionality and potential contaminants.

### Serological testing

Serological surveys can aid investigation of an ongoing outbreak and retrospective assessment of the attack rate or extent of an outbreak. In cases where NAAT assays are negative and there is a strong epidemiological link to COVID-19 infection, paired serum samples (in the acute and convalescent phase) could support diagnosis once validated serology tests are available. Serum samples can be stored for these purposes.

Cross reactivity to other coronaviruses can be challenging,<sup>22</sup> but commercial and non-commercial serological tests are currently under development. Some studies with COVID-19 serological data on clinical samples have been published.<sup>23,24</sup>

### Viral sequencing

In addition to providing confirmation of the presence of the virus, regular sequencing of a percentage of specimens from clinical cases can be useful to monitor for viral genome mutations that might affect the performance of medical countermeasures, including diagnostic tests. Virus whole genome sequencing can also inform molecular epidemiology studies. Many public-access databases for deposition of genetic sequence data are available, including GISAID, which is intended to protect the rights of the submitting party.<sup>25</sup>

### Viral culture

Virus isolation is not recommended as a routine diagnostic procedure.

## Reporting of cases and test results

Laboratories should follow national reporting requirements. In general, all test results, positive or negative, should be immediately reported to national authorities. States Parties to the IHR are reminded of their obligations to share with WHO relevant public health information for events for which they notified WHO, using the decision instrument in Annex 1 of the IHR (2005).<sup>26</sup>

## Research toward improved detection of COVID-19 virus.

Many aspects of the virus and disease are still not understood. A better understanding will be needed to provide improved guidance. For example:

Viral dynamics: optimal timing and type of clinical material to sample for molecular testing-

- Dynamic of immunological response
- Disease severity in various populations, e.g. by age.
- The relationship between viral concentration and disease severity.
- The duration of shedding, and relation to clinical picture (e.g. clinical recovery occurs with viral clearing, or shedding persists despite clinical improvement).
- Development and validation of useful serological assays.
- Comparative studies of available molecular and serological assays.
- Optimal percentage of positive cases that requires sequencing to monitor mutations that might affect the performance of molecular tests.
- WHO encourages the sharing of data to better understand and thus manage the COVID-19 outbreak, and to develop countermeasures.

**Table 1. Specimens to be collected from symptomatic patients and contacts**

	<b>Test</b>	<b>Type of sample</b>	<b>Timing</b>
Patient	NAAT	<p>Lower respiratory tract</p> <ul style="list-style-type: none"> <li>- sputum</li> <li>- aspirate</li> <li>- lavage</li> </ul> <p>Upper respiratory tract</p> <ul style="list-style-type: none"> <li>- nasopharyngeal and oropharyngeal swabs</li> <li>- nasopharyngeal wash/nasopharyngeal aspirate.</li> </ul> <p>Consider stools, whole blood, urine, and if diseased, material from autopsy.</p>	<p>Collect on presentation. Possibly repeated sampling to monitor clearance. Further research needed to determine effectiveness and reliability of repeated sampling.</p>
Patient	Serology	Serum for serological testing once validated and available.	<p>Paired samples are necessary for confirmation with the initial sample collected in the first week of illness and the second ideally collected 2-4 weeks later (optimal timing for convalescent sample needs to be established).</p>
Contact in health-care centre associated outbreaks or other settings where contacts have symptoms, or where asymptomatic contacts have had high-intensity contact with a COVID-19 case.	NAAT	Nasopharyngeal and oropharyngeal swabs.	<p>Within incubation period of last documented contact.</p>
	Serology	Serum for serological testing once validated and available.	<p>Baseline serum taken as early as possible within incubation period of contact and convalescent serum taken 2-4 weeks after last contact (optimal timing for convalescent sample needs to be established).</p>

**Table 2. Specimen collection and storage (adapted from<sup>4, 27, 28</sup>)**

Specimen type	Collection materials	Storage temperature until testing in-country laboratory	Recommended temperature for shipment according to expected shipment time
Nasopharyngeal and oropharyngeal swab	Dacron or polyester flocked swabs*	2-8 °C	2-8 °C if ≤5 days -70 °C (dry ice) if >5 days
Bronchoalveolar lavage	Sterile container *	2-8 °C	2-8 °C if ≤2 days -70 °C (dry ice) if >2 days
(Endo)tracheal aspirate, nasopharyngeal or nasal wash/aspirate	Sterile container *	2-8 °C	2-8 °C if ≤2 days -70 °C (dry ice) if >2 days
Sputum	Sterile container	2-8 °C	2-8 °C if ≤2 days -70 °C (dry ice) if >2 days
Tissue from biopsy or autopsy including from lung.	Sterile container with saline or VTM.	2-8 °C	2-8 °C if ≤24 hours -70 °C (dry ice) if >24 hours
Serum	Serum separator tubes (adults: collect 3-5 ml whole blood).	2-8 °C	2-8 °C if ≤5 days -70 °C (dry ice) if >5 days
Whole blood	Collection tube	2-8 °C	2-8 °C if ≤5 days -70 °C (dry ice) if >5 days
Stool	Stool container	2-8 °C	2-8 °C if ≤5 days -70 °C (dry ice) if >5 days
Urine	Urine collection container	2-8 °C	2-8 °C if ≤5 days -70 °C (dry ice) if >5 days

\* For transport of samples for viral detection, use viral transport medium (VTM) containing antifungal and antibiotic supplements. Avoid repeated freezing and thawing of specimens. If VTM is not available sterile saline may be used instead (in which case, duration of sample storage at 2-8 °C may be different from what is indicated above).

Aside from specific collection materials indicated in the table also assure other materials and equipment are available: e.g. transport containers and specimen collection bags and packaging, coolers, and cold packs or dry ice, sterile blood-drawing equipment (e.g. needles, syringes and tubes), labels and permanent markers, PPE, materials for decontamination of surfaces, etc.

## References

1. Laboratory testing for Middle East Respiratory Syndrome coronavirus, interim guidance (revised), January 2019, WHO/MERS/LAB/15.1/Rev1/2019, World Health Organization, 2018. (<https://apps.who.int/iris/bitstream/handle/10665/259952/WHO-MERS-LAB-15.1-Rev1-2018-eng.pdf;jsessionid=08939A780A5A4552EC8279D0E6D650E4?sequence=1>)
2. Managing epidemics, key facts about major deadly diseases. Geneva: World Health Organization; 2018. (<https://apps.who.int/iris/handle/10665/272442>).
3. WHO Global Influenza Surveillance Network Manual for the laboratory diagnosis and virological surveillance of influenza, WHO, 2011 ([https://www.who.int/influenza/gisrs\\_laboratory/manual\\_diagnosis\\_surveillance\\_influenza/en/](https://www.who.int/influenza/gisrs_laboratory/manual_diagnosis_surveillance_influenza/en/)).
4. Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases. Geneva: World Health Organization; 2018. ([https://www.who.int/influenza/resources/publications/outbreak\\_investigation\\_protocol/en/](https://www.who.int/influenza/resources/publications/outbreak_investigation_protocol/en/)).
5. WHO Recommended Surveillance Standards WHO/CDS/CSR/ISR/99.2 (<https://www.who.int/csr/resources/publications/surveillance/whocdscr992.pdf>).
6. Guideline for the collection of clinical specimens during field investigation of outbreaks WHO/CDS/CSR/EDC/200.4 ([https://www.who.int/ihr/publications/WHO\\_CDS\\_CSR\\_EDC\\_2000\\_4/en/](https://www.who.int/ihr/publications/WHO_CDS_CSR_EDC_2000_4/en/)).
7. Severe acute respiratory syndrome-related coronavirus: The species and its viruses – a statement of the Coronavirus Study Group. Alexander E. Gorbalenya, Susan C. Baker, Ralph S. Baric, Raoul J. de Groot, Christian Drosten, Anastasia A. Gulyaeva, Bart L. Haagmans, Chris Lauber, Andrey M Leontovich, Benjamin W. Neuman, Dmitry Penzar, Stanley Perlman, Leo L.M. Poon, Dmitry Samborskiy, Igor A. Sidorov, Isabel Sola, John Ziebuhr. Severe acute respiratory syndrome-related coronavirus: The species and its viruses – a statement of the Coronavirus Study Group. bioRxiv 2020.02.07.937862; doi: <https://doi.org/10.1101/2020.02.07.937862>

8. WHO laboratory biosafety manual, third edition. Geneva: World Health Organization; 2004. ([http://www.who.int/csr/resources/publications/bio\\_safety/WHO\\_CDS\\_CSR\\_LYO\\_2004\\_11/en/](http://www.who.int/csr/resources/publications/bio_safety/WHO_CDS_CSR_LYO_2004_11/en/)).
9. Global Surveillance for human infection with coronavirus disease (COVID-2019), Interim guidance, Geneva, World Health Organization, 2020. ([https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-\(2019-ncov\)](https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov))).
10. Qun Li, Xuhua Guan, Peng Wu, et al. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia. *N Eng J Med*. January 29, 2020.
11. Wei-jie Guan, Zheng-yi Ni, Yu Hu, Wen hua Liang, Chun-quan Ou, Jian xing He, et al. Clinical characteristics of 2019 novel coronavirus infection in China. medRxiv preprint doi: <https://doi.org/10.1101/2020.02.06.20020974>.
12. Nathalie M Linton, Tetsuro Kobayashi, Yichi Yang, Katsuma Hayashi, Andrei R. Akhmetzhanov, Sung mok Jung, et al. Incubation Period and Other Epidemiological Characteristics of 2019 Novel Coronavirus Infections with Right Truncation: A Statistical Analysis of Publicly Available Case Data. *J. Clin. Med.* 2020, 9(2), 538; <https://doi.org/10.3390/jcm9020538>.
13. Xu Kaijin, Cai Hongliu, Shen Yihong, et al. Management of Corona Virus Disease 19 (COVID-19): the Zhejiang Experience. *Jour Zhejiang Univ*. DOI: 10.3785/j.issn.1008-9292.2020.02.02.
14. Wei Zhang, Rong-Hui Du, Bei Li, Xiao Shuang Zheng, Xing-Lou Yang, Ben Hu, et al. Molecular and serological investigation of 2019-nCoV infected patients: implication of multiple shedding routes, *Emerging Microbes & Infections* 2020 9:1, 386-389 (<https://www.tandfonline.com/doi/full/10.1080/22221751.2020.1729071>).
15. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected, interim guidance, January 2020. Geneva: World Health Organization; 2020. ([https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)).
16. Laboratory biosafety guidance related to the novel coronavirus (2019-nCoV), World Health Organization; 2020 ([https://www.who.int/docs/default-source/coronaviruse/laboratory-biosafety-novel-coronavirus-version-1-1.pdf?sfvrsn=912a9847\\_2](https://www.who.int/docs/default-source/coronaviruse/laboratory-biosafety-novel-coronavirus-version-1-1.pdf?sfvrsn=912a9847_2)).
17. Shi X, Gong E, Gao D, et al. Severe acute respiratory syndrome associated coronavirus is detected in intestinal tissues of fatal cases. *Am J Gastroenterol*. 2005;100 (1):169–176.
18. Zhou J, Li C, Zhao G, et al. Human intestinal tract serves as an alternative infection route for Middle East respiratory syndrome coronavirus. *Sci Adv*. 2017;3(11).
19. Ding Y, He L, Zhang Q, et al. Organ distribution of severe acute respiratory syndrome (SARS) associated coronavirus (SARS-CoV) in SARS patients: implications for pathogenesis and virus transmission pathways. *J, Pathol*. 2004;203(2):622–630.
20. Guidance on regulations for the transport of infectious substances 2019–2020. Geneva: World Health Organization; 2019. (<https://www.who.int/ihr/publications/WHO-WHE-CPI-2019.20/en/>).
21. Guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses (PIM Guidance). Geneva: World Health Organization; 2018. <http://polioeradication.org/wp-content/uploads/2016/07/PIM-guidance-20190122-EN.pdf>.
22. Meyer B, Drosten C, Müller MA. Serological assays for emerging coronaviruses: challenges and pitfalls. *Virus Res*. 2014 Dec 19;194:175-83.
23. Bai Shaoli, Wang Jianyun, Zhou (Yingquan Yu Desheng, Gao Xiaomin, Li Lingling, Yang Fan. Analysis of the first family epidemic situation of new coronavirus pneumonia in Gansu Province. *Chinese Journal of Preventive medicine*, 2020, 54.
24. Shu-Yuan Xiao, Yingjie Wu, Juan Li, Evolving status of the 2019 novel coronavirus infections: proposal of conventional serologic assays for disease diagnostics and infection monitoring. 2020, *J Med Virol*. 2020;1-4.
25. GISAID.org (<https://www.gisaid.org/>), accessed on 19 February 2020
26. World Health Organization. International Health Regulations (2005), third edition. Geneva: World Health Organization; 2016 (<http://www.who.int/ihr/publications/9789241580496/en/>).
27. Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases. Geneva: World Health Organization; 2018. ([https://www.who.int/influenza/resources/publications/outbreak\\_investigation\\_protocol/en/](https://www.who.int/influenza/resources/publications/outbreak_investigation_protocol/en/)).
28. Bruce et al. *JCM*. 2011. Evaluation of Swabs, Transport Media, and Specimen Transport Conditions for Optimal Detection of Viruses by PCR.

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WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication

## Annex I

### COVID-19 VIRUS LABORATORY TEST REQUEST FORM<sup>1</sup>

Submitter information			
NAME OF SUBMITTING HOSPITAL, LABORATORY, or OTHER FACILITY*			
Physician			
Address			
Phone number			
Case definition: <sup>2</sup>		<input type="checkbox"/> Suspected case <input type="checkbox"/> Probable case	
Patient info			
First name		Last name	
Patient ID number		Date of Birth	
Address		Sex	
		<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown	
Phone number			
Specimen information			
Type	<input type="checkbox"/> Nasopharyngeal and oropharyngeal swab <input type="checkbox"/> Bronchoalveolar lavage <input type="checkbox"/> Endotracheal aspirate <input type="checkbox"/> Nasopharyngeal aspirate <input type="checkbox"/> Nasal wash <input type="checkbox"/> Sputum <input type="checkbox"/> Lung tissue <input type="checkbox"/> Serum <input type="checkbox"/> Whole blood <input type="checkbox"/> Urine <input type="checkbox"/> Stool <input type="checkbox"/> Other: ....		
<p>All specimens collected should be regarded as potentially infectious and you <u>must contact</u> the reference laboratory <u>before</u> sending samples.</p> <p>All samples must be sent in accordance with category B transport requirements.</p>			
Please tick the box if your clinical sample is post mortem <input type="checkbox"/>			
Date of collection		Time of collection	
Priority status			
Clinical details			
Date of symptom onset:			
Has the patient had a recent history of travelling to an affected area?		<input type="checkbox"/> Yes <input type="checkbox"/> No	Country
			Return date
Has the patient had contact with a confirmed case?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Other exposure:	
Additional Comments			

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WHO reference number: [WHO/COVID-19/laboratory/2020.5](https://www.who.int/publications/i/item/WHO/COVID-19/laboratory/2020.5)

<sup>1</sup> Form in accordance with ISO 15189:2012 requirements

<sup>2</sup> World Health Organization. [Global Surveillance for human infection with coronavirus disease \(COVID-19\)](https://www.who.int/publications/i/item/global-surveillance-for-human-infection-with-coronavirus-disease-(covid-19))

# Laboratory testing strategy recommendations for COVID-19

Interim guidance  
21 March 2020



## Background

WHO has published [laboratory testing guidance for COVID-19 in suspected human cases](#). Recognizing that the global spread of COVID-19 has dramatically increased the number of suspected cases and the geographic area where laboratory testing needed to be implemented, intensified COVID-19 molecular testing has led to shortages of molecular testing reagents globally for COVID-19 and for other molecular diagnostics. Beyond supply issues, there are significant limitations of absorption capacity in many regions, especially in low- and middle-income countries.

As part of the [Strategic Preparedness and Response Plan](#), WHO developed testing strategy recommendations. The foundation of this strategy is threefold:

- All countries should increase their level of preparedness, alert, and response to identify, manage, and care for new cases of COVID-19; laboratory testing is an integral part of this strategy.
- Countries should prepare to respond to different public health scenarios, recognizing that there is no one-size-fits-all approach to managing cases and outbreaks of COVID-19.
- Each country should assess its risk and rapidly implement the necessary measures at the appropriate scale and prepare for a testing and [clinical care](#) surge to reduce both COVID-19 transmission and economic, public health, and social impacts.

Good laboratory practices that produce accurate results are key to assure that laboratory testing benefits the public health response. The availability of timely and accurate results can be threatened when testing demands outstrip capacity, such as when:

- there is a backlog for testing and it is no longer possible to turn around results within 24 to 48 hours
- the demand for laboratory reagents exceeds the capacity for supply
- laboratory staff are exhausted and working hours need to be reduced
- the number of incoming samples exceeds the capacity for safe pretesting storage
- critical staff become infected or are otherwise unable to perform their duties (e.g. being in quarantine)
- laboratory instruments can no longer be serviced or properly maintained.

Some of these constraints can be overcome by a proper risk assessment in the early phase of an outbreak and preventive solutions put in place in advance.

## Purpose of the document

Depending on the intensity of transmission, the number of cases and laboratory testing and surge capacity, it may be necessary to prioritize who gets tested according to health objectives.

WHO has outlined [critical priority actions for preparedness, readiness, and response actions for COVID-19](#) and has defined four transmission scenarios:

1. Countries with no cases (No Cases);
2. Countries with 1 or more cases, imported or locally detected (Sporadic Cases);
3. Countries experiencing clusters of cases related in time, geographic location, or common exposure (Clusters of cases);
4. Countries experiencing larger outbreaks or sustained and pervasive local transmission (Community transmission).

This document provides guidance to policy makers and laboratories on testing strategies for each of these four scenarios, including the scenario in which testing can be performed only on a limited number of patients. See Table 1 for summary of testing strategies for each phase.

As the COVID-19 situation evolves, the outbreak characteristics a country faces will change. Countries could experience one or more of these scenarios at the sub-national level and should adjust and tailor their approach to the local context and prepare for potential subsequent phases. As the transition from sporadic cases to community transmission can be extremely rapid, WHO strongly advises all countries to prepare even before the first case has been detected.

Preparedness and readiness should include the establishment of COVID-19 testing capacity in country. If testing capacity is not yet available, assess preparedness for sending specimens of suspected cases to a WHO reference laboratory for COVID-19 testing while establishing local testing capacity. If testing is available at the national level, plan for surge capacity by establishing decentralized testing capacity in sub-national laboratories under the supervision of the COVID-19 national reference laboratory. Options to engage private laboratory services or the academic sector should be considered. When testing facilities are limited, available facilities tend to be located in or near a capital city, making timely access to testing difficult for people living in other parts of the country. Consider the possibility of mobile laboratories or, if available, automated integrated NAAT systems that can be operated in remote regions and by staff with minimal training.

Always ensure that staff are well trained in [biosecurity](#) and the required technical skills to perform the work. Ensure



access to specimen collection materials, packaging materials, reagents, supplies, and laboratory protocols.

This document focusses solely on molecular testing as this is the current recommended method for the identification of infectious cases. The technical requirements for molecular testing are included in: [Laboratory testing for COVID-19 in suspected human cases](#). Serological assays will play an important role in research and surveillance but are not currently recommended for case detection and are not included in this document. The role of rapid disposable tests for antigen detection for COVID-19 needs to be evaluated and is not currently recommended for clinical diagnosis pending more evidence on test performance and operational utility. WHO will update this guidance as more information laboratory tests for COVID-19 becomes available.

## Considerations for countries that have not yet reported cases (no cases transmission scenario)

WHO recommends that all suspect cases be tested for COVID-19 according to WHO case definitions (see: [Global Surveillance for human infection with coronavirus disease \(COVID-19\)](#)). Demonstrating that COVID-19 is not circulating in a given population requires adequate surveillance. A surge in severe acute respiratory infections (SARI) or influenza-like illness (ILI) observed through clinical surveillance can be a sign of unrecognized COVID-19 circulation in the general population and should prompt specific testing for COVID-19. It is important to stress that not having laboratory-confirmed cases does not imply that a country is free from COVID-19, and can be a sign of insufficient testing and surveillance. All countries are encouraged to critically assess surveillance and respiratory syndrome testing strategies. WHO encourages countries to report SARI/ILI data through GISRS and is developing Interim operational considerations for COVID-19 surveillance using GISRS.

An assessment of possible risk areas and populations (e.g. related to travel to high-risk countries) may require a more intensified testing strategy. Medical professionals should also be alert and request testing when encountering patients with unexpected clinical presentation or when there is an increase in hospital admissions in a specific demographic group. Even before any COVID cases have been detected nationally, it is critical to prepare for the possibility of increasing transmission and plan for surge COVID-19 testing capacity.

## Considerations for countries dealing with sporadic cases

WHO recommends that all suspected cases be tested for COVID-19 according to WHO case definitions (see: [Global Surveillance for human infection with coronavirus disease \(COVID-19\)](#)). When the first case of COVID-19 is detected in a country, [investigations should be carried out to determine the source of the infection](#) (e.g. imported case, local human transmission, or possible animal-to-human transmission). This investigation may include genetic sequencing of the newly detected virus where feasible. It is recommended that

the detection of a first case be confirmed by one of the [WHO COVID-19 Reference Laboratories](#). All other recommendations listed in the no-case scenario above still apply; however, each sporadic case requires aggressive and active case finding, isolation and care, and comprehensive contact tracing and [quarantine](#).

## Considerations for countries dealing with clusters of cases

WHO recommends that all suspected cases be tested for COVID-19 according to WHO case definitions (see: [Global Surveillance for human infection with coronavirus disease \(COVID-19\)](#)). All recommendations in the previous two transmission scenarios remain applicable, including [Considerations in the investigation of cases and clusters of COVID-19](#). Plans should be adopted to improve national testing capacity, as needed, and assess the effectiveness of the laboratory network. Intensify investigation of cases and clusters and SARI/ILI surveillance.

When clusters become large, it is critical that testing of suspected cases continues so that cases can be isolated, contacts can be quarantined, and chains of transmission can be broken.

## Considerations for countries dealing with community transmission

Faced with community transmission over large areas of the country, laboratories will need to be prepared for the significant increase in the number of specimens that need to be tested for COVID-19. Testing constraints should be anticipated, and prioritization will be required to assure the highest public health impact of reducing transmission using available resources.

## Prioritized testing strategies

As the virus does not respect borders, a country can simultaneously have areas with no cases and areas with community circulation. Thus, different testing strategies might be needed within the same country.

For areas within a country with no circulation, the objectives remain to test all suspected cases in an effort to detect first cases in new areas or settings as rapidly as possible, and take immediate measures to prevent (further) spread in that region.

Testing in areas with community transmission and in settings where testing capacity cannot meet needs must be prioritized. This prioritization should focus on the early identification and protection of vulnerable patients and health care workers. Focused testing in health care facilities ensures that infection prevention and control measures can be correctly implemented such that vulnerable patients who do not have COVID are protected from nosocomial COVID-19 infection. Testing among vulnerable populations and risk groups will be important for early treatment to minimize progression to severe disease. Results of testing of specific populations (e.g. patients requiring hospitalization for respiratory disease) can give a rough estimate of the size of the outbreak in the area and be used to monitor trends.

In the setting of limited resources in areas with community transmission, prioritization for testing should be given to:

- people who are at risk of developing severe disease and vulnerable populations, who will require hospitalization and advanced care for COVID-19 (see [Clinical management of severe acute respiratory infections when novel coronavirus is suspected](#)).
- health workers (including emergency services and non-clinical staff) regardless of whether they are a contact of a confirmed case (to protect health workers and reduce the risk of nosocomial transmission)
- the first symptomatic individuals in a closed setting (e.g. schools, long-term living facilities, prisons, hospitals) to quickly identify outbreaks and ensure containment measures. All other individuals with symptoms related to the close settings may be considered probable cases and isolated without additional testing if testing capacity is limited.

**Table 1: Considerations for laboratory testing for each transmission scenario\***

	No Cases	Sporadic Cases	Clusters of Cases	Community Transmission
<b>Transmission scenario</b>	No reported cases	One or more cases, imported or locally acquired	Most cases of local transmission linked to chains of transmission	Outbreaks with the inability to relate confirmed cases through chains of transmission for a large number of cases, or by increasing positive tests through sentinel samples (routine systematic testing of respiratory samples from established laboratories)
<b>Public health aim</b>	Stop transmission and prevent spread	Stop transmission and prevent spread	Stop transmission and prevent spread.	Slow transmission, reduce case numbers, end community outbreaks
<b>Testing strategy guidance documents</b>	<p>Test all individuals meeting the suspected <a href="#">case definition</a></p> <p>Test a subset of samples from SARI/ILI surveillance for COVID-19</p> <p>Test patients with unexpected clinical presentation or an increase in hospital admissions in a specific demographic group that could be COVID-19</p>	<p>Test all individuals meeting the suspected <a href="#">case definition</a></p> <p><a href="#">Considerations in the investigation of cases and clusters of COVID-19</a></p> <p><a href="#">Clinical management of severe acute respiratory infections when novel coronavirus is suspected.</a></p> <p>SARI/ILI surveillance for COVID-19 and reporting: see <a href="#">Interim operational considerations for COVID-19 surveillance using GISRS.</a></p>	<p>Test all individuals meeting the suspected <a href="#">case definition</a></p> <p><a href="#">Considerations in the investigation of cases and clusters of COVID-19.</a></p> <p><a href="#">Clinical management of severe acute respiratory infections when novel coronavirus is suspected.</a></p> <p>SARI/ILI surveillance for COVID-19 and reporting: see <a href="#">Interim operational considerations for COVID-19 surveillance using GISRS.</a></p>	<p>If diagnostic capacity is insufficient, implement prioritized testing and measures that can reduce spread (e.g. isolation), including:</p> <ul style="list-style-type: none"> <li>• people who are at risk of developing severe disease and vulnerable populations, who will require hospitalization and advanced care for COVID-19 (see <a href="#">Clinical management of severe acute respiratory infections when novel coronavirus is suspected.</a>)</li> <li>• health workers (including emergency services and non-clinical staff) regardless of whether they are a contact of a confirmed case (to protect health workers and reduce the risk of nosocomial transmission)</li> <li>• the first symptomatic individuals in a closed setting (e.g. schools, long term living facilities, prisons, hospitals) to quickly identify outbreaks and ensure containment measures</li> </ul>

\*In all scenarios, if feasible, test for treatable diseases (according to local protocols)

Management of diagnostic and clinical resources may change in the face of severe shortages of diagnostic tests or reagents.

Below are examples of how specific situations might be managed in such a setting.

**Table 2. Example situations and management alternatives if testing capacity is overwhelmed**

Situation	Alternatives if system is overwhelmed and testing is not possible
Suspected case, mild, with no risk factors	Register as a suspected case, <a href="#">home isolate</a> according to WHO guidance, and do not test
Suspected case requiring admission to health care facility regardless of severity	Strongly recommended to test. If testing is not possible, implement isolation measures warding against nosocomial transmission (thus no cohort isolation possible)
Symptomatic health care worker identified as a contact	Strongly recommended to test
Symptomatic health care worker with no known COVID-19 contact	In areas with COVID-19 community transmission, test
Increased number of suspected cases in a specific demographic group (potential cluster)	Test a subset of the cases
Closed settings, including schools, hospitals, long-term living facilities	Test initial cases. Consider all other symptomatic individuals as probable cases
Recovering patient who has tested negative twice	If clinically recovered, discharge after an additional 14 days in self-isolation
Contact tracing in areas of community transmission	<a href="#">Quarantine contacts</a> for 14 days, If symptomatic, assume COVID-19 and extend quarantine

### Alternative measures that can reduce spread if prioritized testing needs to be implemented

Prioritization of testing does not preclude interventions to prevent further spread. Some examples of alternative measures that can be taken when testing needs to be prioritized are listed in Table 2. In each individual setting, the most appropriate measures need to be formulated for that specific setting. As some of these measures can have a great impact on all aspects of life and society they need to be weighed and a risk assessment at individual and societal level needs to be performed. Ensure that the community is

informed of expectations for behaviour and care-seeking needs for COVID-19.

### Tracking testing indicators

Countries should track the quantity and results of testing and consider reporting to WHO. Indicators could include the number of SARI/ILI cases reported (compared with previous years in same month/week), the number of patients tested for COVID-19, the number of patients who test positive for COVID-19, the number of tested suspected cases per 100,000 population, and the number of ICU admissions for COVID-19.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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WHO reference number: WHO/2019-nCoV/lab\_testing/2020.1



## DIRECTORATE OF MEDICAL EDUCATION & RESEARCH

Govt. Dental College & Hospital Building 4<sup>th</sup> floor, St. George's Hospital Compound, P.D'mello Road, Mumbai - 400 001.  
Tel. No. - +91-22-22620361-65/22652251/57/59. Telegram "MEDUCATNSEARCH" Fax - +91-22-22620562/22652168  
Website : <http://www.dmer.org>

No.DMER/COVID-19/Lab/ 92 /2020

Date : 16 April, 2020

**Urgent/Important**

Dear Sir/Madam,

Subject: Timely reporting of Covid-19 Testing status on Designated Government Portals

Whereas the Government of Maharashtra, in exercise of the powers conferred under Section 2,3 & 4 of the Epidemic Diseases Act 1897 has framed Regulations for prevention and containment of COVID-19 under No.corona 2020/CR/58/Aarogya-5, dated 13th March 2020.

And where as Director of Medical Education and Research, has been declared as "Empowered Officer" and is empowered to take such measures as are necessary to prevent the outbreak of COVID-19 or spread thereof within his respective jurisdiction,

I Dr. T.P. Lahane, in the larger public interest and in exercise of the powers conferred upon me under Rule 10 of the said Regulations which permits me to implement measures of containment to prevent spread of the diseases, hereby direct **all Government/Private Covid-19 Testing laboratory incharges in the State of Maharashtra, to report accurate daily information on the portal of Indian Council of Medical Research New Delhi (Coronavirus status in India) as well as to Maharashtra State IDSP Portals communicated through Public Health Department (email ID-[covid19labreport@gmail.com](mailto:covid19labreport@gmail.com), [ssumarahashtra@gmail.com](mailto:ssumarahashtra@gmail.com)).**

For any query in this regards, you may communicate the same to Dr Sumedh Andurkar, Assistant Director, Public Health Department (Mob: 9552532616). The information asked in the portals should be filled in daily without fail. Each laboratory should assign one responsible officer for the reporting process. It is responsibility of individual laboratory in-charge to do necessary timely reporting and Head of Institution will ensure that the reporting is made in time.

Yours sincerely,

(Dr.T.P. Lahane)

Director & Nodal Officer Covid 19  
Directorate of Medical Educaiton  
and Reserch Mumbai

To,

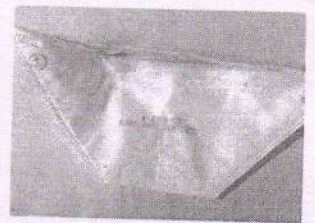
The Incharge of Covid-19 Testing Laboratories of -

1. National Institute of Virology, Pune
2. Seth GS Medical College & KEM Hospital, Mumbai
3. Kasturba Hospital for Infectious Diseases, Mumbai.
4. National Institute of Virology Field Unit, Mumbai.

5. Armed Forces Medical College, Pune
6. BJ Medical College, Pune
7. Indira Gandhi Govt. Medical College, Nagpur
8. Grant Medical College & Sir JJ Hospital, Mumbai
9. Govt. Medical College, Aurangabad
10. V. M. Government Medical College, Solapur
11. Haffkine Institute, Mumbai
12. Shree Bhausaheb Hire Govt. Medical College, Dhule
13. Government Medical College, Miraj
14. All India Institute of Medical Sciences, Nagpur
15. Nagpur Veterinary College, MAFSU, Nagpur
16. Tata Memorial Centre ACTREC, Mumbai
17. Govt. Medical College, Akola
18. National Institute for Research on Reproductive Health, Mumbai
19. National Centre for Cell Sciences, Pune
20. Government Medical College, Nagpur

### **Private Covid-19 Testing Laboratory**

1. Thyrocare Technologies Limited, D37/1, TTC MIDC, Turbhe, Navi Mumbai
2. Suburban Diagnostics (India) Pvt. Ltd., 306, 307/T, 3rd Floor, Sunshine Bld., Andheri (W), Mumbai
3. Metropolis Healthcare Ltd, Unit No. 409-416, 4th Floor, Commercial Building-1, Kohinoor Mall, Mumbai
4. Sir H.N. Reliance Foundation Hospital and Research Centre, Molecular Medicine, Reliance Life Sciences Pvt. Ltd., R-282, TTC Industrial Area, Rabale, Navi Mumbai
5. SRL Limited, Prime Square Building, Plot No 1, Gaiwadi Industrial Estate, SV Road, Goregaon, Mumbai
6. A.G. Diagnostics Pvt Ltd, Nayantara Building, Pune
7. KokilabenDhirubhai Ambani Hospital Laboratory, Four Bungalows, Mumbai
8. InfeXn Laboratories Private Limited, A/131, Therelek Compound, Road No 23, Wagle Industrial Estate, Thane (W)
9. iGenetic Diagnostics Pvt Ltd, Krislon House, Andheri East, Mumbai
10. Tata Memorial Centre Diagnostic Services-Tata Memorial Hospital, Parel, Mumbai
11. Sahyadri Speciality Labs, Plot No 54, S.No. 89-90, Lokmanya Colony, Kothrud, Pune
12. Dr. Jariwala Lab & Diagnostics LLP, 1st Floor, Rasraj Heights, Rokadia Lane, Off Mandpeshwar Road, Borivli (W), Mumbai
13. Ruby Hall Clinic, Dept of Laboratory, Grant Medical Foundation, 40, Sassoon Road, Pune
14. Metropolis Healthcare Limited, Construction House, 796/189-B, Bhandarkar Institute Road, Pune
15. Qualilife Diagnostics, Balaji Arcade, 1st Floor, 544/A, Netaji Subhash Road, Mulund (W), Mumbai
16. SRL Diagnostics – Dr. AvinashPhadke (SRL Diagnostics Pvt Ltd), Mahalaxmi Engineering Estate, 2nd Floor, L.J. Cross Road No 1, KJ Khilnani High School, Mahim (West), Mumbai
17. Sunflower Lab & Diagnostic Center, Keshav Kunj, Marve Road, Malad West, Mumbai



No. F.79/COVID-19/2020-Estt.(H.)

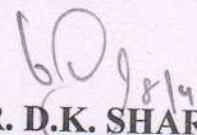
Dated: 08.04.2020

**Subject: STANDARD OPERATING PROCEDURE (SOP) for extended use of N-95 masks for personal safety of Health Care Workers (HCW) at AIIMS. \***

\*\*\*\*\*

1. You have been provided with five N-95 masks. You have also been provided with 4 small brown covers numbered 1,2,3& 4 as well and a large brown cover. *(If not ask your indenting official to collect it from PRC).*
2. Place each N-95 mask in separate small paper bags and mark both the mask and the bag as 1,2,3, and 4. Fifth mark is being issued as a reserve.
3. On day 1, wear the mask no.1 when you step out for duty. **Learn to wear the mask correctly. This is very important.** The Infection control team in your area will explain the method to you.
4. After you return home, place the used N-95 in paper bag no.1 & let it dry out for 4 days. Sunlight is not necessary. **DO NOT THROW AWAY THE MASK.**
5. On day 2, use mask number 2 when you go for duty. After you return home, place the used N-95 in paper bag no.2 & let it dry out for the next 4 days.
6. Do the same for day 3 and day 4.
7. Use the N-95 mask no. 1 on day 5 again. For eg. if you start using mask no.1 on Wednesday 8<sup>th</sup> April, it is available for reuse on Sunday 12<sup>th</sup> April' 2020.
8. Repeat the exercise until all 4 masks have been used 5 times as recommended by CDC, Atlanta, USA\*. All four will be used up in 20 days (in this example on Monday 27<sup>th</sup> April 2020).
9. **These "personal use" N-95 masks will not be treated and reused.**
10. Bring all 4 masks in the big brown bag, throw them in the yellow waste bin in your ward/ area or posting are report to the indenting nurse.
11. **You will be issued 05 new N-95 masks, after 20 days.**

**The AIIMS administration is committed to keeping all its staff safe.**

  
( DR. D.K. SHARMA )  
MEDICAL SUPERINTENDENT

*\*(Center for Disease Control and Prevention, Atlanta, USA :Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings).*

**Copy to:**

1. Chief(s) of all Centres & Head(s) of all the departments.
2. All Faculty of Hospital Administration & All Hospital Officers.
3. Medical Superintendent / Addl. M.S. of all centres.
4. Prof. In-charge Computer Facility (with a request to circulate it on content provider).
5. CNO (with additional copies for all patient care areas).
6. Control Room.

**C.C.:** Director/Dean/Dy. Director (Admn.)/Sr. F.A./Dy. Secy. } - for info. pl.

Developed by the Hospital Infection Control Committee, AIIMS for COVID-19 Response task force, AIIMS for AIIMS staff



विकास शील  
संयुक्त सचिव  
**VIKAS SHEEL**  
Joint Secretary



भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
निर्माण भवन, नई दिल्ली - 110011  
Government of India  
Ministry of Health & Family Welfare  
Nirman Bhavan, New Delhi -110011  
Tel. : 011-23063506  
: 011-23061481 (T/F)  
E-mail : sheelv@nic.in

D.O. No. Z.21020/11/2020-TC(TC)  
Dated the 10<sup>th</sup> April, 2020

Dear Sir,

I am directed to refer to the above subject and to say that WHO has produced a fact sheet on COVID-19 and NCDs which states that, people with pre-existing non-communicable diseases (NCDs) also appear to be more vulnerable to becoming severely ill with the COVID-19. These NCDs include - Cardiovascular disease (e.g. hypertension, persons who have had, or are at risk for, a heart attack or stroke); Chronic respiratory disease (e.g. COPD); Diabetes; Cancer.

2. Further, the WHO Fact Sheet also elaborates that the risk factors and conditions that make people more vulnerable to becoming severely ill with COVID-19 are that the smokers are likely to be more vulnerable to COVID-19 as the act of smoking means that fingers (and possibly contaminated cigarettes) are in contact with lips which increases the possibility of transmission of virus from hand to mouth. Smokers may also already have lung disease or reduced lung capacity which would greatly increase risk of serious illness; Smoking products such as water pipes often involve the sharing of mouth pieces and hoses, which could facilitate the transmission of COVID-19 in communal and social settings; Conditions that increases oxygen needs or reduces the ability of the body to use it properly will put patients at higher risk of the consequences of bilateral viral pneumonia.

3. In view of the above, to discourage the smoking and in the larger interest of public health, it is requested that all the state/UT governments may kindly undertake an awareness campaign w.r.t. adverse effects to smokers in case they get affected with COVID-19 so that general public may please be made aware on risks associated with smoking during COVID-19 pandemic. The messages for social media campaigns along with the WHO Fact Sheet/Information Note for creating awareness are attached herewith.

Encl: as above

*Warm regards*

Yours sincerely,

(Vikas Sheel)

Additional Chief Secretary (Health)/ Principal Secretary (Health)/ Secretary (Health)- All States/  
UTs



Copy submitted for necessary information and further necessary action to:

- Mission Director, NHM- All States/UTs
- State Nodal Officers for Tobacco Control of all States/UTs for taking appropriate action.
- Directors/ DSs of NHM



(Vikas Sheel)



भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
निर्माण भवन, नई दिल्ली - 110011  
Government of India  
Ministry of Health & Family Welfare  
Nirman Bhavan, New Delhi - 110011

वन्दना गुरनानी, भा.प्र.से.

**Vandana Gurnani, I.A.S.**

अपर सचिव एवं मिशन निदेशक (रा.स्वा.मि.)  
Additional Secretary & Mission Director (NHM)

DO. No. Z-18015/19/2020-NHM-II-Part(1)

Dated the 23<sup>rd</sup> April 2020

*Dear Colleagues,*

**Subject: Guidance Note on India COVID-19 Emergency Response and Health System Preparedness Package**

**Reference:**

- (1) Letter No. Z-18-10/NHM-1/Part dated 15<sup>th</sup> March 2020 and Letter no. DO No Z-18-10/NHM-1/Part dated 21<sup>st</sup> March 2020 from JS (Policy)
- (2) Letter No. V.14013/01/2020-B(NHM)-Part V dated 7<sup>th</sup> April 2020 from AS&MD

This is in continuation to the earlier communication about centrally funded 'India COVID-19 Emergency Response and Health System Preparedness Package'. We have released funds under immediate response of this package which is for phase 1 up to June 2020.

The India COVID 19 Emergency Response and Health Systems Preparedness Financial Package (hereafter referred as COVID package) is intended to build resilient health systems to support preparedness and prevention related functions that would address not only the current COVID 19 outbreak but also future outbreaks in our country. The interventions in this package will be implemented under the National Health Mission, thereby leveraging the existing resources for health systems strengthening to further strengthen and develop health systems, thereby ensuring complementarity. The States/UTs should prioritize resource allocation appropriately to districts and medical colleges based on the stage of the outbreak in a particular district, at the same time, taking into consideration the resources that will be required in the future to tackle COVID-19.

In this regard, the "NHM Guidance Note on India COVID-19 Emergency Response and Health Systems Preparedness Package" is attached herewith. This document enumerates key activities which relates to screening, testing, undertaking community surveillance, strengthening /establishing Dedicated COVID-19 treatment and isolation facilities, creating infrastructure and provision of supplies for infection control, engaging additional HR, and capacity building which can be undertaken with the help of this package. The note also has a section on the fund flow mechanism, approval and procurement process and audit. It is important to note that an untied fund for Rs. 1 Crore is provided for per district to enable district to undertake emergency activities related to COVID response.

Contd..

The attached guidance note and annexures will help you to plan and enhance your preparedness for tackling the COVID pandemic. In case you have any query, please feel free to write to me. The States/UTs need to fully utilize the funds available and implement all the required activities with regular booking of expenditure. Let me assure you that our team is available whenever you require any support.

*with warm regards*

Yours' sincerely,

  
(Vandana Gurnani)

To,

- Additional Chief Secretary/Principal Secretary/ Secretary (Health and /or Medical Education) of all States/UT
- MD,NHM -all states/UTs

**Copy submitted for necessary information to:**

- Secretary, MOHFW, Govt. of India
- Secretary, DEA, Govt. of India
- SS and DG, MOHFW, Govt. of India
- SS (Health), MOHFW ,Govt. of India
- AS & FA, MOHFW, Govt. of India
- All JSs and EAs,MOHFW,Govt. of India
- ED,NHSRC
- DDG(NTEP), MOHFW, Govt. of India

**Micro Plan for Containing Local Transmission of  
Coronavirus Disease (COVID-19)**

Epicentre -----  
----- Block, ----- District,  
----- State

## Micro-plan for Containing Local Outbreak of COVID-19

**Geographic Location:** -----Municipality, ----- Block, ----- District, ----- State

1. Objective of the micro-plan

To contain the outbreak of COVID-19 in defined geographic area

2. **Demographic details (for each district coming under containment and buffer zones separately, as defined in Section 3)**

District details

District area:  
District Population:  
No of Blocks:  
No of Municipalities:

Block Details

Name of Block:  
Population:  
Number of Villages:

3. **Mapping the affected area**

**The containment zone will be decided by the RRT based on the extent of cases/contacts listed and mapped by them.** However if contact listing/ mapping is taking time (>12-24 hours), then on arbitrary basis demarcate an area of 3 Kms radius around the epicenter (the residence of the positive case). This area of 3 km radius will be the containment zone. **If required, based on the mapping of contacts and cases, the containment zone will be refined.**

A buffer zone of an additional 5 Kms radius (7 Kms in rural areas)/administrative boundary of including neighboring districts/per-urban zone shall also be identified, as detailed in the cluster containment plan.

3.1 Affected area (Containment Zone – As per Cluster Containment Plan)

Name of the epicentre: Municipality ward/ village:  
Number of affected Municipalities /villages:  
Number of Villages/ Wards in Containment Zone:  
Number of houses in containment zone:  
Population in Containment Zone:

### 3.2 Buffer Zone – As per Cluster Containment Plan

Number of Municipalities /villages:  
Number of Villages/ Wards in Buffer Zone:  
Number of houses in Buffer zone  
Population in Buffer Zone:

3.3 The containment zone will be divided into sectors with 50 houses each (30 houses in difficult areas). The sectors will facilitate all activities for containment as described in the ensuing sections/ paragraphs.

**Every confirmed case has to be considered as an epicenter and micro-plan activities will be done as described above.**

Divide the area into sectors. List them with name (of village) and identified nodal officer.

Listing of Sectors

Sector	Name of Sector	Nodal Officer	Contact number
A			
B			
C			
D			

## 4. Human Resource

### 4.1. Administrative and Technical Personnel

The District Collector/District Magistrate will be Nodal person for cluster containment in their respective districts.

S. No	Name	Designation	Contact Number (O)	Mobile
1		DM/District Collector		
2		ADM		
3		CDMO		
4		BDO		
5		Block MO		
6		Block AHO		
7		BEE		
8		NHM Block Manager		

**State RRT**

S. No.	Name	Designation	Contact Number (O)	Mobile
1				
2				
3				

**District RRT**

S. No.	Name	Designation	Contact Number (O)	Mobile
1				
2				
3				

**4.2. Human Resource for operations / field activities**

## 4.2.1 Responsibilities assigned to various functionaries

4.2.1.1 ASHA/ ANM/ Anganwadi worker\*:

## 4.2.1.1.1. Daily house to house visit to:

- (i) Search clinically suspect cases.
- (ii) Identify contacts of confirmed and suspect cases
- (iii) Maintain line list of suspect/ confirmed cases and contacts
- (iv) Monitor contacts daily
- (v) Inform Supervisory Medical Officer about suspect cases and their contacts
- (vi) Create awareness among community about disease prevention, home quarantine, common signs and symptoms and need for reporting suspect cases by distributing fliers, pamphlets and also by inter-personal communication.

4.2.1.1.2. Counsel individuals to take precautions to avoid contact with those with symptoms suggestive of COVID-19.

4.2.1.1.3. Ensure that contacts are on home quarantine use 3 layered surgical masks at all times. Educate them on proper use and disposal of masks. The team will also educate the family members about precautions to be taken while taking care of persons under home quarantine.

\* If there is human resource constraint to engage as many ASHA/AWW/ANMs, then Indian Red Cross society/NDRF/Civil Defence/NSS/NCC volunteers available in the district shall be engaged after proper briefing on roles and responsibilities and infection, prevention and control practices.

#### 4.2.1.2. LHV/ MPWMW

- Supervisory duty at the village/ block covering the epicenter.
- Daily visit to allocated sectors to oversee and cross-check the activities of ASHA/Anganwadi workers/ ANM.

Report on real time basis, any person reporting of symptoms of COVID-19.

#### 4.2.1.3. Block Extension Educator and other communication staff

- Public information education and communication campaign targeting schools, colleges, work place, self-help groups, religious leaders, teachers, postman etc.
- Arrangement of miking.

#### 4.2.1.4. Municipal/ village Panchayat staff / Civil society volunteers

- Create awareness in the community
- Encouraging community to follow frequent hand wash, respiratory etiquettes, self-monitoring of health and reporting to the health workers about persons in their vicinity having cough, fever, breathing difficulty.

#### 4.2.1.5. Supervisory Officer

- Supervises the field work
- Verifies suspect case as per case definition.
- Arranging shifting of suspect case to health facility.
- Random Check of persons under home quarantine.
- Submit daily report to control room

#### 4.2.1.6 Block NHM Manager/ any other designate of DM

- Information management with in the containment zone
- Contingency funding of the containment operations
- Managing finances.

#### **4.2.2. Norms for deployment of human resource:**

A health care worker (ANM/ ASHA/Anganwadi Worker) will be able to visit 50 houses in a day (30 in difficult areas).

A supervisory Medical Officer shall be deployed to cover 1000 population.



#### 4.2.2 Human Resource requirement for field operations

S. No.	Designation of staff	Nature of work assigned	No. of personnel deployed for containment operation	Mobilized from within the District	Mobilized from adjoining District
1.	District Collector or his assignee	Incident Command			
2	Central/ State RRT	Planning and operations			
3	Sector Medical Officers	Supervisory			
4	LHV	Intermediate Supervisory			
5	ANM/ ASHA/ Anganwadi Worker	Field work			
6	Block Extension Educator and other communication staff	IEC			
7	Municipal/ village Panchayat staff Civil society volunteers	Community mobilization			
8	NHM -District/ Block Manager	Logistics Information Management Financial management			

### 5. Components of Micro-plan

#### 5.1 Surveillance

##### 5.1.1. Active Surveillance

##### 5.1.1.1. Constituting Teams for Human Health Surveillance:

Each health worker would cover 50 houses in the sector assigned to them. The listing of municipality wards/ villages allocated to surveillance teams, their names, name of supervisors for each team and their contact number is at **Annexure-I**

##### 5.1.1.2. Assigning Tasks to the Teams

The Medical Officer in-charge will assign tasks as listed in para 4.2.1 to the Supervisory Officer/ANM/ASHA/Anganwadi Worker.

During the course of their house to house visit, the ANM/ASHA/Anganwadi Worker will identify suspect case, if any, as per case definition. The name, age, sex, and the address of such persons to be recorded on proforma at **Annexure-II**. The Health worker will counsel household members to take basic precautions to avoid direct contact with a suspect case. He / she will provide a mask to the (i) suspect case (till such time he/she is examined by the supervisory officer).

The concerned ANM/ASHA/Anganwadi Worker will immediately inform his/her supervisory officer about the suspect case.

**5.1.1.3. Role of Supervisory Medical Officer/ LHV**

The door to door surveillance will be supervised by Medical Officers/ LHV assigned sectors within the defined surveillance zone. He/she will also collect data from the health workers under him/ her, collate and provide the cumulative data to the control room by 4.00 P.M.

He / she will visit any suspect case brought to his/ her notice by the ANM/ASHA/Anganwadi Worker during their daily house to house visit. He/ she will immediately call for the ambulance and ensure transfer of the patient to identified hospital after ensuring on the basic precautions. Details of the registration number of the ambulance, shifting time to the hospital and contact number will be kept and conveyed to the Control Room.

Name of the patient being shifted	Age	Sex	Ambulance No.	Name of the driver/ Paramedic	Contact number	Time of Shifting

**5.1.2. Passive Surveillance**

All health facilities in the containment and buffer zones will be listed. All such facilities both in Government and Private sector (including clinic) shall report clinically suspect cases of COVID-19 to the identified supervisory officer for that sector. Proforma for reporting suspect COVID-19 cases by health facilities is at **Annexure-III**.

**6 Contact Tracing**

The contacts of the laboratory confirmed cases/ suspect cases of COVID-19 will be line-listed. The Supervisory officer in whose jurisdiction, the laboratory confirmed case/ suspect case falls shall inform the Control Room about all the contacts and their residential addresses. The control room will in turn inform the supervisory officers of concerned sectors for surveillance of the contacts.

These contacts will be tracked by assigned ANM/ASHA/Anganwadi Worker of that sector and kept under home quarantine for 14 days. They will be monitored for clinically compatible signs and symptoms of COVID-19 for 28 days in total. If the residential address of the contact is beyond the containment zone or in adjoining district / State, the district IDSP will inform the concerned District IDSP.

Detail guidance for contact tracing, quarantine and isolation is given at **Annexure –IV**.  
Proforma for line listing of contacts is at **Annexure-V**.

## 7. Laboratory Support

The microbiologist in the Central/State RRT will be responsible for managing laboratory Support. He/ She will identify nearest VRDL network laboratory for logistic support for sample collection, packaging and transportation. The doctors manning the isolation facility will be trained by the RRT and they shall be responsible for sample collection, packaging and transportation. The sample collection proforma to be attached with the samples is at **Annexure-VI**.

Name of the VRDL Laboratory	Name of Nodal person	Contact number

## 8. Identified Health Facility

8.1. The Physician in the RRT will visit the nearby hospitals and identify the nearest hospital best suited for isolation and tertiary care/ medical college best suited for Ventilator management/ critical care management/ Salvage therapy (ECMO).

Name of the identified health facility	Name and Contact details of MS	Name and contact details of Nodal officer	Contact details of Emergency

The details of the identified facilities will be informed to all the Supervisory Officers by the NHM District/ Block manager.

All suspect cases of COVID-19 will be admitted to the above identified health facility. The Supervisory Medical Officer, in whose Jurisdiction the case is reported,

shall ensure his/ her hospitalization. The hospital will be informed in advance about the referral case.

Reporting format for health facilities identified for isolation/critical care management of COVID-19 cases is at **Annexure III**.

### 8.2. Ambulance facility

There will be earmarked ambulance for the transfer of patients. The drivers will be trained in infection prevention and control practices and also in disinfection of ambulance after transporting suspect cases. Drivers of these ambulances will be provided with appropriate PPE depending on the risk assessment conducted by district/RRT epidemiologist.

Date	Shift	Name of the driver	Name of the Paramedic	Contact numbers (Driver and Paramedic)
	8:00 AM – 2:00 PM			
	2:00 PM – 8:00 PM			
	8:00 PM – 8:00 AM			

### 8.3 Hospital infection prevention and Control

The Microbiologist in the RRT will train the health workers on infection prevention control practices prior to their field assignment. They will also train the identified field functionaries on donning and doffing of PPE. The PPEs are to worn as per the risk assessment for various categories of personnel.

S. No	Name of the item	Remarks
1	Full complement of PPE (N 95 Mask, Gloves, Goggles, coveralls, headgear, foot wear)	To be used by: <ul style="list-style-type: none"> <li>• Doctors attending to patients in health facilities in the containment zone and referral hospital for isolation/ critical care, where aerosolization can occur (like intubation, non-invasive ventilation, tracheostomy, and manual ventilation before intubation, suction etc.)</li> <li>• Doctors collecting samples.</li> <li>• EMTs attending patient in ambulances</li> <li>• Staff in the laboratories</li> </ul>
2	N-95 Mask and gloves	<ul style="list-style-type: none"> <li>• To be used by supervisory doctors verifying a suspect case</li> </ul>

		<ul style="list-style-type: none"> <li>Doctors/nurses attending patients in screening clinics/OPD</li> </ul>
3	N-95 mask, gloves	<ul style="list-style-type: none"> <li>Sanitary workers involved in sanitation and disinfection activities for COVID-19 cases</li> </ul>
4	Triple Layer medical mask/ examination gloves	<p>To be used by:</p> <ul style="list-style-type: none"> <li>field workers,</li> <li>suspect cases and</li> <li>care giver / by stander of the suspect case</li> <li>Ambulance drivers.</li> <li>All functionaries at the perimeter control.</li> </ul>

## 10. Logistics

### 10.1. PPE

All PPE will be used rationally. RRT members will train the identified field functionaries on donning and doffing of PPE. The PPEs are to worn as per the risk assessment for various category of personnel.

The following daily log on PPE will be maintained:

S. No.	Name of the item	Opening balance for the day	Nos. used with in the day	Closing balance	Remarks
1	PPE Kits				
2	N-95 Mask				
3	Triple Layer Surgical mask				
4	Gloves				
5	Biohazard bags				

All PPEs to be disposed of in a Biohazard Bag (yellow). The outer surface will be disinfected using 1% Sodium Hypochlorite spray.

## 11. Communication

Block Extension Educator / or any other designated communication staff will be allocated the work of public education outreach on COVID-19. Public information education and communication campaign shall target schools, colleges and work place within the

containment zone. The key messages (including that used for Inter-personal Communication) have already been conveyed to the States.

The sector wise allocation of BEE their name and contact no. will be listed. Municipal/ Village Panchayat Officers will be allocated sectors with in the surveillance zone for encouraging and participating in public awareness campaigns and participation. The rostering of staff for public education outreach is at **Annexure-VIII**.

## 12. Data Management

The Control Room will have data managers (deployed from IDSP/ NHM) responsible for collecting, collating and analyzing data from field and health facilities. They will work in 3 shifts. Data Collection tools will form **Annexure-IX** of this document. Output variables to be generated at micro level on daily basis;

- No. of Suspect case of COVID-19
- No. of laboratory confirmed case
- No. of deaths
- No. of contacts line listed:
- No. of contacts tracked:
- No. of contacts currently under surveillance:
- No. of contacts which have exited the follow up period of 28 days:

## 13. Control Room

- The following details will be provided under this head:
- Nodal Officer with contact number:
- Control Room Number:

## 14. Office orders (indicative)

- Orders on notification.
- Order for taking services of personnel

## 15. Budgeting (indicative)

S.no	Item	Unit cost	Total cost	
1.	Transportation			
	No. of vehicles hired			
	POL expenditure for Office vehicles/ ambulances			
2.	Communication			
	Cost of printing posters			
	Hiring personnel for display of posters			

	Cost of hiring vehicles for miking			
	Advertisement cost : local dailies cable network local TV channels SMS			
3	Logistics			
	Three layered surgical mask			
	N 95 mask			
	PPE			
4	Contingency Expenditure			

## Annexures

<b>Annexure No.</b>	<b>Subject</b>
<b>I</b>	Containment zone: Identified Sectors for surveillance
<b>II</b>	Data collection tool at field level Data collection tool at field level (Field Level Data Compilation Sheet)
<b>III</b>	Daily Line listing of Patients detected at health facilities
<b>IV</b>	Recommended guidance for contact tracing, quarantine and isolation for Coronavirus Disease (COVID-19)
<b>V</b>	Line listing of Contacts
<b>VI</b>	Sample collection proforma to be attached with the samples
<b>VII</b>	Transportation arrangement for containment Operation
<b>VIII</b>	Identified Sectors for Public Education Outreach and rostering of identified communication staff
<b>IX</b>	Daily report of COVID-19 Outbreak



**Annexure-I**

Containment zone: Identified Sectors for surveillance

Sector	Name of Municipal ward/ village	Name of ANM/ASHA/Anganwadi Worker	Contact Number	Name of Supervisory Officer	Contact Number

**Annexure-II**

**Data collection tool at field level  
(Line listing of suspect cases)**

State & District :  
 Sector :  
 Village allocated: :  
 Name of the field worker : Phone:  
 Name of the Supervisor : Phone:  
 Name of the PHC doctor : Phone:

S.No	Name of patient	Age	Sex	Address	c/o Fever, Cough, Difficulty in breathing	Remarks

**Data collection tool at field level (Field Level Data Compilation Sheet)**

S. No.	Name of village	Total population surveyed	M	F	No. of Suspect cases identified	Total number of contacts put under home quarantine	Remarks
<b>Total</b>							

**Annexure-III**

**Daily Line listing of Patients detected at health facilities**

<b>S. No</b>	<b>Name</b>	<b>Age</b>	<b>Sex</b>	<b>Address</b>	<b>Symptoms or contact with COVID-19 suspect case</b>	<b>Sample taken (Y/N)</b>	<b>Remarks</b>

**Recommended guidance for contact tracing, quarantine and isolation for Coronavirus Disease (COVID-19):**

**I. Contact Tracing:**

**a. Contact means a person:**

- Providing direct care without proper personal protective equipment (PPE) for COVID-19 patients
- Staying in the same close environment of a COVID-19 patient (including workplace, classroom, household, gatherings).
- Traveling together in close proximity (1 m) with a COVID-19 patient in any kind of conveyance within a 14-day period after the onset of symptoms in the case under consideration.

**b. Each worker or person responsible for contact tracing should:**

- Enlist all the contacts for tracing along with their names, address and contact details and submit to the supervisor daily
- Daily visit the contact and ask him/her if had developed any fever, cough, shortness of breath, difficulty in breathing etc.)
- Educate contacts and their family members on importance of contact tracing and home quarantine
- Distribute Triple layer surgical masks to the contact and keep sufficient stock.
- Create awareness on symptoms and provide information on self-health monitoring
- Contacts should be informed that if they develop symptoms:
  - Immediately wear a triple layer mask and avoid close contact with any other person.
  - Inform concerned health worker who will arrange for medical examination by supervisory medical officer and transportation to hospital, if required.
  - Provide details on all possible contacts since the time he/she has developed symptoms and inform health worker
- Duration of follow up of contacts would be 28 days from the time of last contact with a case

## II. Active surveillance:

Active surveillance shall be done within containment zone (or 3 Km radius from the periphery of the affected area)

### What has to be done:

- Enlist all houses (and persons)
- Daily visits to each house and enquire about any person developing any symptoms (like fever, cough, shortness of breath, difficulty in breathing etc.)
- In case of a person is detected to be developing symptoms of COVID-19, the same shall be brought to notice of supervisory medical officer
- Daily reporting: as per the format (Annexure V)

## III. Home Quarantine:

- **Who has to be quarantined:** all households and close contacts of a confirmed and suspect cases are to be home quarantined
- **Duration of home quarantine:** Those being home quarantined need to be followed up till the time test results of suspect case (whose contacts are being home quarantined and followed up) comes negative. If the test result comes positive then all such persons become 'true' contacts and have to be home quarantined for 14 days and followed up for 28 days.

## IV. Isolation:

- Suspect cases detected on active surveillance need to be in isolated in a room in the house temporarily till the time he/she is examined by the supervisory medical officer or shifted by the designated ambulance to the designated health facility.
- Following shifting to health facility, place of temporary isolations needs to be disinfected in accordance with prescribed SOPs by 1% sodium hypochlorite

**Appendix V**

**Line listing of Contact (Name of Patient):** \_\_\_\_\_

S. N o.	Name	Age	Sex	Address	Date on which exposed	To be under surveillance (till date)	Symptomatic (Y/N). If Yes, is person isolated/referred	Sample taken (Y/N)	Remarks

(Please use separate sheet for contacts of different patients)

## Annexure VI

Sample collection proforma to be attached with the samples

**ICMR- National Institute of Virology, Pune  
Specimen Referral Form for 2019 Novel Coronavirus (2019-nCoV)**

<b>INSTRUCTIONS:</b>											
<ul style="list-style-type: none"> <li>• Inform the local / district / state health authorities, especially surveillance officer for further guidance.</li> <li>• Seek guidance on requirements for the clinical specimen collection and transport from nodal officer.</li> <li>• This form may be filled in and shared with the IDSP and also ICMR-NIV nodal officer in advance.</li> </ul>											
<b>PERSON DETAILS</b>											
Name of patient: .....			Age:.....Years.....Month Gender: Male <input type="checkbox"/> Female <input type="checkbox"/>								
Address: .....			Date of birth: ...../...../..... (dd/mm/yyyy)								
City: .....			Mobile/phone: .....								
State: .....			Email: .....								
<b>EXPOSURE HISTORY (2 WEEKS BEFORE THE ONSET OF SYMPTOMS)</b>											
<b>Recent stay/travel in area (Wuhan, China):</b> Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, stay/travel duration with date											
History of visit to wet/seafood market: Yes <input type="checkbox"/> No <input type="checkbox"/> From:...../...../..... to:...../...../.....											
<b>Close contact with confirmed case</b> Yes <input type="checkbox"/> NO <input type="checkbox"/> Close contact with animal/birds Yes / N											
Recent travel to any other country Yes <input type="checkbox"/> NO <input type="checkbox"/> Travel place: .....											
<b>Health care worker working in hospital involved in managing patients</b> YES / NO, .....											
Hospitalization date: ...../...../.....			Discharge date: ...../...../.....								
<b>CLINICAL SYMPTOMS AND SIGNS</b>											
Date of onset of symptoms: ...../...../.....			First symptom: .....								
<b>Symptoms</b>		<b>Yes</b>	<b>No</b>	<b>Symptoms</b>		<b>Yes</b>	<b>No</b>	<b>Symptoms</b>		<b>Yes</b>	<b>No</b>
<b>Fever at evaluation</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Cough</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Diarrhoea</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>History of fever</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Breathlessness</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Nausea</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Chest pain</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Sore throat</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Body-ache</b>		<input type="checkbox"/>	<input type="checkbox"/>
				<b>Sputum</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Nasal discharge</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Signs</b>		<b>Yes</b>	<b>No</b>	<b>Sign</b>		<b>Yes</b>	<b>No</b>	<b>Sign</b>		<b>Yes</b>	<b>No</b>
<b>Wheeze</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Stridor</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Lower chest indrawing.</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Nasal flaring</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Crepitation</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Accessory muscle use</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>UNDERLYING MEDICAL CONDITIONS</b>											
<b>Condition</b>		<b>Yes</b>	<b>No</b>	<b>Condition</b>		<b>Yes</b>	<b>No</b>	<b>Condition</b>		<b>Yes</b>	<b>No</b>
<b>COPD</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Bronchitis</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Diabetes</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Chronic renal disease</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Malignancy</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Heart disease</b>		<input type="checkbox"/>	<input type="checkbox"/>
								<b>Asthma</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>IMMUNOCOMPROMISED CONDITION: YES / NO</b> .....											
<b>Other:</b> .....											
<b>HOSPITALIZATION, TREATMENT AND INVESTIGATION</b>											
<b>HOSPITALIZATION</b> date: ...../...../.....			<b>DIAGNOSIS:</b> .....								
<b>DIFFERENTIAL DIAGNOSIS:</b> .....			<b>ETIOLOGY IDENTIFIED:</b> .....								
<b>ATYPICAL PRESENTATION:</b> YES / NO .....			<b>UNUSUAL / UNEXPECTED COURSE:</b> YES / NO .....								
<b>OUTCOME:</b> Discharge / Death / .....			<b>OUTCOME</b> date:...../...../.....								
<b>Treatment</b>		<b>Yes</b>	<b>No</b>	<b>Treatment</b>		<b>Yes</b>	<b>No</b>	<b>Treatment</b>		<b>Yes</b>	<b>No</b>
<b>Antibiotics</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Ventilation</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Antivirals</b>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Oxygen</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>CPAP</b>		<input type="checkbox"/>	<input type="checkbox"/>	<b>Bronchodilators</b>		<input type="checkbox"/>	<input type="checkbox"/>
								<b>Steroids</b>		<input type="checkbox"/>	<input type="checkbox"/>
								<b>Other:</b> .....			
<b>Investigation findings:</b> Haematocrit: .....											
Hb: ..... WBC (leukocyte count): .....											
Differential Leukocyte count: Lymphocytes (%): .....											
Monocytes (%): .....											
Neutrophils (%): .....											
Basophils (%): .....											
Eosinophil (%): .....											
Platelet (Thrombocyte) count: .....											
ESR: .....											
<b>Investigation details:</b> Chest X ray: Yes <input type="checkbox"/> No <input type="checkbox"/> Yes (findings): .....											
Blood culture findings (If any): .....											
Other investigation details: .....											
<b>SPECIMEN INFORMATION FROM REFERRING AGENCY</b>											
Specimen type	Collection date	Label	FOR OFFICE USE ICMR- NIV →	Specimen ID	Test performed	Result					
1. BAL/ETA/ .....											
2. TS/NPS/NS											
3. Blood in EDTA											
4. Acute sera											
5. Convalescent sera											
Name of Doctor: .....			Hospital Name/address: .....								
Phone/mobile number: .....			Signature and date: .....								

PLEASE REFER THE CASE DEFINITION CHECKLIST ON PAGE 2. FOR SPECIMEN COLLECTION GUIDELINES, VISIT [www.niv.co.in](http://www.niv.co.in)  
For any sharing of information or for any query, contact Dr. Yogesh Gurav Scientist E (020-26006290/26006390). Page 1 of 2

**ICMR- National Institute of Virology, Pune**  
**Specimen Referral Form for 2019 Novel Coronavirus (2019-nCoV)**

Name of the patient: ..... Age: .....years.....months

Note: Please ensure that the case definition should be strictly followed.  
Please encircle the correct response (Yes/No)

**CASE DEFINITION**

**1. Severe Acute Respiratory Illness (SARI), with**

- history of fever YES / NO
- cough YES / NO
- requiring admission to hospital YES / NO

**WITH**

- no other etiology explains the clinical presentation YES / NO  
*(clinicians should also be alert to the possibility of atypical presentations in patients who are immunocompromised);*

**AND**

**any of the following**

- A history of travel to Wuhan, Hubei Province China in the 14 days prior to symptom onset. YES / NO
- the disease occurs in a health care worker who has been working in an environment where patients with severe acute respiratory infections are being cared for, without regard to place of residence or history of travel YES / NO
- the person develops an unusual or unexpected clinical course, especially sudden deterioration despite appropriate treatment, without regard to place of residence or history of travel, even if another etiology has been identified that fully explains the clinical presentation. YES / NO

**2. Individuals with acute respiratory illness of any degree of severity who, within 14 days before onset of illness, had any of the following exposures:**

- close physical contact with a confirmed case of nCoV infection, while that patient was symptomatic; YES / NO
- a healthcare facility in a country where hospital associated nCoV infections have been reported; YES / NO
- direct contact with animals (if animal source is identified) in countries where the nCoV is known to be circulating in animal populations or where human infections have occurred as a result of presumed zoonotic transmission\*. YES / NO

\* To be added once/if animal source is identified as a source of infection

**EMAIL ID OF THE HEALTH AUTHORITY (FOR SENDING THE REPORT):** .....

Name of Doctor: ..... Hospital Name/address: .....

Phone/mobile number: ..... Signature and date: .....



**Appendix-VII**

Transportation arrangement for containment Operation

Sector	Name of the Sector	Purpose for Vehicle Deployed	Vehicle Regn. number	Driver name	Contact Number
A		House to house surveillance			
		Supervisory Staff			
B		House to house surveillance			
		Supervisory Staff			
C		House to house surveillance			
		Supervisory Staff			

**Appendix-VIII**

Identified Sectors for Public Education Outreach and rostering of identified communication staff

Sector	Name of Municipal ward/village	Name of Municipal/Panchayat staff	Contact Number	Name of Supervisory BEE	Contact Number

Cluster Containment			
Format for daily report of COVID-19 virus disease			
		Date :	
State:	District:	Block :	Epicentre:
Total No. of Village in the block:	No. of affected Municipalty /village:		
		<b>Population Surveyed(Daily)</b>	<b>Population surveyed (Cumulative)</b>
<b>A) A 1 Population Based Information</b>			
0-3 Km Population from Epicenter			
<b>A-2 Morbidity data</b>			
		<b>Daily</b>	<b>Cumulative</b>
Persons with fever / symptoms consistent (only new Cases) with COVID-19 virus disease	0-3 Km from Epicenter		
<b>B) Hospital based Information: Name of Hospital - .....</b>			
<b>In patient</b>		<b>Daily</b>	<b>Cumulative</b>
Suspect COVID-19 viral disease cases			
Laboratory Confirmed case of COVID-19 virus disease			
No of deaths (suspected or confirmed)			
<b>D) Contact Tracing</b>			
Number of contacts under surveillance			
<b>E) Laboratory Testing</b>		<b>Number of Samples taken</b>	
		<b>Daily</b>	<b>Cumulative</b>
		<b>Number of Samples found Positive</b>	
		<b>Daily</b>	<b>Cumulative</b>

<b>F) Public Education outreach</b>	No of houses in 0-3 km	No. of houses Visited	Percentage
Villages covered by Public Education Outreach			

<b>G) Monitoring Health Staff</b>			
Health personnel deployed in field including medical officers, Health supervisors/health workers etc.		Health personnel deployed in field complaining of Fever/ symptoms consistent with COVID-19 virus disease	
Hospital staff including Medical Officers, Nurses, Attendants etc.		Hospital staff complaining of Fever/ symptoms consistent with COVID-19 virus disease	

**H) Stock Position**

Item	Previous days stock at District HQ	Consumed for the day	Stock at hand( s)	Stock to be requisitioned if any
PPE				
N-95 Masks				
Triple layer surgical mask				

Note: Daily report to be faxed by 11.00 a.m.

- Director NCDC (Fax No: 011-23922677; 011-23921401)
- Director EMR ( Fax No: 011- 23061457)

Signature DSO  
(Name & Desg. Of the reporting officer)  
Phone No.  
of DSO





**Containment Plan for Large  
Outbreaks  
Novel Coronavirus Disease 2019  
(COVID-19)**

**Ministry of Health and Family Welfare  
Government of India**

## **1. INTRODUCTION**

### **1.1 Background**

On 31<sup>st</sup> December 2019, the World Health Organization (WHO) China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. On 7<sup>th</sup> January 2020, Chinese authorities identified a new strain of Coronavirus as the causative agent for the disease. The virus has been renamed by WHO as SARS-CoV-2 and the disease caused by it as COVID-19. The disease since its first detection in China has now spread to over 200 countries/territories, with reports of local transmission happening in more than 160 of these countries/territories. As per WHO (as of 1<sup>st</sup> April, 2020), there has been a total of 823626 confirmed cases and 40598 deaths due to COVID-19 worldwide.

In India, as on 2<sup>nd</sup> April, 2020, 1965 confirmed cases (including 51 foreign nationals) and 50 deaths reported from 29 States/UTs. Large number of cases has been reported from Delhi, Karnataka, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Telangana and Uttar Pradesh.

### **1.2. Risk Assessment**

COVID-19 was declared a pandemic by WHO on 11<sup>th</sup> March, 2020. While earlier the focus of spread was centered on China, it has now shifted to Europe and North America. WHO has advised countries to take a whole-of-government, whole-of-society approach, built around a comprehensive strategy to prevent infections, save lives and minimize impact.

In India also, clusters have appeared in multiple States, particularly Kerala, Maharashtra, Rajasthan, Uttar Pradesh, Delhi, Punjab, Karnataka, Telangana and UT of Ladakh. 211 districts are now reporting COVID-19 cases and the risk of further spread remains very high.

### **1.3. Epidemiology**

Coronaviruses belong to a large family of viruses, some causing illness in people and others that circulate among animals, including camels, cats, bats, etc. Rarely, animal corona viruses may evolve and jump species to infect people and then spread between people as witnessed during the outbreak of Severe Acute Respiratory Syndrome (SARS, 2003) and Middle East Respiratory Syndrome (MERS, 2014). The etiologic agent responsible for current outbreak of SARS-CoV-2 is a novel coronavirus closely related to SARS-Coronavirus.

In humans, the transmission of SARS-CoV-2 can occur via respiratory secretions (directly through droplets from coughing or sneezing, or indirectly through contaminated objects or surfaces as well as close contacts). Nosocomial transmission has been described as an important driver in the epidemiology of SARS and MERS and has also been documented in COVID-19.

Current estimates of the incubation period of COVID range from 2-14 days, and these estimates will be refined as more data become available. Most common symptoms include fever, fatigue, dry cough and breathing difficulty. Upper respiratory tract symptoms

like sore throat, rhinorrhoea, and gastrointestinal symptoms like diarrhoea and nausea/vomiting are seen in about 20% of cases.

Due to paucity of scientific literature based on community based studies, the available data on host factors is skewed towards cases requiring hospitalization. As per analysis of the biggest cohort reported by Chinese CDC, about 81% of the cases are mild, 14% require hospitalization and 5% require ventilator and critical care management. The deaths reported are mainly among elderly population particularly those with co-morbidities.

At the time of writing this document, many of the crucial epidemiological information particularly source of infection, mode of transmission, period of infectivity, etc. are still under investigation.

## **2. Strategic Approach**

India would be following a scenario based approach for the following possible scenarios:

- i. Travel related case reported in India
- ii. Local transmission of COVID-19
- iii. Large outbreaks amenable to containment
- iv. Wide-spread community Transmission of COVID-19 disease
- v. India becomes endemic for COVID-19

### **2.1. Strategic Approach for Scenario: “Travel related cases reported from India”**

- (i) Inter-Ministerial coordination (Group of Ministers, Committee of Secretaries) and Centre-State co-ordination been established.
- (ii) Early detection through universal screening of all International passengers at Points of Entries (PoEs).
- (iii) Surveillance and contact tracing through Integrated Disease Surveillance Programme (IDSP) for tracking travellers in the community who have travelled from affected countries.
- (iv) Early diagnosis through testing samples of suspect cases.
- (v) Buffer stock of Personal Protective Equipment (PPE) maintained.
- (vi) Risk communication for creating awareness among public to follow preventive public health measures.

### **2.2. Local transmission of COVID-2019 disease**

Local transmission will lead to clustering of cases in time and space, epidemiologically linked to a travel related case or a positive case that has links to a travel related case. The cluster containment strategy will be:



- Extensive contact tracing and active search for cases in containment zone
- Testing all suspect cases and high risk contacts
- Isolating all suspect / confirmed cases and providing medical care.
- Quarantining contacts
- Implementing social distancing measures.
- Intensive risk communication.

### **2.3 Large outbreaks amenable to containment**

The strategy will remain the same as explained in para 2.2 as above but vary in extent depending upon spread and response to be mounted to contain it. Geographic quarantine and containment strategy will include:

- Defining the area of operation
- Active surveillance for cases and contacts in the identified geographic zone.
- Expanding laboratory capacity for testing all suspect cases, high risk contacts and SARI cases.
- Operationalize surge capacities created for isolation (COVID-19 hospitals/COVID-19 dedicated blocks) to hospitalize and manage all suspect / confirmed cases.
- Implementation of social distancing measures with strict perimeter control.
- Provide chemoprophylaxis with Hydroxy-chloroquine to all asymptomatic healthcare workers and asymptomatic household contacts of laboratory confirmed cases.
- Further intensification of risk communication through audio, social and visual media.

### **3. Scope of this Document**

In alignment with strategic approach, this document provides action that needs to be taken for containing a large outbreak. The actions for mitigation phase will be dealt separately under a mitigation plan.

### **4. Objective**

The objective of this plan is to stop the chain of transmission thus reducing the morbidity and mortality due to COVID-19.

### **5. Containment for large outbreaks through geographic quarantine**

#### **5.1 Geographic quarantine**

Geographic quarantine (cordon sanitaire) strategy calls for near absolute interruption of movement of people to and from a relatively large defined geographic area where there is single large outbreak or multiple foci of local transmission of COVID-19. In simple terms, it is a barrier erected around the focus of infection.

Geographic quarantine shall be applicable to such areas reporting large outbreak and/or multiple clusters of COVID-19 spread over multiple blocks of one or more districts that are contiguous.

## **5.2. Cluster Containment Strategy**

The Cluster Containment Strategy would be to contain the disease within a defined geographic area by early detection of cases, breaking the chain of transmission and thus preventing its spread to new areas. This would include geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, quarantine of contacts and risk communication to create awareness among public on preventive public health measures.

## **5.3. Evidence for implementing geographic quarantine**

In 2009, during the H1N1 Influenza pandemic it was observed that well connected big cities with substantive population movement were reporting large number of cases, whereas rural areas and smaller towns with low population densities and relatively poor road/ rail/ airway connectivity were reporting only few cases.

The current geographic distribution of COVID-19 mimics the distribution of H1N1 Pandemic Influenza. This suggests that while the spread of COVID-19 in our population could be high, it's unlikely that it will be uniformly affecting all parts of the country. This calls for differential approach to different regions of the country, while mounting a strong containment effort in hot spots.

Large scale measures to contain COVID-19 over large territories have been tried in China. Mathematical modeling studies have suggested that containment might be possible especially when other public health interventions are combined with an effective social distancing strategy.

## **5.4. Factors affecting large outbreak cluster containment**

A number of variables determine the success of the containment operations through geographic quarantine. These are:

- (i) Number and size of the cluster/s.
- (ii) Effectiveness of geographic quarantine.
- (iii) How efficiently the virus is transmitting in Indian population, taking into account environmental factors especially temperature and humidity.
- (iv) Public health response in terms of active case finding, testing of large number of cases, immediate isolation of suspect and confirmed cases and quarantine of contacts.
- (v) Geographical characteristics of the area (e.g. accessibility, natural boundaries)

- (vi) Population density and their movement (including migrant population).
- (vii) Ability to ensure basic infrastructure and essential services.

## **6. Action Plan for Geographic quarantine**

### **6.1. Legal framework**

The Central Government /State Government should review the existing legal instruments that provide legal support to implement the containment plan. Some of the Acts/ Rules for consideration could be (i) Disaster Management Act (2005) (ii) Epidemic Act (1897) (iii) Cr.PC and (iv) State Specific Public Health Act.

The Home Ministry has delegated the powers under DM Act, 2005 [ Section 10 sub-section 2 clauses (i) and (l)] to Secretary (Health and Family Welfare) to act in such a way to contain or control the outbreak. States may invoke the provisions under DM Act,2005 or under the Epidemic Act,1897 to delegate powers to identified authority to act in such a manner to control or contain the outbreak.

Indian Penal Code under sections 270 provides power to act against those indulging in spread of disease. Section 144 of the Code of Criminal Procedure, when invoked, prohibits gathering of people.

### **6.1. Institutional mechanisms and Inter-sectoral Co-ordination**

#### At the Union Government level

6.1.1 The Group of Ministers (GoM) under the Chairmanship of Union Health Minister will be the apex body to take policy decisions. The GoM will have Ministers of External Affairs, Civil Aviation, Shipping, Pharmaceuticals, Home Ministry and option for co-opting any other Ministry. The Union Health Minister will have an advisory Group that will advise him on way forward. The Public Health Working Group under Secretary (H) and Joint Monitoring Group under DGHS will provide technical inputs.

6.1.2. At the national level, the Cabinet Secretary/ National Crisis Management Committee (NCMC) / Committee of Secretaries (CoS) will review the situation across the country and continue to direct the concerned Ministries to implement its directions . The co-ordination with health and non-health sectors will be managed by NCMC/ CoS, on issues, flagged by Ministry of Health.

The scale of arrangement within the Ministry of health will be expanded with additional areas among the core capacities assigned to various officers. If need be, there will be empowered

group taking decisions for the core areas of work (planning-co-ordination, surveillance, laboratory support, hospital preparedness, human resource, logistics and data analysis)

#### At the State level

6.1.3. The Concerned State will activate State Crisis Management Committee or the State Disaster Management Authority, as the case may be to manage the clusters of COVID-19.

#### Institutional arrangement at the operational level

6.1.4. District Collector would be the nodal person for all preparedness and response activities within his jurisdiction. District Collector will hold regular meetings with health functionaries, DDMA, Revenue, PWD, Forest, Education and Panchayati Raj/ Local Self Governance Departments where the containment plan will be finalized and operationalized. These officials will issue directions to their ground level staff in all aspects of preparedness, control and containment in accordance with the Containment Plan and Guidelines.

District Collector would need to identify key issues (logistics, legal, technical and resources) and address them for implementing containment operations. He/she will keep ready all administrative orders for social distancing, restriction of rail/road/air transport, perimeter control and continuity of essential services.

In addition, a compendium of all the administrative orders required for enforcing the non-pharmaceutical interventions would be prepared well in advance and kept ready to be executed during response phase.

### **6.2. Trigger for Action**

Epidemiological intelligence on increase in the incidence of a COVID-19 cases occurring within a defined geographic area will be trigger for action. This will be provided by IDSPs early warning and response (EWAR) system. Routine laboratory based surveillance of SARI cases is another trigger for action.

### **6.3. Deployment of Rapid Response Teams (RRT)**

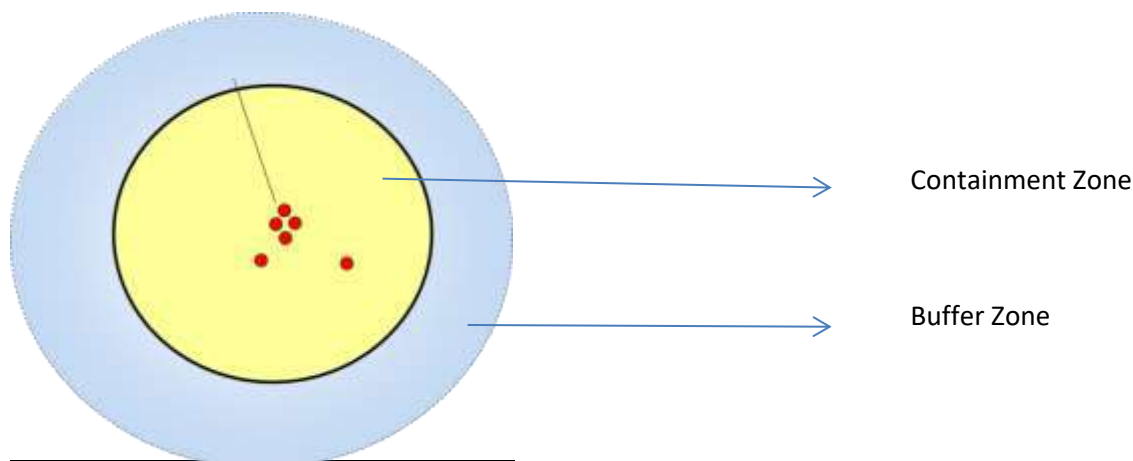
Emergency Medical Relief (EMR) division, Ministry of Health and Family Welfare will deploy the Central Rapid Response Team (RRT) to support and advice the State. The State will deploy its own State RRT and District RRT.

### **6.4. Identify area under geographic quarantine**

**6.4.1** A large outbreak is defined as localized increase in the incidence of a COVID-19 cases occurring within a defined geographic area e.g., in a village, town, or city. This could also imply progression of a small cluster, earlier noticed for which cluster management action is under implementation, into multiple clusters.

6.4.2. Defining containment and buffer zones: The area under geographic quarantine will be defined. There shall be (i) containment zone, surrounded by (ii) buffer zone.

Boundary for geographic quarantine will be defined based on : (i) geospatial distribution of each cluster contained within, (ii) largest administrative unit containing all clusters occurring within a state (with a minimum of 1 district), (iii) feasibility to implement strict interruption of movement of people, (iv) joint assessment by State and Central RRTs.



#### 6.4.3. Buffer Zone

The adjoining blocks of the affected district or rural districts of the affected city will be considered as the buffer zone.

#### 6.4.4 Perimeter

Perimeter of the geographically quarantined will be decided by the State administration based on criteria defined in Para 6.4.1. Clear entry and exit points will be established. The perimeter controls that need to be applied is in para 7.4.

### 7. Surveillance

7.1. Surveillance in containment zone, including contact listing, tracking and follow up shall be carried out as detailed in Cluster Containment Plan. Contact tracing shall be as per IDSP guidelines on the same.

7.2 Precise mapping of the outbreak shall be carried out.

7.3. Passive Surveillance shall be enhanced all throughout the area under geographic quarantine and districts surrounding it for ILI and SARI cases. All hospitalized patients with Severe Acute Respiratory Illness shall also be tested for COVID-19.

#### 7.4. Perimeter Control

The perimeter control will ensure that there is no unchecked outward movement of population from the containment zone except for maintaining essential services (including medical emergencies) and government business continuity. Thermal screening, IEC shall be carried out at all entry and exit points.

All vehicular movement, movement of public transport and personnel movement will be stopped. All roads including rural roads connecting the containment zone will be guarded by Police. For personnel and vehicles requiring regular movement, a pass/ID card may be issued with details recorded and communicated.

The District administration will post signs and create awareness informing public about the perimeter control. Health workers posted at the exit point will perform screening (e.g. interview travelers, measure temperature, record the place and duration of intended visit and keep complete record of intended place of stay).

Details of all persons moving out of perimeter zone for essential/ emergency services will be recorded and they will be followed up through IDSP. Those entering such geographically quarantined areas shall be given a chemo-prophylactic dose of hydroxy-chloroquine. All vehicles moving out of the perimeter control will be decontaminated with sodium hypochlorite (1%) solution.

### **8. Laboratory support**

#### 8.1 Designated laboratories

The identified VRDL network laboratories and designated private laboratories nearest to the affected area, will be further strengthened to test samples. The other available govt. laboratories and private laboratories (BSL 2 following BSL 3 precautions) shall also be engaged to collect/ test samples, after ensuring quality assurance by ICMR/VRDL network. If the number of samples exceeds its surge capacity, samples will be shipped to other nearby laboratories or to NCDC, Delhi or NIV, Pune or to other ICMR lab networks depending upon geographic proximity.

All test results should be available within 12-24 hours of sampling. ICMR along with the State Government will ensure that there are designated agencies for sample transportation to identified laboratories. The contact number of such courier agencies shall be a part of the micro-plan.

The designated laboratory will provide daily update (daily and cumulative) to District, State and Central Control Rooms on:

- i. No. of samples received
- ii. No. of samples tested
- iii. No. of samples under testing
- iv. No. of positive samples

## 8.2 Testing criteria

Laboratory/s will undertake testing of: (i) All symptomatic individuals who have undertaken international travel in the last 14 days (ii) All symptomatic contacts of laboratory confirmed cases, (iii) All symptomatic health care workers, (iv) All hospitalized patients with SARI and (v) Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact.

The testing will continue till 14 days from the date the last confirmed case is declared negative by laboratory test.

## 9. Hospital care

All suspect/confirmed COVID-19 cases will be hospitalized and kept in isolation in dedicated COVID-19 hospitals/hospital blocks. Persons testing positive for COVID-19 will remain hospitalized till such time as two of their samples are tested negative as per discharge policy. About 15% of the patients are likely to require hospitalization, and an additional 5 % will require ventilator management.

A three tier arrangement for managing suspect/ confirmed cases will be implemented to decrease burden on the COVID Block/ hospital.

- (i) The mild cases will be kept in temporary makeshift hospital facilities by converting hotels/ hostel/ guest houses/ stadiums near a COVID-19 hospital. The existing quarantine facility may also be converted. This will be identified near an existing COVID hospital/ COVID block.
- (ii) Dedicated COVID-19 hospitals/dedicated blocks in large hospitals will be identified and operationalized. Moderate to severe cases, who require monitoring of their clinical status (patients with radiological evidence of pneumonia) will be admitted to COVID hospital.
- (iii) Some of the severe cases may progress respiratory failure and /or progress to multi-organ failure and hence critical care facility/ dialysis facility/ and Salvage therapy [Extra Corporeal Membrane Oxygenator (ECMO)] facility for managing the respiratory/renal complications/ multi-organ failure shall be required. If such facilities are not available in the containment zone, nearest tertiary care facility in

Government / private sector needs to be identified, that becomes a part of the micro-plan.

In every hospital fever clinics with triage, holding areas, sampling stations and individual doctor's chambers where patients with fever/cough/breathing difficulty will be attended will be established.

### 9.1 Surge capacity

Based on the risk assessment, if the situation so warrants ( if data suggests an exponential rise in the number of cases), the surge capacity of the identified hospitals will be enhanced, private hospitals will be roped in and sites identified for temporary hospitals will be operationalized.

Surge capacity will also need enhancement in terms of laboratory testing capacity as detailed in para 8.1 above.

### 9.2 Pre-hospital care (ambulance facility)

Ambulances need to be in place for transportation of suspect/confirmed cases. Such ambulances shall be manned by personnel adequately trained in Infection Prevention and Control (IPC), use of PPE and protocol that needs to be followed for disinfection of ambulances (by 1% sodium hypochlorite solution using knapsack sprayers).

For any further guidance Standard Operating Procedure (SOP) for transporting a suspect/confirmed case of COVID-19 may be referred to (Available at: <https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf>)

### 9.3 Infection Prevention Control Practices

Health care associated infections among attending healthcare personnel are well documented in the current COVID-19 outbreak. There shall be strict adherence to Infection prevention control (IPC) practices in all health facilities. IPC committees would be formed (if not already in place. The designated hospitals will ensure that all healthcare staff is trained in washing of hands, respiratory etiquettes, donning/doffing & proper disposal of PPEs and bio-medical waste management.

At all times doctors, nurses and para-medics working in the clinical areas will wear three layered surgical mask and gloves. The medical personnel working in isolation and critical



care facilities where aerosolisation is anticipated, will wear full complement of PPE (including N95 masks).

The support staff engaged in cleaning and disinfection will also wear full complement of PPE. Environmental cleaning should be done twice daily and consist of damp dusting and floor mopping with Lysol or other phenolic disinfectants and cleaning of commonly touched surfaces with sodium hypochlorite solution.

Detailed guidelines available MoHFW's website on (i) Infection prevention and control in healthcare facilities, (ii) Rational use of Personal Protective Equipment, may be referred to.

All healthcare workers must be advised to self-monitor their health and report any breach in IPC practices or occurrence of any illness.

## **10. Clinical management**

### **10.1. Clinical Management**

The hospitalized cases may require symptomatic treatment for fever. Paracetamol is the drug of choice. Suspect cases with co-morbid conditions, if any, will require appropriate management of co-morbid conditions.

For patients with Severe Acute Respiratory Illness (SARI), having respiratory distress may require, pulse oxymetry, oxygen therapy, non-invasive and invasive ventilator therapy. Detailed guidelines available on MoHFW's website and updated from time to time, may be followed.

Doctors managing severe COVID cases may contact AIIMS, Delhi (helpline - 9971876591) or through tele-medicine network to seek guidance for management of severe cases.

### **10.2. Discharge Policy**

Discharge policy for suspected cases of COVID-19 tested negative will be based on the clinical assessment of the treating physician. For those tested positive for COVID-19, their discharge from hospital will be based on consecutive two samples tested negative and the patient is free from symptoms.

## **11. Psychosocial support**

Quarantine, isolation and being affected by a new disease, all can be very stressful for those involved and for their family members. Social distancing measures that force one to stay at home and resulting social isolation can be frustrating. This apart, the healthcare workers

working under the fear of an unknown disease, under stressful and demanding situations, impact their mental well-being. A guidance note on dealing with various mental issues is available at:

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

The National Institute of Mental Health and Neuro Sciences (NIMHANS) will be the nodal agency to plan and execute psycho-social support. NIHMANS will prepare a Psycho-Social Support plan and implement the same in the COVID affected areas.

## **12. Pharmaceutical interventions**

As of now there is no approved specific drug or vaccine for cure or prevention of COVID-19.

However Hydroxychloroquine has been recommended as chemoprophylaxis drug for use by asymptomatic healthcare workers managing COVID-19 cases and asymptomatic contacts of confirmed COVID-19 cases (advisory issued by ICMR in this regard is available at: <https://www.mohfw.gov.in/pdf/AdvisoryontheuseofHydroxychloroquinasprophylaxisforSARSCoV2infection.pdf>).

In addition a combination of Hydroxychloroquine and Azithromycin has been advocated for use in severe cases of COVID-19 under medical supervision. (Guideline on clinical management protocol of COVID-19 is available at: <https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf>)

Contacts and healthcare workers receiving Hydroxychloroquine as chemoprophylaxis will be informed to report any untoward health event to nearest health facility.

## **13. Non-Pharmaceutical interventions**

In the absence of proven drug or vaccine, non-pharmaceutical interventions will be the main stay for containment of COVID-19 cluster.

### **13.1. Preventive public health measures**

There will be intensive social mobilization among the population in geographic quarantine zone for adoption of community-wide practice of frequent washing of hands and respiratory etiquettes. The community will also be encouraged to self-monitor their health and report to the ASHA/Anganwadi worker visiting home or to nearest health facility.

### **13.2. Quarantine and isolation**

Quarantine and Isolation are important mainstay of cluster containment. These measures help by breaking the chain of transmission in the community.

### 13.2.1. Quarantine

Quarantine refers to 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 home quarantine/ facility quarantine of contacts of suspect /confirmed cases. The guideline on home quarantine available on the website of the Ministry provides detailed guidance on home quarantine.

The contacts advised quarantine will undergo risk profiling. Those above 60 or with co-morbidities will be shifted to designated quarantine facility. This will help identify early development of symptoms among them, their testing and shifting to isolation facility under para 9.

### 13.2.2. Isolation

Isolation refers to separation of individuals who are ill and suspected or confirmed of COVID-19. There are various modalities of isolating a patient. Ideally, patients can be isolated in individual isolation rooms or negative pressure rooms with 12 or more air-changes per hour.

In resource constrained settings, all positive COVID-19 cases can be cohorted in a ward with good ventilation. Similarly, all suspect cases should also be cohorted in a separate ward. However, under no circumstances these cases should be mixed up. The COVID hospital/ COVID block in an identified hospital or the make shift temporary hospitals mentioned under para 9 will all have separate facilities to keep suspect and confirmed cases.

A minimum distance of 1 meter needs to be maintained between adjacent beds. All such patients need to wear a triple layer surgical mask at all times.

## 13.3 Social distancing measures

For the cluster containment, social distancing measures are key interventions to rapidly curtail the community transmission of COVID-19 by limiting interaction between infected persons and susceptible hosts. The following measures would be taken:

### 13.3.1 Closure of schools, colleges and work places

Administrative orders will be issued to close schools, colleges and work places in containment and buffer zones. Intensive risk communication campaign will be followed to encourage all persons to stay indoors for an initial period of 28 days, to be extended based on the risk assessment. Based on the risk assessment and indication of successful containment operations, an approach of staggered work and market hours may be put into practice.

### 13.3.2 Cancellation of mass gatherings

All mass gathering events and meetings in public or private places, in the containment and buffer zones shall be cancelled / banned till such time as the area is declared to be free of COVID-19 or the outbreak has increased to such scales to warrant mitigation measures instead of containment.

### 13.3.3. Advisory to avoid public places

The public in the containment and buffer zones will be advised to avoid public places and only, if necessary, for attending to essential services. The administration will ensure supply of enough triple layer masks to the households in the containment and buffer zones to be distributed through visiting surveillance teams.

### 13.3.4. Cancellation of public transport (bus/rail)

There will be prohibition for persons entering the geographic quarantine and on persons exiting the geographic quarantine zone. To facilitate this, if there are major bus transit hubs or railway stations in the containment zone, the same would be made dysfunctional temporarily. Additionally, irrespective of the fact that there is a rail/road transit hub, the perimeter control will take care of prohibiting people exiting the containment zone including those using private vehicles and taxis.

As a significant inconvenience is caused to the public by adopting these measures in the containment zone, State government would proactively engage the community and work with them to make them understand the benefits of such measures.

### 13.3.5. Enforcement of Geographic quarantine.

The perimeter control and movement of vehicles within the containment zone will be prohibited except for those (identified through special passes) earmarked for providing essential services. Police check-posts at prominent locations will check vehicles and give necessary guidance by police. Those found defaulting of Government orders will be prosecuted.

## **14. Material Logistics**

### 14.1. Personal Protective Equipment

The type of personal protective equipment for different categories of:

S. No.	Name of the item	Category of personnel
1	PPE Kit, N 95, Mask, Gloves, Goggles, cap and shoe cover )	<ul style="list-style-type: none"> <li>• Doctors and nurses attending to patients in isolation, ICU/ critical care facilities of hospitals in the containment zone.</li> <li>• Para-medical staff in the back cabin of ambulance performing interventional lifesaving maneuvers.</li> <li>• Those working in laboratories or collecting sample</li> </ul>
2	N-95 Mask and gloves	<ul style="list-style-type: none"> <li>• Supervisory doctors verifying a suspect case</li> <li>• Doctors/nurses attending patients in Screening fever clinics/ respiratory clinics / primary health care facilities</li> </ul>
3	Triple Layer Surgical mask	<ul style="list-style-type: none"> <li>• To be used by Field workers doing surveillance work</li> <li>• Staff providing essential services.</li> <li>• Suspect cases and care giver / by stander of the suspect case</li> <li>• Security staff.</li> <li>• Ambulance drivers</li> </ul>

The State Government has to ensure adequate stock of Personal Protective Equipment (PPE). The quantity required for a containment operation will depend upon the size and extent of the cluster and the time required for containing it. States will also ensure that the PPE are being used in accordance with the guidelines on rational use of PPE.

#### 14.2. Transportation

A large number of vehicles will be required for mobilizing the surveillance and supervisory teams. The vehicles will be pooled from Government departments. The shortfall, if any, will be met by hiring of vehicles.

#### 14.3. Stay arrangements for the field staff

The field staff brought in for the surveillance activities and that for providing perimeter control need to be accommodated within the containment zone. Facilities such as schools, community buildings, etc. will be identified for sheltering. Catering arrangement will have to be made at these locations.

#### 14.4 Bio-medical waste management

A large quantity of bio-medical waste is expected to be generated from containment zone. Arrangement would also be required for such bio-medical waste (discarded PPEs, etc.), preferably by utilizing the bio-medical waste management services at the designated hospital.

## **15. Risk communication**

### **15.1 Risk communication material**

Risk communication materials [comprising: (i) posters and pamphlets (ii) audio only material (iii) AV films (prepared by PIB/MoHFW)] will be prepared and kept ready for targeted roll out in the entire geographic quarantine zone.

### **15.2 Communication channels**

#### **15.2.1 Interpersonal communication**

During house to house surveillance, ASHAs/ other community health workers will interact with the community for: (i) reporting symptomatic cases (ii) contact tracing (iii) information on preventive public health measures.

#### **15.2.2 Mass communication**

Awareness will be created among the community through miking, distribution of pamphlets, mass SMS and social media. Also use of radio and television (using local channels) will ensure penetration of health messages in the target community.

#### **15.2.3 Dedicated helpline**

A dedicated helpline number will be provided at the Control Room (District Headquarter) and its number will be widely circulated for providing general population with information on risks of COVID-19 transmission, the preventive measures required and the need for prompt reporting to health facilities, availability of essential services and administrative orders on perimeter control.

#### **15.2.4 Media Management**

At the Central level, only Secretary (H) or representative nominated by her shall address the media. At the State level, only Principal Secretary (H), his/her nominee will speak to the media. At the District level DM/DC will address the media.

There will be regular press briefings/ press releases to keep media updated on the developments and avoid stigmatization of affected communities. Every effort shall be made to address and dispel any misinformation circulating in media including social media.

## **16. Information Management**

### **16.1 Control room at State & District Headquarters**

A Control Room (if not already in place) shall be set up at State and District headquarters. This shall be manned by State and District Surveillance Officer (respectively) under which data managers (deployed from IDSP/ NHM) responsible for collecting, collating and analyzing data from field and health facilities. Daily situation reports will be put up.

The state will provide aggregate data on daily basis on the following (for the day and cumulative):

- i. Total number of suspect cases
- ii. Total number of confirmed cases
- iii. Total number of critical cases on ventilator
- iv. Total number of deaths
- v. Total number of contacts under surveillance

### **16.2 Control Room in the geographic quarantine zone**

A Control Room shall be set up inside the geographic quarantine zone to facilitate collection, collation and dissemination of data from various field units to District and State Control Rooms. This shall be manned by an epidemiologist under which data managers (deployed from IDSP/ NHM) will be responsible for collecting, collating and analyzing data from field and health facilities.

This Control Room will provide daily input to the District Control Room for preparation of daily situation report.

### **16.3 Alerting the neighboring Districts/States**

The Control Room at State Government Headquarters will alert all neighboring Districts. There shall be enhanced surveillance in all such Districts for detection of clustering of symptomatic illness. Awareness will be created in the community for them to report symptomatic cases/contacts.

Also suitable provisions shall be created for enhancing horizontal communication between adjacent districts, especially for contact tracing exercise and follow up of persons exiting the containment zone.

## 17. Capacity building

It is expected that in such circumstances, large human resource requirement will be there to manage: (i) Field activities including surveillance, (ii) Clinical care at hospitals, (iii) laboratory testing and (iv) support staff to provide support services.

### 17.1 Training content

Trainings will be designed to suit requirement of each and every section of healthcare worker involved in the containment operations. These trainings for different target groups shall cover:

1. Field surveillance, contact tracing, data management and reporting
2. Surveillance at designated exit points from the containment zone
3. Sampling, packaging and shipment of specimen
4. Hospital infection prevention and control including use of appropriate PPEs and bio-medical waste management
5. Clinical care of suspect and confirmed cases including ventilator management, critical care management
6. Risk communication to general community and health service providers

### 17.2 Target trainee population

Various sections of healthcare workforce (including specialist doctors, medical officers, nurses, ANMs, Block Extension Educators, MHWs, ASHAs) and workforce from non-health sector (security personnel, Anganwadi Workers, support staff etc.). Trainings will be tailored to requirements of each of these sections.

Prepare Training plan and calendar for undertaking training of non-health workers (including trainee ANM), volunteers from Red Cross, Civil Defence, NCC, NSS, Nehru Yuvak Kendra volunteers, Panchayati Raj functionaries (rozgar sewaks) on community surveillance (self-protection, brief questionnaire interview and reporting to supervisors).

Train all available clinical resources (respiratory physicians, anaesthetists, intensivists, MBBS doctors who have handled ventilators, including DNB and MD students) on clinical and ventilatory management.

The training resources available at IGOT platform of GoI may be utilized.

The training will be conducted by the RRT a day prior to containment operations are initiated.

### 17.3 Replication of training in other Districts

The State Govt. will ensure that unaffected Districts are also trained along the same lines so as to strengthen the core capacities of their RRTs, doctors, nurses, support staff and non-



health field formations. These trainings should be accompanied with functional training exercises like mock-drills.

#### **18. Financing of containment operations**

The fund requirement would be estimated taking into account the scale of operations and funds will be made available to the district collector from NHM flexi-fund. The SDRF funds can also be used as per notification issued by Ministry of Home Affairs.

#### **19. Scaling down of operations**

The operations will be scaled down if no secondary laboratory confirmed COVID-19 case is reported from the geographic quarantine zone for at least four weeks after the last confirmed test has been isolated and all his contacts have been followed up for 28 days. The containment operation shall be deemed to be over 28 days from the discharge of last confirmed case (following negative tests as per discharge policy) from the designated health facility i.e. when the follow up of hospital contacts will be complete.

The closing of the surveillance for the clusters could be independent of one another provided there is no geographic continuity between clusters. However the surveillance will continue for ILI/SARI.

However, if the containment plan is not able to contain the outbreak and large numbers of cases start appearing, then a decision will need to be taken by State administration to abandon the containment plan and start on mitigation activities.

**Director**

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राष्ट्रीय रक्त संचरण परिषद  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
भारत सरकार

**National Blood Transfusion Council**  
**Ministry of Health and Family Welfare**  
**Government of India**

D.O. No.: S-12016/56/2020-NACO(BS)  
25<sup>th</sup> March 2020

Sir/ Madam

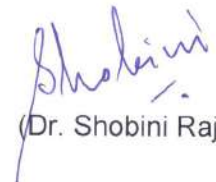
As you may be aware, Government of India had already issued a detailed advisory on preventive measures to be taken to contain the spread of Novel Coronavirus (COVID-19). Requests have however been received from several stakeholders engaged with managing blood centres and blood transfusion services regarding concerns with maintaining safety and adequacy of blood during this period of restrained gatherings and social distancing.

Blood Centers, world over, are dependent on voluntary blood donation from healthy individuals to meet their blood supplies. Since there continues to be a demand for blood and blood components, especially for those patients depending on blood transfusions as a life saving measure, like Thalassemics, or to mitigate blood loss in accident victims, pregnant women, critically sick patients etc, it is essential that supplies of safe blood continue to be maintained at licensed blood centres in the country. Activities for blood collection and voluntary blood donation therefore are required to be continued judiciously during this period to meet the blood requirements.

The guidance developed in the context of blood transfusion services is enclosed for your reference. I request all State AIDS Control Societies and State Blood Transfusion Councils to adapt or adopt the guidance to their specific needs and accordingly direct the professionals engaged in blood transfusion services to facilitate maintenance of adequate stocks of safe blood to meet requirements.

While the Ministry of Health and Family Welfare continues to monitor the situation actively, these recommendations may be considered interim till revised. It is also re-iterated that updated MoHFW guidelines with respect to protocols for COVID-19 available on <http://www.mohfw.gov.in> and other national guidelines should also be fully complied with.

You may please feel free to contact us for any further information and/or necessary directions in this regard.

  
(Dr. Shobini Rajan)

NATIONAL GUIDANCE  
TO  
BLOOD TRANSFUSION  
SERVICES IN INDIA  
IN LIGHT OF  
COVID-19 PANDEMIC

## **BACKGROUND**

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Novel Coronavirus (nCoV) is a new strain of Coronavirus (CoV) family that has not been previously identified in humans. COVID-19 is the infectious disease caused by the most recently discovered coronavirus (SARS-CoV-2) (1).

The "incubation period" means the time between catching the virus and beginning of the symptoms of the disease. Most estimates of the incubation period for COVID-19 range from 1-14 days, average duration of around five days (1).

The most common symptoms of COVID-19 are fever, tiredness, and dry cough, nasal congestion, runny nose and sore throat. These symptoms are usually mild and begin gradually. Most people (about 80%) recover from the disease without needing special treatment. Older people, and those with underlying medical problems like high blood pressure, heart problems or diabetes, are more likely to develop serious illness. (1)

People can catch COVID-19 from case of COVID-19 disease. The disease can spread from person to person through small droplets from the nose or mouth which are spread when a person with COVID-19 coughs or exhales. This is why, it is important to stay more than 1 meter (3 feet) away from a person who is sick and also maintain a similar social distance. (1)

Approximately 15% of clinically ill patients in one study had RNA in plasma or serum, but the presence or absence of infectious virus has not been reported and there remains no precedent for the occurrence of transfusion-transmitted respiratory viruses (2).

No cases of transfusion-transmission were ever reported for the other two coronaviruses that emerged during the past two decades (SARS and MERS-CoV). Virus detection in blood has only been detected in symptomatic patients with COVID-19 to date. American Association of Blood Banks (AABB), US-FDA and CDC are not recommending any additional action by blood collection establishments at this time because there are no data or precedent suggesting risk of transfusion transmission for COVID-19 (2). Individuals are not at risk of contracting COVID-19 through the blood donation process or via a blood transfusion, since respiratory viruses are generally not known to be transmitted by donation or transfusion (3). According to the U.S. Food and Drug Administration (FDA), there have been no reported or suspected cases of transfusion-transmitted COVID-19 (4).

## **IMPLICATIONS ON BLOOD TRANSFUSION SERVICES**

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Blood Centres, world over are dependent on voluntary blood donation from healthy individuals to meet their blood supplies. In light of the COVID-19, there are several national and global reports of apprehensions among potential blood donors and donor organizations with respect to risks of contracting the infection through blood donation camps and visiting the blood centre to donate blood. The social distancing being advocated for preventing an individual from contracting COVID-19 is also being interpreted to not congregate for blood donation opportunities. If people do not turn up to donate at blood centres or camp locations, there is a likelihood of shortfall in blood supplies, which may be detrimental to those who are in urgent need of blood and blood components, like thalassaemics, persons with severe anaemia, instances of severe blood loss, road traffic accidents, post partum haemorrhage etc.

Alongside, there are also queries from various blood centres with respect to temporary deferral criteria for blood donors in light of the pandemic. The WHO guidance on the issue is yet to be released. Nevertheless, it is imperative to define such criteria to maintain the safety of donated blood, donor and patient safety.

**RECOMMENDATIONS:**

The following interim recommendations may be followed in the context of blood transfusion services to maintain a safe and adequate blood supply during this period. It may be noted that while the Ministry continues to monitor the situation actively, these recommendations may be considered interim till revised in light of WHO guidance and upcoming evidence.

**1) Exclusion of at-risk donors to maintain safety:-**

Based on the history of the exposure of blood donor to the Coronavirus (SARS-CoV-2), following are the deferral criteria that should be applied while selecting the donor for blood donation.

- a) **Travel history:**-Individuals should be deferred from donating blood for 28 days after the date of departure from a country with COVID-19 transmission in the community and areas as notified by Ministry of Health and Family Welfare time to time (4).
- b) **Contact history:**-Individuals should be deferred from donating blood for 28 days with the last possible close contact exposure to a person who is confirmed/suspected case of COVID-19 including those under quarantine. (4).
- c) **Confirmed case:**- Individuals should be deferred from donating blood for 28 days till there is complete recovery from the disease including radiological and virological clearance(5).

**2) Management of blood collection to ensure adequacy:-**

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As per the advisory issued by Ministry of Health and Family Welfare, Government of India, it is advised that mass gatherings may be avoided or possibly be postponed till the disease spread is contained. It is however also mentioned that for such gatherings, States may take necessary action to guide the organizers on precautions to be taken as per the existing guidelines. (6).

Therefore, keeping in view the essentiality of maintaining safe blood supplies, it is recommended that in-house blood donation as well as outdoor blood donation activities may be continued, while ensuring compliance with extant social distancing norms, infection control guidelines and biomedical waste disposal rules. This is to be ensured not only by the staff of the blood centres, but also by organizers, potential blood donors and all other stakeholders.

a) **Social Distancing measures should be followed in the blood donation site** which are advised from time to time by the concerned authorities like physical distancing of one meter between the individuals, restriction of social norms of hand shaking and hugging, handwashing protocols, protocols for maintaining the proper cleanliness of the equipment used during the blood donation, measures to reduce the overcrowding, managing the blood donation couches such that one meter distance is maintained between the two couches of blood donation etc.

b) **Infection control measures** should be consistent with national and state communicable disease control guidelines for COVID-19 for communities. Blood collection centres are not medical care facilities so general public guidelines rather than hospital guidelines can be followed. Following general measures for infection prevention and control should be under taken by the health care workers as well as the blood donors. All blood centres and camp organizers should educate the staff and donors for the same and provide facilities like running water, soap, hand sanitizers, personal protective equipment, colour coded dustbins etc.

- a) **Hand hygiene:** This is appropriate for all modes of transmission including airborne, droplet and contact. Hand washing with soap and water is preferred when hands are visibly dirty or soiled with blood or other body fluids or after using the toilet. Hand rubbing with an alcohol-based preparation is the preferred method for routine hygienic antisepsis if hands are not visibly soiled and running water is not available.
- b) **Cough etiquette:** appropriate for all modes of transmission.
- c) **Avoid close contact with confirmed or suspected case of coronavirus disease.**
- d) Stay at home or self defer if staff/donor are unwell or have contact with someone confirmed for COVID-19.
- e) **Safe disposal** of used gloves, masks, caps and other soiled material.

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The National Guidelines for infection prevention and control for healthcare facilities as issued by Ministry of Health and family welfare, Government of India may be referred for better understanding and implementation of the measures to be taken for infection prevention and control in the healthcare settings (7).

Enhanced infection control would not normally be required unless on specific advice of public health and/or infection control personnel. Additional personal protective equipment such as P2/N95 masks, additional gloves and gowns for collection of blood is not currently considered necessary as blood is collected from people who are healthy. Enhanced environmental cleaning would not normally be required but may be recommended to decrease the risk of exposure or in the situation, that a suspected case was present at a blood centres. This will include ensuring that all the frequently touched surfaces are sanitized and all biomedical waste is disposed off correctly.

- c) **Blood collection** through recruitment of healthy individuals as blood donors should be ensured so as to have a continuity in sufficient supply of blood to the blood banks. Wherever possible, regular repeat voluntary blood donors should be encouraged to come for blood donation at sites convenient to them. In-house and outreach voluntary blood donation camps may be organized as usual with appropriate precautionary measures. The blood donors during the blood donation sessions may be called for blood donations in a staggered manner such that crowding and mass gathering is avoided and social distancing is maintained. The specific norms for mass gatherings and social distancing as issued by respective State Governments may be adhered to with respect to numbers that define such gatherings. Similarly, smaller blood donation teams may be deployed by blood centres for blood collection.
- a) In some circumstances an outbreak may be geographically restricted to a small identified area like a village, block etc, in which case blood collection from such areas may be temporarily ceased.
  - b) Depending on the circumstances, needs and capacity in the system, the loss of donations from a specific area may need to be supplemented by increasing recruitment for blood donors and collections in non-affected areas. IEC Campaigns should be organized to increase awareness and encourage donation in these areas.

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- d) **Donor Education and Communication** is of paramount importance during any outbreak situation. Donors should be apprised to any changes in either the donor selection process or in the screening of donations or overall flow in the blood centres or outdoor camps. Donors are more likely to understand the situation and therefore be able to either self-defer or answer the donor selection questions more easily, accurately and honestly if they fully understand the situation, the actions being taken by the blood centre and why those actions are being taken. Blood centres may review the SOP for their blood collection and donor screening flow to accommodate for these changes. Donor educational materials in the form of leaflets, handouts or the posters, instructing individuals to self-defer and refrain from donation if they have any history of travel or contact or are confirmed case for COVID-19 may be displayed prominently at the blood donation site. The counsellor and the medical officer posted in the blood centre or the blood donation camp should strictly follow the routine as well as additional measures.
- e) **Role of Voluntary Blood Donor Organizations** can be critical in ensuring that there is a sufficient blood supply. Countries that have efficient voluntary blood donor organizations are able to sustain a constant inflow of donors. The VBDOs should maintain close contact with local blood centres to ascertain the need for donors. They should work closely with health authorities to disseminate the necessary guidelines for blood donation during the infectious disease outbreak like COVID-19. Written communication in a jargon-free language can be used to inform and educate the voluntary blood donor organizations about the expected roles and responsibilities of Voluntary Blood Donation Organizations in blood transfusion services during the outbreak of the infectious disease like COVID-19. These roles and responsibilities should be in synchronization with the extant rules and regulations for mass gatherings and social distancing measures to be undertaken and as communicated by the concerned authorities during the epidemic period while conducting the voluntary blood donation camp (9).
- f) **Post donation care** is to be ensured for every donor donating blood at the blood centre or in outdoor locations as per standard of care. In the present context:
- a. **Blood donor related**:-In case a donor reports back to the blood centre or camp organizer within fourteen days of donating blood experiencing
    - i. Post donation illness suspicious of COVID -19 in self
    - ii. Been confirmed positive for COVID-19



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- iii. A close contact having been confirmed positive for COVID-19

It is to be ensured by the Blood Centre Medical officer that if clinical intervention is required for the donor, he should be appropriately referred for further management as per extant guidelines. The SBTC should ensure that the details with respect to facilities where such services for diagnosis and treatment of Coronavirus disease are made available with all licensed blood centres in their State.

- b. **Blood and blood component related:**- The unutilized whole blood or blood components collected from such individuals as under and above should be recalled and discarded.
- g) **Sharing and transfer of screened or otherwise low risk blood and blood components** is enabled in the Drugs and Cosmetics Rules and NBTC guidelines. This approach is also a potential solution when the effect of the disease outbreak leads to insufficiency of blood supply as donors and blood collection activities have to be reduced, but demand for blood and components continues at a normal level as usual than can be supplied at the current level of blood collection. These provisions may be exercised by licensed blood centres and facilitated by SBTC to obviate the instances of scarcity of blood in the affected part of the country (10).
- h) **Guidelines on appropriate clinical use of blood and blood components**, though are a matter of routine, should be built into all clinical training and practice. In situations where the normal sufficiency or safety of the blood supply may be compromised, only giving blood and components when absolutely necessary will help to both safeguard supplies and protect recipients from unnecessary exposure to a potentially infectious clinical product.
- The Hospital Transfusion Committee of the hospitals should be regularly apprised of the developments of the epidemic in the region. The committee should be empowered to take the appropriate decision and provide the necessary guidelines to the treating physician and the surgeons of the hospital for the appropriate clinical use of blood and blood product during the period of outbreak of COVID-19.
- i) **Haemovigilance** has an important role to play. Since a National Haemovigilance Program is in place in National Institute of Biologicals, it should continue to capture and analyse any adverse events, which are associated with blood and blood component transfusion, including post donation instances of COVID-19. All possible cases post donation and



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post transfusion infections should be reported to HvPI of NIB with copies to respective SBTC and State FDA and properly investigated.

**REFERENCES**

- 1) <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>
- 2) Update: Impact of 2019 Novel Coronavirus and blood safety, Feb 25 2020, by AABB's Transfusion Transmitted Disease Committee.
- 3) The AABB Interorganizational Task Force Statement on Coronavirus and Blood Donation;  
<http://www.aabb.org/advocacy/regulatorygovernment/Pages/Statement-on-Coronavirus-and-Blood-Donation.aspx>
- 4) <https://www.fda.gov/emergency-preparedness-and-response/mcm-issues/coronavirus-disease-2019-covid-19-frequently-asked-questions>
- 5) Discharge Policy of nCoV Case, Ministry of Health and Family Welfare, Government of India.
- 6) Advisory for the mass gatherings issues by MoHFW through an Office Memorandum dated 5<sup>th</sup> March 2020.
- 7) National Guidelines for Infection Prevention and Control in Healthcare Facilities as issued by MoHFW, GOI.
- 8) AABB's Optional Resources for FDA's Communication to Blood Establishments Regarding the COVID-19 Outbreak February 2020
- 9) Voluntary Blood Donation Program: An operational guideline by NBTC
- 10) Guidelines on bulk transfer of blood and the blood components by NBTC



**Director**

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सत्यमेव जयते

राष्ट्रीय रक्त संचरण परिषद  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
भारत सरकार

**National Blood Transfusion Council  
Ministry of Health and Family Welfare  
Government of India**

**S-12016/99/2019 NACO (NBTC)**

**Dated: 17<sup>th</sup> April, 2020**

Dear *Sir*

National Blood Transfusion Council (NBTC) in close coordination with State Blood Transfusion Councils (SBTC) is committed for promotion of voluntary blood donation program and access to safe blood to fulfil the clinical requirement of blood throughout the country. There are 3311 licensed blood centres in the country, which are collecting around 12.4 million units of blood per year.

In view of the outbreak of COVID 19 and complete lock down since 25<sup>th</sup> March, 2020, all modes of transportation as well as movement of common people is compromised which also resulted in limited movement of Blood Mobile and Transportation Vans as well as blood donor for voluntary blood donation.


To overcome this challenge Ministry of Home Affairs have issued a communication to The chief Secretaries/ Administrators/ Advisors to Administrators, Director General of Police of All States and Union Territories and Commissioner of Police, Delhi to give suitable directions to State, District and field level officers to facilitate the unhindered movement of blood mobile vans, blood transportation vans and movement of voluntary blood donors for voluntary blood donation.

You are requested to issue suitable permission letter from State Blood Transfusion Councils to blood mobile team of blood mobile van and blood transportation van for their movement. You may also direct the blood centres identified by State Blood Transfusion Councils to issue Donor Appointment Letters to the blood donors, which will facilitate their movement towards the blood centres for voluntary blood donation.

I am very sure that under your able leadership and guidance the voluntary blood donation program continues to be implemented effectively even in this period of COVID-19 pandemic and conditions of lockdown. This will go a long way in saving the lives of all the patients requiring blood for their medical conditions by ensuring the sufficient and regular supply of safe and adequate blood throughout the country.

Enclosures:

- a) Donor Appointment Letter.
- b) Communication from Ministry of Home Affairs for Voluntary blood donation

  
Dr Sunil Gupta,  
Additional Director General,  
BTS and NBTC, NACO

To,  
The Project Directors,  
All State/UT AIDS Control Societies.

*Copy To,*  
The Directors,  
State Blood Transfusion Councils.

**DONOR APPOINTMENT LETTER  
TO WHOMSOEVER IT MAY CONCERN**

Please allow the bearer of this pass unimpeded before the time of expiry as he or she is on his way to the blood centre to donate blood for a requirement.

Name of the Donor.....
ID Proof of the Donor.....
Date and Time of Appointment.....
Address of Donor.....

To verify the pass, please call the blood centre at No....., Ext No.....

**IMMEDIATE**

**No. 11034/01/2020-IS.IV  
GOVERNMENT OF INDIA  
MINISTRY OF HOME AFFAIRS  
(INTERNAL SECURITY-I DIVISION)**

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North Block, New Delhi  
Dated, the 15<sup>th</sup> April, 2020

To

1. Chief Secretaries/ Administrators/ Advisers to Administrators, All State Governments/ Union Territories.
2. Directors General of Police, All States/ Union Territories
3. Commissioner of Police, Delhi

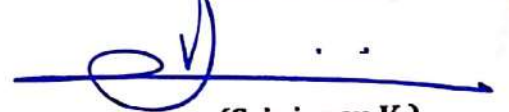
Sir/Madam,

Please find enclosed D.O. No. S-12016/99/2019-NACO (NBTC) dated 14.04.2020 (Copy enclosed) received from Secretary, Ministry of Health and Family Welfare regarding promotion of voluntary blood donation program through National Blood Transfusion Council in coordination with the State Blood Transfusion Councils (STBCs) to fulfill the critical requirement of blood throughout the country.

2. In this regard, it is requested that suitable directions may be given to the State, District and other field level officers to facilitate the unhindered movement of blood mobile vans and transportation vans and movement of the voluntary blood donors. It may be ensured that blood mobile teams are identified through permission letters from STBC and Donor Appointment Letters issued from licensed blood centres.

Encl: As above.

Yours faithfully,



(Srinivasu K.)

**Deputy Secretary to the Government of India**

Copy to the Secretary, Ministry of Health and Family Welfare, Nirman Bhavan,  
New Delhi.



प्रीति सूदन, आईएएस  
सचिव

PREETI SUDAN, IAS  
Secretary



भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
Government of India  
Department of Health and Family Welfare  
Ministry of Health and Family Welfare

D.O. No. S-12016/99/2019- NACO (NBTC)

Dated: 14<sup>th</sup> April, 2020

Dear *Ajay*,

Ministry of Health and Family Welfare, through National Blood Transfusion Council (NBTC) is committed for promotion of voluntary blood donation program to fulfil the clinical requirement of blood throughout the country. NBTC works in coordination with State Blood Transfusion Councils in various States for promotion of safe blood access and voluntary blood donation. There are 3311 licensed blood centres in the country which are collecting around 12.4 million units of blood per year.

In view of the outbreak of COVID 19 and complete lock down since 25<sup>th</sup> March, 2020, all modes of transportation as well as movement of common people is stopped. Though the overall requirement of blood has come down, collection of blood from healthy voluntary blood donors is essential to be continued to meet the requirements of thalassemic children, pregnant women and other emergency need for blood transfusions even during this period. As a result of the lockdown, collection and transportation of blood and blood components has become a challenge and media has reported blood shortage in blood centres in some parts of the country.

State Blood Transfusion Councils have taken all necessary steps to maintain adequate stocks of safe and tested blood by judiciously continuing blood donation activities, but are facing difficulties in getting the permission for movement of blood mobile vans, blood transportation vans and voluntary blood donors are finding it difficult to reach blood centres and outdoors to donate despite having Donor appointment letters.

It is requested that suitable directions may be given to the law enforcement officers at State and District level to facilitate the unhindered movement of blood mobile vans and transportation vans and the movement of voluntary blood donors. It will be ensured that the blood mobile teams are identified through permission letters from State Blood Transfusion Councils and Donor Appointment Letters issued from licensed blood centre. This support will go a long way in ensuring uninterrupted collection of blood throughout the country and mitigation of any shortage thereof.

*Preeti Sudan*  
Yours sincerely,

*Preeti Sudan*  
(Preeti Sudan)

DS (L & O)

*ll*  
19/4

Shri Ajay Kumar Bhalla  
Secretary  
Ministry of Home Affairs  
North Block, New Delhi-110001.

Room No. 156, A-Wing, Nirman Bhawan, New Delhi-110 011  
Tele : (O) 011-23061863, 23063221, Fax : 011-23061252, E-mail : secyhwf@nic.in



No. 40-10/2020-DM-I (A)

22<sup>nd</sup> April, 2020

Dear

Kindly refer to Ministry of Home Affairs advisories issued vide letters No. 11034/01/2020-IS-IV dated 24.03.2020, 04.04.2020 and 11.04.2020 requesting Chief Secretaries/ Administrators/ Directors General of Police of all the State Governments/ Union Territory Administrations to ensure adequate protection to healthcare professionals, medical staff and frontline workers by augmenting their safety and security cover. In spite of the said communications, some incidents of violence have been reported from different parts of the country against healthcare professionals/ frontline workers.

2. You are aware that the whole-hearted and untiring services rendered by the entire medical fraternity, while even risking their lives, has enabled the country to resist the spread of the highly infectious COVID-19 virus, that has already been declared as a pandemic by the World Health Organisation (WHO). At this time, any single incident of violence against healthcare professionals is likely to create a sense of insecurity amongst the entire healthcare community.

3. I would like to draw your kind attention to the direction of the Hon'ble Supreme Court in WP (Civil) No. 10795/2020 dated 08.04.2020, as under:

*"The Government of India, respective States/Union Territories and respective Police authorities are directed to provide the necessary Police security to the Doctors and medical staff in Hospitals and places where patients who have been diagnosed COVID-19 or patients suspected of COVID-19 or those quarantined are housed. Necessary Police security be also extended to Doctors and other medical staff who visit places to conduct screening of people to find out symptoms of disease."*

The above direction of the Apex Court was conveyed by MHA to all States/Union Territories vide aforesaid letter dated April 11, 2020.

4. Therefore, it is the responsibility of all State Governments/UT Administrations/ District Administrations and law enforcement agencies to take all necessary measures to ensure adequate protection to healthcare professionals and frontline workers, and to prevent any incident of violence against them. The measures to be taken in this regard should be finalized in consultation with the local chapters of the Indian Medical Association (IMA), and the members of the IMA should be kept apprised of the actions taken to create a sense of security and confidence amongst the health fraternity.

Contd.p.2..



5. I would also like to draw your kind attention to Section 51 of the Disaster Management Act, 2005 which provides for strict penalties against any person who obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act or refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority.

6. In line with the provisions of the Disaster Management Act, 2005, I urge upon all State/UT and District authorities to invoke the provisions of the Act, or any other law in force, to take strict penal action against the offenders, who obstruct Government health officials, or other health professionals and/ or related persons, who are authorized under the Disaster Management Act, 2005, in the discharge of their lawful services.

7. A few heinous instances of unruly behaviour by people have also been reported in some parts of the country where the family and relatives of medical professionals, suspected to have died due to COVID-19 infection were prevented from performing the last rites of the deceased. In such cases, adequate security should be provided; and, stringent action should be taken against such offenders who obstruct the performance of last rites of medical professionals or frontline healthcare workers, who, unfortunately, succumb to the infection from COVID-19 while discharging their services, or otherwise.

8. State Governments/ UT Administrations are also requested to appoint Nodal Officers at State/UT level and at District level, who would be available 24x7 to redress any safety issue on the functioning of medical professionals. They should also take immediate and strict action in case any incident of violence takes place.

9. Details of preventive measures taken and appointment of Nodal Officers should be widely publicized amongst the medical fraternity, including the local chapters of the IMA, as well as to the public at large, to ensure compliance at ground level. Further, it is requested that details of action taken by State Governments/UT Administrations should be informed to Ministry of Home Affairs and Ministry of Health and Family Welfare.

With regards,

Yours sincerely

Sd/-

(Ajay Bhalla)

To

1. The Chief Secretaries of all States
2. Administrators of all Union Territories.
3. Directors General of Police of all States/UTs
4. Commissioner of Police, Delhi

Copy for information to:

**The Secretary, Ministry of Health & Family Welfare**

  
(Ajay Bhalla) 367

## SOP - Contact Tracing for COVID-19 Cases

This SOP aims to provide guidance for health authorities on contact tracing for persons, including healthcare workers, who had come in contact with a lab-confirmed case of COVID-19.

### Purpose of Contact Tracing:

- To identify contacts as early as possible for preventing spread of further transmission

### Classification and Definition of Contacts:

#### 1. High-risk contact:

- Touched body fluids of the patient (respiratory tract secretions, blood, vomit, saliva, urine, faeces)
- Had direct physical contact with the body of the patient including physical examination without PPE.
- Touched or cleaned the linens, clothes, or dishes of the patient.
- Lives in the same household as the patient.
- Anyone in close proximity (within 1 meter) of the confirmed case without precautions.
- Passenger in close proximity (within 1 meter) of a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

#### 2. Low-risk contact:

- Shared the same space (same class for school/worked in same room/similar) and not having a high-risk exposure to confirmed case of COVID-19.
- Travelled in same environment (bus/train/flight/any mode of transit) but not having a high-risk exposure.

**(Please note: Low Risk Contacts do not mean NO RISK contact; equal emphasis must be given for low risk contacts as they are potential source for transmitting the disease)**

### Plan of Action for Contact Person/s:

#### A. High risk contact:

1. Quarantine at home, hospital or designated facility for 14 days after the last exposure.
  - a. While quarantined, active monitoring for 14 days after the last exposure.
  - b. During days 15-28 following the last exposure, self-health monitoring (for development of fever of any grade, cough or difficulty in breathing) or random check by health staff will be conducted.
  - c. Contact should immediately call state-specific help-line number if develops fever, cough or difficulty in breathing.
2. Remain reachable for active monitoring.
3. Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in contact

#### B. Low risk contact:

1. Quarantine at home and do self-health monitoring (for development of fever of any grade, cough or difficulty in breathing) for 28 days after the last exposure.
  - a. Contact should immediately call state-specific help-line number if develops fever, cough or difficulty in breathing.
2. Remain reachable for monitoring.

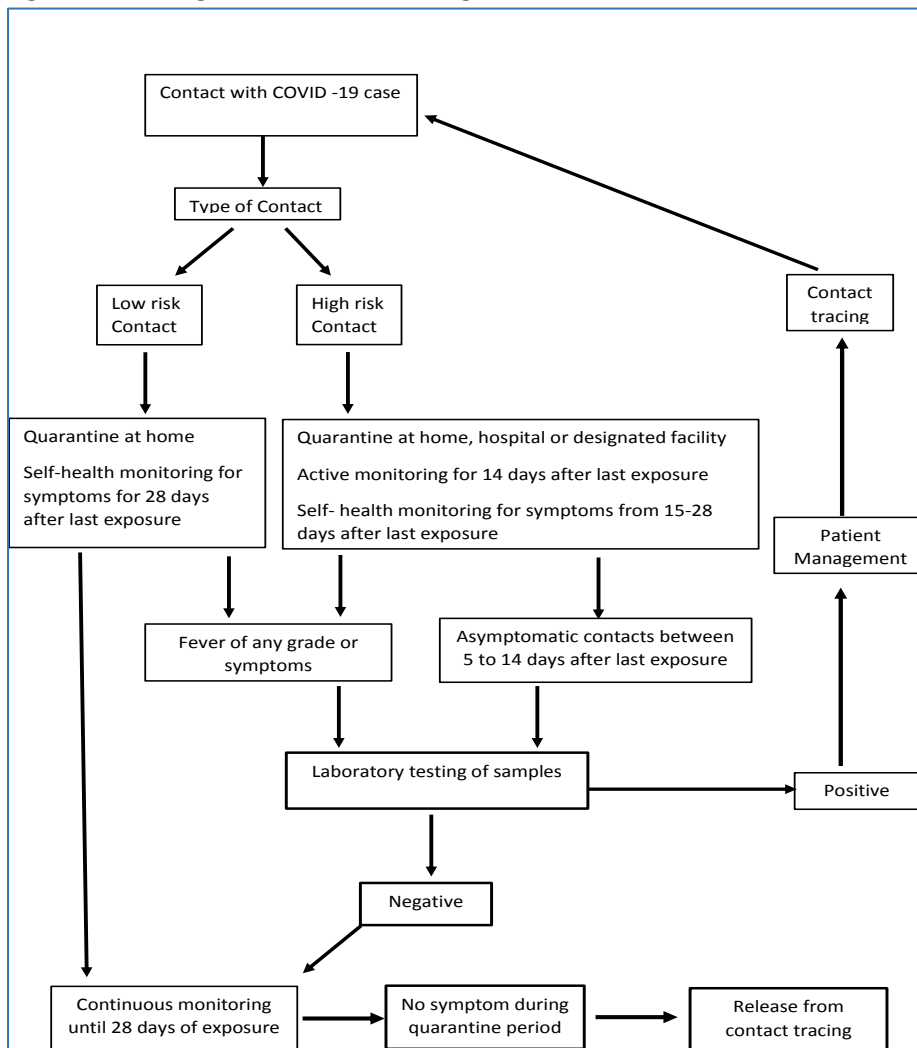
**Important: Contacts, regardless of whether their exposure was high-risk or low-risk, should immediately self-isolate and contact the state help line number in the event of any symptom occurring within 28 days of the last exposure.**

### **Health and safety precautions for Frontline Health Worker (FLW-ASHA, AWW, ANM, Link Worker, other) doing contact tracing**

1. The FLW should maintain a distance of at least one meter from the contact at all times and if available interview should be done outdoors or a well-ventilated space.
2. Triple layer masks should be worn by the contact tracing team members. Additional personal protective equipment (e.g. goggles, gloves, gown) is not required.
3. If interviewing any person having respiratory symptoms, the FLW should provide him mask before interviewing
4. The contact tracing team members to maintain standard infection prevention and control measures and perform hand hygiene before and after each visit and ensure respiratory etiquettes throughout.
5. The FLW should not work if they have fever, cough, or difficulty in breathing and immediately inform their supervisor of their symptoms.

### **Contact identification and listing**

Figure 1: Algorithm for management of contacts of confirmed COVID-19 cases



## **Step 1: Getting the information on contacts from the lab confirmed case**

1. Immediately after a confirmed case is identified, the case should be interviewed by the epidemiologist/medical officer. Details should be filled in the COVID-19 Case Investigation Form.
2. Attempt should be made to identify all household members, social contacts, contacts at work place and contacts in health care settings who have had contact with a confirmed case anytime between 2 days prior to onset of symptoms ( in the positive case) and the date of isolation (or maximum 14 days after the symptom onset in the case). Each contact / place visited should be identified and recorded by the epidemiologist/medical officer on the contact list format (Form 1).
  - a. Example: if onset of symptom was of 24 March 2020, and the case sent for isolation on 29 March 2020, the contact tracing will be done from 22 March 2020 till date of isolation
3. If the case had no symptoms (i.e. asymptomatic case), a contact person is defined as someone who had contact with the case within a time frame ranging from 2 days before the sample collection (which led to confirmation) to 14 days after the sample was taken.
4. Based on information collected, the epidemiologist/medical officer should classify each contact as high-risk or low-risk and record this on Form-1.
5. Cases may have contacts in multiple states/UTs. The details of contacts living in different states should be immediately shared with the health authorities of the respective state with copy to national IDSP team. Tracking of contacts located in a state/UT will be the responsibility of that state/UT.
6. Contact tracing should begin immediately after a confirmed case is identified.

## **Step 2: Preparation of contact line-list by FLW**

1. The FLW should be trained on filling of Form 2 (by filling exercise), health and safety precautions and reporting of symptomatic case.
2. The supervisor will provide each FLW with a contact tracing form (form 2), with the COVID-19 surveillance ID number, date of contact with case, name, age, sex, address and phone number, pre-filled for each contact assigned to the contact tracer (if details are available). A rational workload should be given to each FLW.
3. The FLW will fill each row (one row for each contact) until completion of 28 days following the last exposure for each contact.
4. If there is a paper-based system for contact tracing
  - a. At the end of day one of contact tracing and then on weekly basis (every Tuesday), the FLW will report to the supervisor and supervisor will collect the information in Form 3 and will share with MOIC.

NOTE: If there is an app-based system for contact tracing, there is no need to use Form-3

5. The supervisor with Data Entry Operator (DEO) will update the master contact line list (Form 4) on day 1 and then on weekly (every Wednesday) basis.

NOTE: If there is an app-based system for contact tracing, there is no need to use Form-4

6. The contact tracing form will be carried by the FLW until completion of contact tracing (28 days from the last exposure for each contact). At the end of this time, the contact tracer will submit the filled form-2 to the supervisor.

7. The master contact line-list (Form 4) should be shared on weekly (every Thursday) basis to district, state and national-level for regular data analysis

NOTE: If there is an app-based system for contact tracing, there is no need to use Form-4

## Role of FLW during contact tracing:

1. Using the form-2, the FLW will visit the household of the contact, will introduce themselves and explain the purpose of the visit to the head of the household and contact(s).
2. During the initial visit, the FLW will communicate with high-risk contacts, explaining the need for quarantine (home / facility) for 14 days after last exposure to a COVID-19 case. If the contact develops fever and any respiratory symptoms should immediately report to state helpline number. The supervisor and FLW will ensure that contacts understand that daily visits will take place for 14 days after the last contact with the case, and self-health monitoring will be done by the contact between days 15 to 28 after the last exposure to the case.
  - a. Example: If the person met a lab confirmed case on 28 March 2020 and the FLW reaches the house on 2 April 2020, in this scenario, day 1 for the contact tracing will be 29 March 2020.
  - b. The FLW will take symptom history from 29 March 2020 and will follow the case till 11 April 2020 for completion of 14 days and till 25 April 2020 for completion of 28 days
3. For low-risk contacts, the supervisor and FLW will explain the need for home quarantine and self-health monitoring by contact for 28 days after last exposure to the case (as per example above). The low risk contacts should be sensitized to report immediately to state helpline number if develop fever and respiratory symptoms.
4. The supervisor and FLW will use the initial visit to interview the contact and assess for additional contacts that may have been missed previously. The added contacts will be updated in the master data base.
5. If contacts refuse quarantine or monitoring, the FLW should notify the supervisor. The contact should be revisited to reassess their willingness to be monitored.
6. If the contact has a **fever, cough or difficulty in breathing during first or subsequent visit/call**:
  - a. The FLW will immediately notify the state helpline number with the contact's name and location.
  - b. The FLW will provide reassurance to the contact and urge him to remain in the home and isolated from other persons until further assessment can be performed by the case investigation team.
  - c. The FLW should maintain a safe distance from the contact but remain in the area until the case investigation team arrives.
  - d. The FLW will record on the daily reporting form that the contact was symptomatic.
  - e. The symptomatic contact now becomes a suspect case and will be sent for isolation at health facility. Sample will be tested for COVID-19.
  - f. Any individuals who have been exposed to the suspect case must be added to the list of contacts if the suspect case becomes a confirmed case. Any shared contacts between the original case and the new case must be line-listed as contacts of the confirmed case, and these contacts must re-start their 14 days quarantine and additional 14 days of self-health monitoring.
  - g. The FLW will provide a triple layer mask to the symptomatic contact to wear until they are seen by medical personnel.
  - h. The case investigation team will notify the healthcare facility of the contact's arrival.
7. If a contact is not seen physically (high-risk contact) or reachable by phone (low-risk contact) on any one day during the initial 14 days of contact tracing, he or she should be labelled as a missing contact and this information should be shared with the supervisor during feedback and recorded in the Form-2.

8. If any contact is missing for three consecutive days within the first 14 days, he or she should be labelled as lost to follow up. The details should be shared with the supervisor and medical officer for necessary administrative action.

### **Release from contact tracing**

1. Contacts may be released from daily follow-up when:
  - a. Contacts have completed 28-day follow-up after the date of last exposure with lab confirmed case
    - i. without developing COVID-19 compatible symptoms or
    - ii. remain negative for COVID-19 laboratory test.
  - b. If listed individuals did not have a history of exposure to COVID-19 and were erroneously identified as contacts.
2. The FLW should record the completion of the 28-day follow-up period on the reporting format and should communicate this information to the supervisor/ MOIC by submitting the contact tracing format (Form 2) for record purpose.

### **If contact leaves the district/state/country:**

- When FLW realize that contacts they are tracing have left the community, it is important that they immediately alert the MOIC/DSO. Once this occurs, the FLW and the MOIC/DSO need to work to determine where the contact likely travelled. The family members may not be forthcoming with this information, so it may be necessary to engage community leaders and other community liaisons to assist with this investigation. Once the destination of travel (as well as any other transit locations) has been determined, the supervisors must begin the notification process.

### **Contact Tracing in Cluster**

If there is clustering of cases in a defined geographic area, whole area will be put under containment plan and containment measures will be activated.

- A house to house search for the for all the symptomatic cases will be conducted by the FLW. The information will be collected on FORM 2-A.
- Any person with symptoms suggestive of COVID-19 infection (like fever, cough, difficulty in breathing) will be sent for isolation and sample will be collected for testing for COVID-19.
- In the allotted area, the FLW will do the case search till 14 days after the last confirmed case. All the residents of the containment area will be motivated for immediate self-reporting if any of the family member develop COVID-19 symptoms.

**IMPORTANT: WHILE GOING FOR CONTACT TRACING ALWAYS TAKE HELP OF POLICE AND ADMINISTRATION**

**Table 1: Activities, human resources and data collection for contact tracing for COVID-19 cases**

<b>Activity</b>	<b>Human Resources</b>	<b>Data collection</b>
Interview case	Epidemiologist/Medical Officer	Case-investigation form
Create contact list	Epidemiologist/Medical Officer	Form 1 (Contact list format)
Classify contacts as high or low risk	Epidemiologist/Medical Officer	Form 1
Sharing of details of contacts with state/district/block	District Surveillance Officer / State Surveillance Officer	Form 1
Sharing of details of contact tracing with FLW following their training	MOIC	Form 1 and Form 2 (Enlisting and follow-up of contacts)
Initial visit to high risk contacts for enlisting and quarantine (home/facility), then follow-up till 28 days from date of last exposure with lab confirmed case	Frontline Health worker (FLW) / supervisor	Form 2
Sample collection from asymptomatic high-risk contact between 5 and 14 days of last exposure with lab confirmed case	Lab technician	Lab Request Form
Initial visit to low risk contacts to inform and provide information on self-health monitoring for 28 days from date of last exposure with lab confirmed case	Frontline Health worker (FLW) / supervisor	Form 2
House to house search for cases in a cluster	Frontline Health worker (FLW) / supervisor	Form 2 A
Reporting by supervisor / block on day 1 of contact tracing and then on weekly basis (applicable for paper-based system)	Supervisor / Block MOIC	Form 3
If any contact develop symptoms he/she should be immediately reported to state helpline number	Contact tracer / Supervisor	Telephonic information
Updation of master line list for contact tracing (applicable for paper-based system)	Supervisor and DEO	Form 4 (Master Line list for contacts)

## Annexures:

1. Contact list format (Form 1)
2. Contact tracing and follow-up format (Form 2)
3. Search for symptomatic cases in Cluster (Form 2 A)
4. Daily reporting format (Form 3)
5. Line list of Contacts (Form 4)

AJAY BHALLA, IAS



गृह सचिव  
Home Secretary  
भारत सरकार  
Government of India  
North Block,  
New Delhi

D.O.No.40-3/2020-DM-I(A)

15<sup>th</sup> April, 2020

Dear *Chief Secretary,*

Hon'ble Prime Minister, in his address to the nation on 14<sup>th</sup> April, 2020 announced that the lockdown in India, which has been imposed to contain the spread of COVID-19 pandemic, will have to be extended till 3<sup>rd</sup> May, 2020. In pursuance of this announcement, Ministry of Home Affairs (MHA) issued an order dated April 14, 2020, copies of which have been communicated to you vide my earlier D.O. letter of even number dated 14<sup>th</sup> April, 2020.

2. Hon'ble Prime Minister, in his address, also announced the opening up of select necessary activities from 20<sup>th</sup> April, 2020. An order enclosing, the consolidated revised guidelines in this regard has been issued today, copy of which is enclosed.

3. With regard to the aforesaid order, the following is emphasized:

- i. The activities mentioned in the consolidated revised guidelines (Paras 5 to 20) will not be permitted in containment zones within hotspots, demarcated by the States/Union Territories/District Administrations as per guidelines of the Ministry of Health & Family Welfare (MoH&FW), Government of India.
- ii. If any new area is included in the category of containment zone, the activities allowed in that area till the time of its categorization as a containment zone, will be suspended, except for those activities which are specifically permitted under the consolidated revised guidelines.
- iii. The activities allowed under the consolidated revised guidelines will be withdrawn immediately, if any of the lockdown measures are violated, risking the spread of COVID-19. All entities, in the Government and private sectors, and members of public should follow the guidelines strictly.

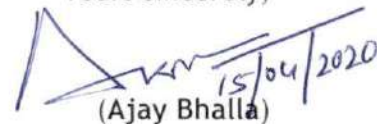
4. I have already emphasized vide my earlier D.O. letters of even number dated 31.03.2020 and 14<sup>th</sup> April, 2020, that States/Union Territories cannot dilute restrictions imposed vide the aforesaid guidelines issued by MHA. States / UTs may, however, impose stricter measures, than these guidelines as per requirement of the local areas.

5. I would again urge you to ensure compliance of the above instructions, and direct all concerned authorities for their strict implementation. You may also ensure that these guidelines are communicated to all the field agencies and wide publicity is given for the benefit of public.

With regards,

Encl: as above.

Yours sincerely,

  
(Ajay Bhalla)

Chief Secretaries of All States  
(As per standard list)



AJAY BHALLA, IAS



गृह सचिव  
Home Secretary  
भारत सरकार  
Government of India  
North Block,  
New Delhi

D.O.No.40-3/2020-DM-I(A)

15<sup>th</sup> April, 2020

Dear *Administrator,*

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- iii. The activities allowed under the consolidated revised guidelines will be withdrawn immediately, if any of the lockdown measures are violated, risking the spread of COVID-19. All entities, in the Government and private sectors, and members of public should follow the guidelines strictly.

4. I have already emphasized vide my earlier D.O. letters of even number dated 31.03.2020 and 14<sup>th</sup> April, 2020, that States/Union Territories cannot dilute restrictions imposed vide the aforesaid guidelines issued by MHA. States / UTs may, however, impose stricter measures, than these guidelines as per requirement of the local areas.

5. I would again urge you to ensure compliance of the above instructions, and direct all concerned authorities for their strict implementation. You may also ensure that these guidelines are communicated to all the field agencies and wide publicity is given for the benefit of public.

With regards,

Encl: as above.

Yours sincerely,

  
(Ajay Bhalla) 15/04/2020

Administrators of All UTs  
(As per standard list)

**No. 40-3/2020-DM-I(A)**  
**Government of India**  
**Ministry of Home Affairs**

North Block, New Delhi-110001  
Dated 15<sup>th</sup> April, 2020

**ORDER**

Whereas, in exercise of the powers, conferred under Section 10(2)(I) of the Disaster Management Act 2005, the undersigned, in his capacity as Chairperson, National Executive Committee, has issued an Order dated 14<sup>th</sup> April, 2020 that the lockdown measures stipulated in the Consolidated Guidelines of Ministry of Home Affairs (MHA) for containment of COVID-19 epidemic in the country, will continue to remain in force upto 3<sup>rd</sup> May, 2020 to contain the spread of COVID-19 in the country;

Whereas, to mitigate hardship to the public, select additional activities will be allowed, which will come into effect from 20<sup>th</sup> April, 2020. However, these additional activities will be operationalized by States/ Union Territories (UTs)/ District Administrations based on strict compliance to the existing guidelines on lockdown measures. Before operating these relaxations, States/ UTs/ District Administrations shall ensure that all preparatory arrangements with regard to social distancing in offices, workplaces, factories and establishments, as also other sectoral requirements are in place. The consolidated revised guidelines incorporating these relaxations are enclosed;

Whereas, the consolidated revised guidelines will not apply in containment zones, as demarcated by States/ UTs/ District administrations. If any new area is included in the category of a containment zone, the activities allowed in that area till the time of its categorization as a containment zone, will be suspended except for those activities as are specifically permitted under the guidelines of Ministry of Health and Family Welfare (MoHFW), Government of India;

Whereas, in exercise of the powers, conferred under Section 10(2)(I) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, National Executive Committee, hereby issues directions to all the all Ministries/ Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities for the strict implementation of enclosed consolidated revised guidelines.

  
**Union Home Secretary**

**To:**

1. The Secretaries of Ministries/ Departments of Government of India
2. The Chief Secretaries/Administrators of States/Union Territories  
(As per list attached)

**Copy to:**

- i. All members of the National Executive Committee.
- ii. Member Secretary, National Disaster Management Authority.



प्रीति सूदन, आईएएस  
सचिव

**PREETI SUDAN, IAS**  
Secretary



D.O.No. 2-21020/16/2020-PH  
भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
Government of India  
Department of Health and Family Welfare  
Ministry of Health and Family Welfare

15.4.2020

Dear Colleague,

As you are aware Government of India has extended the national level lockdown till 3<sup>rd</sup> May to contain the spread of COVID-19 in the country. This period should be utilized effectively and there should be concerted effort for implementing containment measures in a focused manner.

As of now, based on reported cases, the districts can be classified as: Hotspots, Non-Hotspots districts reporting cases and districts which have not reported positive cases.

The criteria for classification of hotspots is listed at Annexure-I. With respect to these hotspots, the districts which need implementation of outbreak containment plan are at Annexure-II, and the districts where clusters of cases are noted are at Annexure-III. States also need to identify hotspots based on doubling rate of confirmed cases. This exercise of identification of hotspots has to be done on a weekly basis (every Monday) or earlier. Strict containment measures need to be implemented in these hotspots.

Further, for Non-Hotspots Districts Reporting cases (as in Annexure-IV) states need to ensure that containment measures are taken so as to ensure that case in these areas can be contained. States also need to undertake effective surveillance of SARI and ILI cases in districts not having any confirmed cases so far besides ensuring dedicated COVID hospitals.

The containment strategies are already available at MOHFW website <https://www.mohfw.gov.in/pdf/3ContainmentPlanforLargeOutbreaksofCOVID19Final.pdf> and <https://www.mohfw.gov.in/pdf/Containmentplan02042020.pdf> . The Micro Plan for containing Local Transmission of COVID-19 is available at <https://www.mohfw.gov.in/pdf/ModelMicroplanforcontainmentoflocaltransmissionofCOVID19.pdf>

Containment operation would be deemed over when there is no case reported in 28 days from an area after last case tests negative. Hotspots (designated red zones) will be assumed to be undertaking effective containment activities, if no case is reported in next 14 days (designated orange zones) and will be deemed successful in containment, if no case is reported for 28 days (designated green zones).

It is requested that states should utilize the extended lockdown period to the maximum extent to convert the hotspots (red) to orange and in turn green zones.

*Wear masks*  
Yours sincerely,

*pd*  
(Preeti Sudan)

To,  
Chief Secretaries of all States/UTs  
*cc to Pt. Secy. (H)*  
Encl.: as above

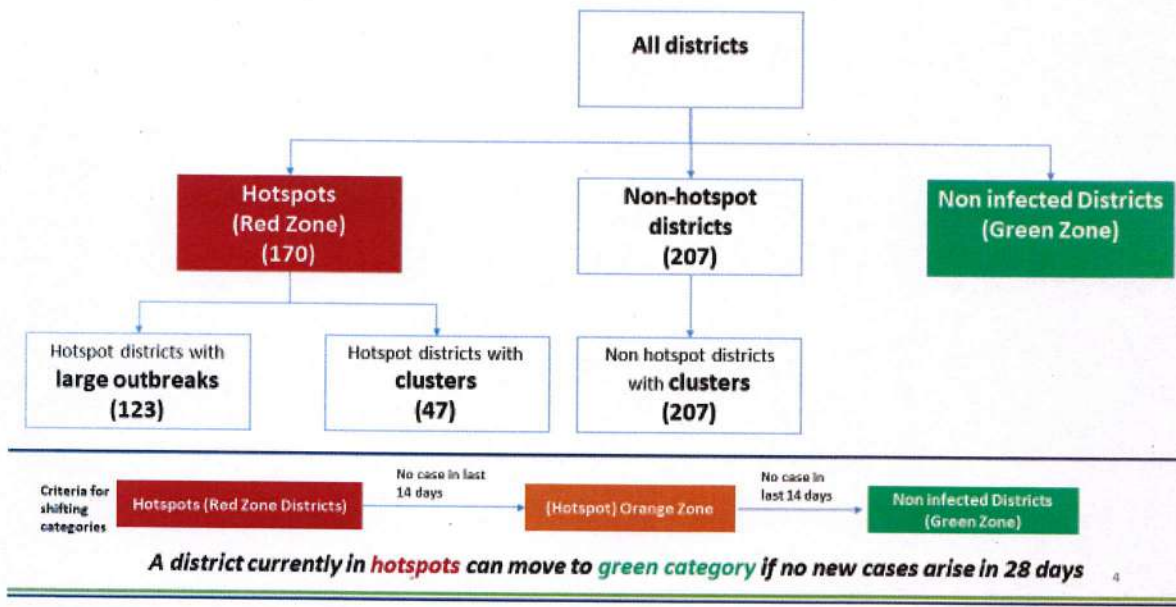
'Hotspot (Red zone) classification'– to focus attention on districts/cities reporting large number of cases/high growth rate.

Inclusion Criteria -

- Highest case load districts contributing to more than 80% of cases in India or
- Highest case load districts contributing to more than 80% of cases for each state in India or
- Districts with doubling rate less than 4 days (calculated every Monday for last 7 days, to be determined by the state government)

Subject to the following exclusion criteria

- No new confirmed cases for last 28 days (Green zone)



**List of hotspot districts with large outbreaks**

State	District
Andhra Pradesh	Kurnool
	Guntur
	Spsr Nellore
	Prakasam
	Krishna
	Y.S.R.
	West Godavari
	Chittoor
	Visakhapatanam
	East Godavari
Anantapur	
Bihar	Siwan
Chandigarh	Chandigarh
Chhattisgarh	Korba
Delhi	South
	South East
	Shahdara
	West
	North
	Central
	New Delhi
	East
South West	

State	District
Gujarat	Ahmadabad
	Vadodara
	Surat
	Bhavnagar
	Rajkot
Haryana	Nuh
	Gurugram
	Palwal
	Faridabad
Jammu And Kashmir	Srinagar
	Bandipora
	Baramulla
	Jammu
	Udhampur
	Kupwara
Karnataka	Bengaluru Urban
	Mysuru
	Belagavi
Kerala	Kasaragod
	Kannur
	Ernakulam
	Malappuram
	Thiruvananthapuram
	Pathanamthitta



State	District
Madhya Pradesh	Indore
	Bhopal
	Khargone
	Ujjain
	Hoshangabad
Maharashtra	Mumbai
	Pune
	Thane
	Nagpur
	Sangli
	Ahmednagar
	Yavatmal
	Aurangabad
	Buldhana
	Mumbai Suburban
	Nashik
Odisha	Khordha
Punjab	S.A.S Nagar
	Shahid Bhagat Singh Nagar
	Jalandhar
	Pathankot

State	District
Rajasthan	Jaipur
	Tonk
	Jodhpur
	Banswara
	Kota
	Jhunjhunu
	Jaisalmer
	Bhilwara
	Bikaner
	Jhalawar
	Bharatpur
Tamil Nadu	Chennai
	Tiruchirappalli
	Coimbatore
	Tirunelveli
	Erode
	Vellore
	Dindigul
	Villupuram
	Tiruppur
	Theni
	Namakkal
Chengalpattu	

State	District
Tamil Nadu	Madurai
	Tuticorin
	Karur
	Virudhunagar
	Kanniyakumari
	Cuddalore
	Thiruvallur
	Thiruvarur
	Salem
	Nagapattinam
Telangana	Hyderabad
	Nizamabad
	Warangal Urban
	Ranga Reddy
	JogulambaGadwal
	MedchalMalkajgiri
	Karimnagar
	Nirmal
Uttar Pradesh	Agra
	Gautam Buddha Nagar
	Meerut
	Lucknow
	Ghaziabad
	Saharanpur

State	District
Uttar Pradesh	Shamli
	Firozabad
	Moradabad
Uttarakhand	Dehradun
West Bengal	Kolkata
	Howrah
	Medinipur East
	24 Paraganas North

**List of hotspot districts with clusters**

State	District
Andaman And Nicobar Islands	South Andamans
Assam	Golaghat
	Marigaon
	Nalbari
	Goalpara
	Dhubri
Bihar	Munger
	Begusarai
	Gaya
Chhattisgarh	Raipur
Delhi	North West
Gujarat	Patan
Haryana	Ambala
	Karnal
Himachal Pradesh	Solan
	Una
	Sirmaur
	Chamba
	Kangra
Jammu And Kashmir	Shopian
	Rajouri
Jharkhand	Ranchi
	Bokaro
Karnataka	Dakshina Kannada

State	District
Karnataka	Bidar
	Kalaburagi
	Bagalkote
	Dharwad
Kerala	Wayanad
Ladakh	Kargil
Madhya Pradesh	Morena
Maharashtra	Kolhapur
	Amravati
	Palghar
Odisha	Bhadrak
Punjab	Mansa
	Amritsar
	Ludhiana
	Moga
Rajasthan	Udaipur
Telangana	Nalgonda
Uttar Pradesh	Bulandshahr
	Sitapur
	Basti
	Baghpat
Uttarakhand	Nainital
	Udam Singh Nagar

## Non-Hotspots Districts reporting cases

State Name	District Name
Arunachal Pradesh	Lohit
Assam	Cachar
	Hailakandi
	Kamrup
	Kamrup Metro
	Lakhimpur
	South SalmaraMancachar
	Karimganj
Bihar	Gopalganj
	Nawada
	Bhagalpur
	Saran
	Lakhisarai
	Nalanda
	Patna
Chhattisgarh	Bilaspur
	Durg
	Rajnandgaon
Delhi	North East
Goa	North Goa
	South Goa
Gujarat	Gandhinagar
	Bharuch
	Anand

	Kachchh
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State Name	District Name
Gujarat	Porbandar
	Chhotaudepur
	Mahesana
	GirSomnath
	Dohad
	Jamnagar
	Morbi
	PanchMahals
	SabarKantha
	BanasKantha
Haryana	Panchkula
	Panipat
	Sirsa
	Sonipat
	Bhiwani
	Kaithal
	CharkiDadri
	Fatehabad
	Hisar
	Jind
	Rohtak
	Kurukshetra
Jammu And Kashmir	Budgam
	Kulgam



	Pulwama
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State	District
Jammu And Kashmir	Ganderbal
	Samba
Jharkhand	Hazaribagh
	Koderma
	Giridih
Karnataka	Ballari
	Mandya
	Bengaluru Rural
	Davangere
	Udupi
	Gadag
	Tumakuru
	Kodagu
	Vijayapura
	Chikkaballapura
Uttara Kannada	
Kerala	Thrissur
	Kollam
	Idukki
	Palakkad
	Kottayam
	Alappuzha
Ladakh	LehLadakh

Madhya Pradesh	Barwani
	Vidisha

State	District
Madhya Pradesh	Jabalpur
	East Nimar
	Dewas
	Chhindwara
	Gwalior
	Shivpuri
	Betul
	Dhar
	Raisen
	Sagar
	Shajapur
	Mandsaur
	Ratlam
	Satna
Sheopur	
Maharashtra	Akola
	Latur
	Satara
	Ratnagiri
	Osmanabad
	Jalgaon
Sindhudurg	

	Raigad
	Beed
	Hingoli

State	Districts
Maharashtra	Jalna
	Washim
	Gondia
	Dhule
	Solapur
Meghalaya	East Khasi Hills
Mizoram	Aizawl
Odisha	Cuttack
	Dhenkanal
	Jajapur
	Kalahandi
	Kendrapara
	Puri
	Sundargarh
Puducherry	Pondicherry
	Mahe
Punjab	Hoshiarpur
	Rupnagar
	Barnala
	Faridkot
	Fatehgarh Sahib

	Sangrur
	Kapurthala
	Patiala
	Sri Muktsar Sahib

State	Districts
Rajasthan	Churu
	Dausa
	Alwar
	Dungarpur
	Ajmer
	Karauli
	Pali
	Pratapgarh
	Barmer
	Dholpur
	Nagaur
	Sikar
	Hanumangarh
Tamil Nadu	Thanjavur
	Tiruvannamalai
	Kanchipuram
	Sivaganga
	The Nilgiris
	Kallakurichi
	Ramanathapuram

	Perambalur
	Ariyalur
	Suryapet
Telangana	Adilabad
	Mahabubnagar

State	District
Telangana	Kamareddy
	Vikarabad
	Sangareddy
	Medak
	Khammam
	BhadradriKothagudem
	Jagitial
	Jangoan
	JayashankarBhupalapally
	KumuramBheemAsifabad
	Mulugu
	Peddapalli
	Nagarkurnool
	Mahabubabad
	RajannaSircilla
	Siddipet
Tripura	Gomati
	North Tripura
Uttar Pradesh	Kanpur Nagar

	Varanasi
	Amroha
	Hapur
	Maharajganj
	Pratapgarh
	Rampur

State	District
Uttar Pradesh	Bareilly
	Ghazipur
	Azamgarh
	Hathras
	Muzaffarnagar
	Jaunpur
	Kheri
	Auraiya
	Banda
	Budaun
	Hardoi
	Kaushambi
	Mathura
	Mirzapur
	Rae Bareli
	Pilibhit
	Barabanki
Bijnor	

	Prayagraj
	Shahjahanpur
	Etawah
Uttarakhand	Haridwar
	Almora
	PauriGarhwal
West Bengal	Kalimpong

State	District
West Bengal	Jalpaiguri
	Hooghly
	Nadia
	PaschimBardhaman
	Medinipur West
	24 Paraganas South
	Darjeeling

**No. 40-3/2020-DM-I(A)**  
**Government of India**  
**Ministry of Home Affairs**

North Block, New Delhi-110001  
Dated 15<sup>th</sup> April, 2020

**ORDER**

Whereas, in exercise of the powers, conferred under Section 10(2)(I) of the Disaster Management Act 2005, the undersigned, in his capacity as Chairperson, National Executive Committee, has issued an Order dated 14<sup>th</sup> April, 2020 that the lockdown measures stipulated in the Consolidated Guidelines of Ministry of Home Affairs (MHA) for containment of COVID-19 epidemic in the country, will continue to remain in force upto 3<sup>rd</sup> May, 2020 to contain the spread of COVID-19 in the country;

Whereas, to mitigate hardship to the public, select additional activities will be allowed, which will come into effect from 20<sup>th</sup> April, 2020. However, these additional activities will be operationalized by States/ Union Territories (UTs)/ District Administrations based on strict compliance to the existing guidelines on lockdown measures. Before operating these relaxations, States/ UTs/ District Administrations shall ensure that all preparatory arrangements with regard to social distancing in offices, workplaces, factories and establishments, as also other sectoral requirements are in place. The consolidated revised guidelines incorporating these relaxations are enclosed;

Whereas, the consolidated revised guidelines will not apply in containment zones, as demarcated by States/ UTs/ District administrations. If any new area is included in the category of a containment zone, the activities allowed in that area till the time of its categorization as a containment zone, will be suspended except for those activities as are specifically permitted under the guidelines of Ministry of Health and Family Welfare (MoHFW), Government of India;

Whereas, in exercise of the powers, conferred under Section 10(2)(I) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, National Executive Committee, hereby issues directions to all the all Ministries/ Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities for the strict implementation of enclosed consolidated revised guidelines.

  
15/04/2020  
**Union Home Secretary**

**To:**

1. The Secretaries of Ministries/ Departments of Government of India
2. The Chief Secretaries/Administrators of States/Union Territories  
(As per list attached)



**Copy to:**

- i. All members of the National Executive Committee.
- ii. Member Secretary, National Disaster Management Authority.

**Consolidated Revised Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/ UT Governments and State/ UT authorities for containment of COVID-19 in the country**

**[As per Ministry of Home Affairs (MHA) Order No. 40-3/2020-DM-I (A) dated 15<sup>th</sup> April, 2020]**

**1. With the extension of the lockdown period, the following activities will continue to remain prohibited across the country until 3<sup>rd</sup> May, 2020:**

- i. All domestic and international air travel of passengers, except for purposes enumerated in para 4 (ix), and for security purposes.
- ii. All passenger movement by trains, except for security purposes.
- iii. Buses for public transport.
- iv. Metro rail services.
- v. Inter-district and inter-State movement of individuals except for medical reasons or for activities permitted under these guidelines.
- vi. All educational, training, coaching institutions etc. shall remain closed.
- vii. All industrial and commercial activities other than those specifically permitted under these guidelines.
- viii. Hospitality services other than those specifically permitted under these guidelines.
- ix. Taxis (including auto rickshaws and cycle rickshaws) and services of cab aggregators.
- x. All cinema halls, malls, shopping complexes, gymnasiums, sports complexes, swimming pools, entertainment parks, theatres, bars and auditoriums, assembly halls and similar places.
- xi. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ other gatherings.
- xii. All religious places/ places of worship shall be closed for public. Religious congregations are strictly prohibited.
- xiii. In case of funerals, congregation of more than twenty persons will not be permitted.

**2. Operation of guidelines in Hotspots and containment zones**

- i. 'Hotspots', i.e., areas of large COVID-19 outbreaks, or clusters with significant spread of COVID-19, will be determined as per the guidelines issued by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI).
- ii. In these hotspots, containment zones will be demarcated by States/ UTs/ District administrations as per the guidelines of MoHFW.
- iii. In these containment zones, the activities allowed under these guidelines will not be permitted. There shall be strict perimeter control in the area of the containment zones to ensure that there is no unchecked inward/ outward movement of population from these zones except for maintaining essential services (including medical emergencies and law and order related duties) and Government business continuity. The guidelines issued in this regard by MoHFW will be strictly implemented by State/ UT Governments and the local district authorities.



**3. Select permitted activities allowed with effect from 20<sup>th</sup> April, 2020:**

- i. To mitigate hardship to the public, select additional activities have been allowed which will come into effect from 20<sup>th</sup> April, 2020. These limited exemptions will be operationalized by States/ UTs/ district administrations based on strict compliance to the existing guidelines. Also, before allowing these select additional activities, States/ UTs/ district administrations shall ensure that all preparatory arrangements with regard to the Standard Operating Procedures (SOPs) for social distancing in offices, workplaces, factories and establishments, as also other sectoral requirements are in place.
- ii. The consolidated revised guidelines incorporating these select permitted activities have been enumerated in paras 5-20 below.

**4. Strict enforcement of the lockdown guidelines**

- i. State/ UT Governments shall not dilute these guidelines issued under the Disaster Management Act, 2005, in any manner, and shall strictly enforce the same.
- ii. State/ UT Governments, may, however, impose stricter measures than these guidelines as per requirement of the local areas.

**5. All health services (including AYUSH) to remain functional, such as:**

- i. Hospitals, nursing homes, clinics, telemedicine facilities.
- ii. Dispensaries, chemists, pharmacies, all kinds of medicine shops including *Jan Aushadhi Kendras* and medical equipment shops.
- iii. Medical laboratories and collection centres.
- iv. Pharmaceutical and medical research labs, institutions carrying out COVID-19 related research.
- v. Veterinary Hospitals, dispensaries, clinics, pathology labs, sale and supply of vaccine and medicine.
- vi. Authorised private establishments, which support the provisioning of essential services, or efforts for containment of COVID-19, including home care providers, diagnostics, supply chain firms serving hospitals.
- vii. Manufacturing units of drugs, pharmaceuticals, medical devices, medical oxygen, their packaging material, raw material and intermediates.
- viii. Construction of medical/ health infrastructure including manufacture of ambulances.
- ix. Movement (inter and intra State, including by air) of all medical and veterinary personnel, scientists, nurses, para-medical staff, lab technicians, mid-wives and other hospital support services, including ambulances.

**6. Agricultural and related activities:**

**A. All agricultural and horticultural activities to remain fully functional, such as:**

- i. Farming operations by farmers and farm workers in field.
- ii. Agencies engaged in procurement of agriculture products, including MSP operations.
- iii. '*Mandis*' operated by the Agriculture Produce Market Committee (APMC) or as notified by the State/ UT Government (e.g., satellite *mandis*). Direct marketing operations by the State/ UT Government or by industry, directly

from farmers/ group of farmers, FPOs' co-operatives etc. States/ UTs may promote decentralized marketing and procurement at village level.

- iv. Shops of agriculture machinery, its spare parts (including its supply chain) and repairs to remain open.
  - v. 'Custom Hiring Centres (CHC)' related to farm machinery.
  - vi. Manufacturing, distribution and retail of fertilizers, pesticides and seeds.
  - vii. Movement (inter and intra State) of harvesting and sowing related machines like combined harvester and other agriculture/ horticulture implements.
- B. Fisheries - the following activities will be functional:**
- i. Operations of the fishing (**marine and inland**)/ aquaculture industry, including feeding & maintenance, harvesting, processing, packaging, cold chain, sale and marketing.
  - ii. Hatcheries, feed plants, commercial aquaria.
  - iii. Movement of fish/ shrimp and fish products, fish seed/ feed and workers for all these activities.
- C. Plantations- the following activities will be functional:**
- i. Operations of tea, coffee and rubber plantations, with maximum of 50% workers.
  - ii. Processing, packaging, sale and marketing of tea, coffee, rubber and cashew, with maximum of 50% workers.
- D. Animal husbandry – the following activities will be functional:**
- i. Collection, processing, distribution and sale of milk and milk products by milk processing plants, including transport and supply chain.
  - ii. Operation of animal husbandry farms including poultry farms & hatcheries and livestock farming activity.
  - iii. Animal feed manufacturing and feed plants, including supply of raw material, such as maize and soya.
  - iv. Operation of animal shelter homes, including *Gaushalas*.
- 7. Financial sector: following to remain functional:**
- i. Reserve Bank of India (RBI) and RBI regulated financial markets and entities like NPCI, CCIL, payment system operators and standalone primary dealers.
  - ii. Bank branches and ATMs, IT vendors for banking operations, Banking Correspondents (BCs), ATM operation and cash management agencies.
    - a. Bank branches be allowed to work as per normal working hours till disbursal of DBT cash transfers is complete.
    - b. Local administration to provide adequate security personnel at bank branches and BCs to maintain social distancing, law and order and staggering of account holders.
  - iii. SEBI, and capital and debt market services as notified by the Securities and Exchange Board of India (SEBI).
  - iv. IRDAI and Insurance companies.



**8. Social sector: following to remain functional:**

- i. Operation of homes for children/ disabled/ mentally challenged/ senior citizens/ destitutes/ women/ widows.
- ii. Observation homes, after care homes and places of safety for juveniles.
- iii. Disbursement of social security pensions, e.g., old age/ widow/ freedom fighter pensions; pension and provident fund services provided by Employees Provident Fund Organisation (EPFO).
- iv. Operation of *Anganwadis* – distribution of food items and nutrition once in 15 days at the doorsteps of beneficiaries, e.g., children, women and lactating mothers. Beneficiaries will not attend the *Anganwadis*.

**9. Online teaching/ distance learning to be encouraged:**

- i. All educational, training, coaching institutions etc. shall remain closed.
- ii. However, these establishments are expected to maintain the academic schedule through online teaching.
- iii. Maximum use of Doordarshan (DD) and other educational channels may be made for teaching purposes.

**10. MNREGA works to be allowed:**

- i. MNREGA works are allowed with strict implementation of social distancing and face mask.
- ii. Priority to be given under MNREGA to irrigation and water conservation works.
- iii. Other Central and State sector schemes in irrigation and water conservation sectors may also be allowed to be implemented and suitably dovetailed with MNREGA works.

**11. Public utilities: following to remain functional:**

- i. Operations of Oil and Gas sector, including refining, transportation, distribution, storage and retail of products, e.g., petrol, diesel, kerosene, CNG, LPG, PNG etc.
- ii. Generation, transmission and distribution of power at Central and State/ UT levels.
- iii. Postal services, including post offices.
- iv. Operations of utilities in water, sanitation and waste management sectors, at municipal/ local body levels in States and UTs.
- v. Operation of utilities providing telecommunications and internet services.

**12. Movement, loading/ unloading of goods/ cargo (inter and intra State) is allowed, as under:**

- i. All goods traffic will be allowed to ply.
- ii. Operations of Railways: Transportation of goods and parcel trains.
- iii. Operations of Airports and related facilities for air transport for cargo movement, relief and evacuation.
- iv. Operations of Seaports and Inland Container Depots (ICDs) for cargo transport, including authorized custom clearing and forwarding agents.



- v. Operations of Land Ports for cross land border transportation of essential goods, including petroleum products and LPG, food products, medical supplies.
- vi. Movement of all trucks and other goods/ carrier vehicles with two drivers and one helper subject to the driver carrying a valid driving license; an empty truck/ vehicle will be allowed to ply after the delivery of goods, or for pick up of goods.
- vii. Shops for truck repairs and dhabas on highways, with a stipulated minimum distance as prescribed by the State/ UT authorities.
- viii. Movement of staff and contractual labour for operations of railways, airports/ air carriers, seaports/ ships/ vessels, landports and ICDs is allowed on passes being issued by the local authority on the basis of authorizations issued by the respective designated authority of the railways, airports, seaports, landports and ICDs.

**13. Supply of essential goods is allowed, as under:**

- i. All facilities in the supply chain of essential goods, whether involved in manufacturing, wholesale or retail of such goods through local stores, large brick and mortar stores or e-Commerce companies should be allowed to operate, ensuring strict social distancing without any restriction on their timing of opening and closure.
- ii. Shops (including *Kirana* and single shops selling essential goods) and carts, including ration shops (under PDS), dealing with food and groceries (**for daily use**), hygiene items, fruits and vegetables, dairy and milk booths, poultry, meat and fish, animal feed and fodder etc, should be allowed to operate, ensuring strict social distancing without any restriction on their timing of opening and closure.
- iii. District authorities may encourage and facilitate home delivery to minimize the movement of individuals outside their homes.

**14. Commercial and private establishments, as listed below, will be allowed to operate:**

- i. Print and electronic media including broadcasting, DTH and cable services.
- ii. IT and IT enabled Services, with upto 50% strength.
- iii. Data and call centres for Government activities only.
- iv. Government approved Common Service Centres (CSCs) at Gram Panchayat level.
- v. E-commerce companies. Vehicles used by e-commerce operators will be allowed to ply with necessary permissions.
- vi. Courier services.
- vii. Cold storage and warehousing services, including at ports, airports, railway stations, container Depots, individual units and other links in the logistics chain.
- viii. Private security services and facilities management services for maintenance and upkeep of office and residential complexes.



- ix. Hotels, homestays, lodges and motels, which are accommodating tourists and persons stranded due to lockdown, medical and emergency staff, air and sea crew.
  - x. Establishments used/ earmarked for quarantine facilities.
  - xi. Services provided by self-employed persons, e.g., electrician, IT repairs, plumbers, motor mechanics, and carpenters.
- 15. Industries/ Industrial Establishments (both Government and private), as listed below, will be allowed to operate:**
- i. Industries operating in rural areas, i.e., outside the limits of municipal corporations and municipalities.
  - ii. Manufacturing and other industrial establishments with access control in Special Economic Zones (SEZs) and Export Oriented Units (EoUs), industrial estates, and industrial townships. These establishments shall make arrangements for stay of workers within their premises as far as possible and/ or adjacent buildings and for implementation of the Standard operating protocol (SOP) as referred to in para 21 (ii) below. The transportation of workers to work place shall be arranged by the employers in dedicated transport by ensuring social distancing.
  - iii. Manufacturing units of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates.
  - iv. Food processing industries in rural areas, i.e., outside the limits of municipal corporations and municipalities.
  - v. Production units, which require continuous process, and their supply chain.
  - vi. Manufacturing of IT hardware.
  - vii. Coal production, mines and mineral production, their transportation, supply of explosives and activities incidental to mining operations.
  - viii. Manufacturing units of packaging material.
  - ix. Jute industries with staggered shifts and social distancing.
  - x. Oil and gas exploration/ refinery.
  - xi. Brick kilns in rural areas i.e., outside the limits of municipal corporations and municipalities.
- 16. Construction activities, listed as below, will be allowed to operate:**
- i. Construction of roads, irrigation projects, buildings and all kinds of industrial projects, including MSMEs, in rural areas, i.e., outside the limits of municipal corporations and municipalities; and all kinds of projects in industrial estates.
  - ii. Construction of renewable energy projects.
  - iii. Continuation of works in construction projects, within the limits of municipal corporations and municipalities, where workers are available on site and no workers are required to be brought in from outside (in situ construction).
- 17. Movement of persons is allowed in the following cases:**
- i. Private vehicles for emergency services, including medical and veterinary care, and for procuring essential commodities. In such cases, one passenger besides the private vehicle driver can be permitted in the backseat, in case of



four-wheelers; however, in case of two-wheelers, only the driver of the vehicle is to be permitted.

- ii. All personnel travelling to place of work and back in the exempted categories, as per the instructions of the State/ UT local authority.

**18. Offices of the Government of India, its Autonomous/ Subordinate Offices will remain open, as mentioned below:**

- i. Defence, Central Armed Police Forces, Health and Family Welfare, Disaster management and Early Warning Agencies (IMD, INCOIS, SASE and National Centre of Seismology, CWC), National Informatics Centre (NIC), Food Corporation of India (FCI), NCC, Nehru Yuva Kendras (NYKs) and Customs to function without any restriction.
- ii. Other Ministries and Departments, and offices under their control, are to function with 100% attendance of Deputy Secretary and levels above that. Remaining officers and staff to attend upto 33% as per requirement.

**19. Offices of the State/ Union Territory Governments, their Autonomous Bodies and Local Governments will remain open, as mentioned below:**

- i. Police, home guards, civil defence, fire and emergency services, disaster management, prisons and municipal services will function without any restrictions.
- ii. All other Departments of State/ UT Governments to work with restricted staff. Group 'A' and 'B' officers may attend as required. Group 'C' and levels below that may attend upto 33% of strength, as per requirement to ensure social distancing. However, delivery of public services shall be ensured, and necessary staff will be deployed for such purpose.
- iii. District administration and Treasury (including field offices of the Accountant General) will function with restricted staff. However, delivery of public services shall be ensured, and necessary staff will be deployed for such purpose.
- iv. Resident Commissioner of States/ UTs, in New Delhi, only to the extent of coordinating COVID-19 related activities and internal kitchen operations.
- v. Forest offices: staff/ workers required to operate and maintain zoo, nurseries, wildlife, fire-fighting in forests, watering plantations, patrolling and their necessary transport movement.

**20. Persons to remain under mandatory quarantine, as under:**

- i. All such persons who have been directed by health care personnel to remain under strict home/ institutional quarantine for a period as decided by local Health Authorities.
- ii. Persons violating quarantine will be liable to legal action under Section 188 of the IPC, 1860.
- iii. Quarantined persons, who have arrived in India after 15.2.2020, after expiry of their quarantine period and being tested Covid-19 negative, will be released following the protocol prescribed in the SOP issued by MHA.

**21. Instructions for enforcement of above lockdown measures:**

- i. All the district magistrates shall strictly enforce the National COVID 19 directives as specified in **Annexure I**. Penalties prescribed shall be levied and collected from all persons and entities violating these directives.





- ii. All industrial and commercial establishments, work places, offices etc. shall put in place arrangements for implementation of SOP as in **Annexure II** before starting their functioning.
- iii. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such incident commander. The Incident Commander will issue passes for enabling essential movements as explained.
- iv. The Incident Commanders will in particular ensure that all efforts for mobilization of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.
- v. **Additional activities permitted in these guidelines shall be implemented in a phased manner, after making all arrangements necessary for strict implementation of the guidelines. These will come into force with effect from 20<sup>th</sup> April, 2020.**

## 22. Penal provisions

Any person violating these lockdown measures will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure III**.

  
15/04/2020  
Union Home Secretary

**National Directives for COVID-19 Management**

The National Directives shall be enforced by the District Magistrate through fines and penal action as prescribed in the Disaster Management Act 2005.

**PUBLIC SPACES**

1. Wearing of face cover is compulsory in all public places, work places.
2. All persons in charge of public places, work places and transport shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare.
3. No organization /manager of public place shall allow gathering of 5 or more persons
4. Gatherings such as marriages and funerals shall remain regulated by the District Magistrate.
5. Spitting in public spaces shall be punishable with fine.
6. There should be strict ban on sale of liquor, gutka, tobacco etc. and spitting should be strictly prohibited.

**WORK SPACES**

7. All work places shall have adequate arrangements for temperature screening and provide sanitizers at convenient places.
8. Work places shall have a gap of one hour between shifts and will stagger the lunch breaks of staff, to ensure social distancing.
9. Persons above 65 years of age and persons with co-morbidities and parents of children below the age of 5 may be encouraged to work from home.
10. Use of Arogya setu will be encouraged for all employees both private and public.
11. All organizations shall sanitize their work places between shifts.
12. Large meetings to be prohibited.

**MANUFACTURING ESTABLISHMENTS**

13. Frequent cleaning of common surfaces and mandatory hand washing shall be mandated.
14. No overlap of shifts and staggered lunch with social distancing in canteens shall be ensured.
15. Intensive communication and training on good hygiene practices shall be taken up.

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**Standard Operating Procedure for Social Distancing for Offices, Workplace, Factories and Establishments**

The following measures shall be implemented by all offices, factories and other establishments:

1. All areas in the premises including the following shall be disinfected completely using user friendly disinfectant mediums:
  - a. Entrance Gate of building, office etc.
  - b. Cafeteria and canteens.
  - c. Meeting room, Conference halls/ open areas available/ verandah/ entrance gate of site, bunkers, porta cabins, building etc.
  - d. Equipment and lifts.
  - e. Washroom, toilet, sink; water points etc.
  - f. Walls/ all other surfaces
2. For workers coming from outside, special transportation facility will be arranged without any dependency on the public transport system. These vehicles should be allowed to work only with 30-40% passenger capacity.
3. All vehicles and machinery entering the premise should be disinfected by spray mandatorily.
4. Mandatory thermal scanning of everyone entering and exiting the work place to be done.
5. Medical insurance for the workers to be made mandatory.
6. Provision for hand wash & sanitizer preferably with touch free mechanism will be made at all entry and exit points and common areas. Sufficient quantities of all the items should be available.
7. Work places shall have a gap of one hour between shifts and will stagger the lunch breaks of staff, to ensure social distancing.
8. Large gatherings or meetings of 10 or more people to be discouraged. Seating at least 6 feet away from others on job sites and in gatherings, meetings and training sessions.
9. Not more than 2/4 persons (depending on size) will be allowed to travel in lifts or hoists.
10. Use of staircase for climbing should be encouraged.
11. There should be strict ban of gutka, tobacco etc. and spitting should be strictly prohibited.
12. There should be total ban on non-essential visitors at sites.
13. Hospitals/clinics in the nearby areas, which are authorized to treat COVID-19 patients, should be identified and list should be available at work place all the times.

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**Offences and Penalties for Violation of Lockdown Measures**

**A. Section 51 to 60 of the Disaster Management Act, 2005**

**51. Punishment for obstruction, etc.**—Whoever, without reasonable cause

(a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or

(b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

**52. Punishment for false claim.**—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**53. Punishment for misappropriation of money or materials, etc.**—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**54. Punishment for false warning.**—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

**55. Offences by Departments of the Government.**—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.



(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

**56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.**—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

**57. Penalty for contravention of any order regarding requisitioning.**—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

**58. Offence by companies.**—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly: Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence. (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

*Explanation.*—For the purpose of this section— (a) “company” means any body corporate and includes a firm or other association of individuals; and (b) “director”, in relation to a firm, means a partner in the firm.

**59. Previous sanction for prosecution.**—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

**60. Cognizance of offences.**—No court shall take cognizance of an offence under this Act except on a complaint made by— (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.



**B. Section 188 in the Indian Penal Code, 1860**

**188.** Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or trends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

*Explanation.*—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

*Illustration*

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

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भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
Government of India

Department of Health and Family Welfare  
Ministry of Health and Family Welfare

D.O.No.Z.28015/19/2020-EMR  
30-4-2020

प्रीति सूदन, आईएएस

सचिव

**PREETI SUDAN, IAS**  
Secretary

Dear Colleague,

This is with reference to the video conference chaired by the Cabinet Secretary today i.e. on 30<sup>th</sup> April with the Chief Secretaries and Secretary Health of the states. It is important to ensure that we identify pockets of critical interventions for a focused management of Covid 19 at the field level.

The districts were earlier designated as hotspots / red-zones, orange zones and green zones primarily based on the cumulative cases reported and the doubling rate. Since recovery rates have gone up, the districts are now being designated across various zones duly broad-basing the criteria. This classification is multi-factorial and takes into consideration incidence of cases, doubling rate, extent of testing and surveillance feedback to classify the districts. A district will be considered under Green Zone, if there are no confirmed cases so far or there is no reported case since last 21 days in the district.

Some states have raised issues on inclusion of certain districts in red-zone, I would like to highlight that this is a dynamic list. The list will be revised on a weekly basis or earlier and communicated to states for further follow-up action in consonance with the directions issued by Ministry of Home Affairs under the Disaster Management Act, 2005. The list of the districts as per above classification is attached herewith in Annexure.

It is further highlighted that based on field feedback and additional analysis at state level, states may designate additional red or orange zones as appropriate. However, states may not relax the zonal classification of districts classified as red/orange as communicated by the Ministry.

For the districts having one or more municipal corporations, the corporations and other areas of districts may be treated as separate units. If one or more of these units have reported no cases for last 21 days, they can be considered as one level lower in zonal classification, in case the district is in Red/Orange Zone. District authorities should, however, exercise due caution in such areas so that these areas remain free from COVID19 cases.

It is critical to ensure that necessary action for containment so as to break the chain of transmission of virus is initiated in both red and orange zone districts reporting confirmed cases.

The containment zones in these districts have to be delineated based on:

- Mapping of cases & contacts
- Geographical dispersion of cases and contacts
- Area with well demarcated perimeter
- Enforceability

Depending on above factors, for urban areas – residential colony/mohallas/municipal wards or police-station area/municipal zones/towns etc. as appropriate can be designated as containment zones. Similarly, for rural areas – villages/clusters of villages or group of police stations/gram panchayats/blocks etc. as appropriate can be designated as containment zones. The area should be appropriately defined by the district administration/local urban body with technical inputs from local level. In the spirit of effective containment, it is advisable to err on the side of caution. Further, a buffer zone around containment zone has to be demarcated.

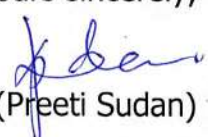
Necessary action should then be initiated in these areas as part of the Containment Action Plans already communicated including –

- Stringent Perimeter control
  - Establishing clear entry and exit points
  - No movement except for medical emergencies and essential goods & services
  - No unchecked influx of population
  - People transiting to be recorded & followed through IDSP
- Active search for cases through house to house surveillance by special teams formed for the purpose
- Testing of all cases as per sampling guidelines
- Contact tracing
- Clinical management of all confirmed cases

Similarly, in buffer zones, extensive surveillance for cases through monitoring of ILI/SARI cases in health facilities has to be taken up.

All States are accordingly requested to delineate the containment zones and buffer zones in the identified red and orange zone districts and notify the same.

Looking forward for your continued leadership for management of Covid 19 at the state-level.

*Warm regards*  
Yours sincerely,  
  
(Preeti Sudan)

Chief Secretaries of all States/UTs



For the week after 3<sup>rd</sup> May, the list of red/orange/green districts is as below :

**Table 1:**  
**Number of districts per zone**

<b>Red Zone</b>	<b>130</b>
<b>Orange Zone</b>	<b>284</b>
<b>Green Zone</b>	<b>319</b>

**Table:2**  
**Classification of the districts – State-Wise**

State	Red Zone	Orange Zone	Green Zone	Total
Andaman And Nicobar Islands	1	0	2	3
Andhra Pradesh	5	7	1	13
Arunachal Pradesh	0	0	25	25
Assam	0	3	30	33
Bihar	5	20	13	38
Chandigarh	1	0	0	1
Chhattisgarh	1	1	25	27
Dadra And Nagar Haveli	0	0	1	1
Daman And Diu	0	0	2	2
Delhi	11	0	0	11
Goa	0	0	2	2
Gujarat	9	19	5	33
Haryana	2	18	2	22
Himachal Pradesh	0	6	6	12
Jammu And Kashmir	4	12	4	20
Jharkhand	1	9	14	24
Karnataka	3	13	14	30
Kerala	2	10	2	14
Ladakh	0	2	0	2
Lakshadweep	0	0	1	1
Madhya Pradesh	9	19	24	52
Maharashtra	14	16	6	36
Manipur	0	0	16	16
Meghalaya	0	1	10	11
Mizoram	0	0	11	11
Nagaland	0	0	11	11
Odisha	3	6	21	30
Puducherry	0	1	3	4
Punjab	3	15	4	22
Rajasthan	8	19	6	33
Sikkim	0	0	4	4
Tamil Nadu	12	24	1	37
Telangana	6	18	9	33
Tripura	0	2	6	8
Uttar Pradesh	19	36	20	75
Uttarakhand	1	2	10	13
West Bengal	10	5	8	23
<b>Total</b>	<b>130</b>	<b>284</b>	<b>319</b>	<b>733</b>

**Table-3**  
**Zonal classification of districts**

Sr. No.	District	State	Zonal Classification
1	South Andamans	Andaman And Nicobar Islands	Red Zone
2	Nicobars	Andaman And Nicobar Islands	Green Zone
3	North And Middle Andaman	Andaman And Nicobar Islands	Green Zone
4	Kurnool	Andhra Pradesh	Red Zone
5	Guntur	Andhra Pradesh	Red Zone
6	Krishna	Andhra Pradesh	Red Zone
7	Chittoor	Andhra Pradesh	Red Zone
8	Spsr Nellore	Andhra Pradesh	Red Zone
9	West Godavari	Andhra Pradesh	Orange Zone
10	Y.S.R.	Andhra Pradesh	Orange Zone
11	Anantapur	Andhra Pradesh	Orange Zone
12	Prakasam	Andhra Pradesh	Orange Zone
13	East Godavari	Andhra Pradesh	Orange Zone
14	Srikakulam	Andhra Pradesh	Orange Zone
15	Visakhapatanam	Andhra Pradesh	Orange Zone
16	Vizianagaram	Andhra Pradesh	Green Zone
17	Lohit	Arunachal Pradesh	Green Zone
18	Changlang	Arunachal Pradesh	Green Zone
19	Dibang Valley	Arunachal Pradesh	Green Zone
20	East Kameng	Arunachal Pradesh	Green Zone
21	East Siang	Arunachal Pradesh	Green Zone
22	KurungKumey	Arunachal Pradesh	Green Zone
23	Lower Dibang Valley	Arunachal Pradesh	Green Zone
24	Lower Subansiri	Arunachal Pradesh	Green Zone
25	Papum Pare	Arunachal Pradesh	Green Zone
26	Tawang	Arunachal Pradesh	Green Zone
27	Tirap	Arunachal Pradesh	Green Zone
28	Upper Siang	Arunachal Pradesh	Green Zone
29	Upper Subansiri	Arunachal Pradesh	Green Zone
30	West Kameng	Arunachal Pradesh	Green Zone
31	West Siang	Arunachal Pradesh	Green Zone
32	Anjaw	Arunachal Pradesh	Green Zone
33	Longding	Arunachal Pradesh	Green Zone
34	KraDaadi	Arunachal Pradesh	Green Zone
35	Namsai	Arunachal Pradesh	Green Zone
36	Siang	Arunachal Pradesh	Green Zone
37	Kamle	Arunachal Pradesh	Green Zone
38	Lower Siang	Arunachal Pradesh	Green Zone
39	PakkeKessang	Arunachal Pradesh	Green Zone

Sr. No.	District	State	Zonal Classification
40	Leparada	Arunachal Pradesh	Green Zone
41	Shi Yomi	Arunachal Pradesh	Green Zone
42	Dhubri	Assam	Orange Zone
43	Marigaon	Assam	Orange Zone
44	Goalpara	Assam	Orange Zone
45	Golaghat	Assam	Green Zone
46	Karimganj	Assam	Green Zone
47	Nalbari	Assam	Green Zone
48	Hailakandi	Assam	Green Zone
49	Cachar	Assam	Green Zone
50	Kamrup	Assam	Green Zone
51	Lakhimpur	Assam	Green Zone
52	Kamrup Metro	Assam	Green Zone
53	South SalmaraMancachar	Assam	Green Zone
54	Barpeta	Assam	Green Zone
55	Bongaigaon	Assam	Green Zone
56	Darrang	Assam	Green Zone
57	Dhemaji	Assam	Green Zone
58	Dibrugarh	Assam	Green Zone
59	Jorhat	Assam	Green Zone
60	KarbiAnglong	Assam	Green Zone
61	Kokrajhar	Assam	Green Zone
62	Nagaon	Assam	Green Zone
63	Dima Hasao	Assam	Green Zone
64	Sivasagar	Assam	Green Zone
65	Sonitpur	Assam	Green Zone
66	Tinsukia	Assam	Green Zone
67	Chirang	Assam	Green Zone
68	Baksa	Assam	Green Zone
69	Udalguri	Assam	Green Zone
70	Biswanath	Assam	Green Zone
71	Majuli	Assam	Green Zone
72	Charaideo	Assam	Green Zone
73	Hojai	Assam	Green Zone
74	West KarbiAnglong	Assam	Green Zone
75	Munger	Bihar	Red Zone
76	Patna	Bihar	Red Zone
77	Rohtas	Bihar	Red Zone
78	Buxar	Bihar	Red Zone
79	Gaya	Bihar	Red Zone
80	Nalanda	Bihar	Orange Zone
81	Kaimur (Bhabua)	Bihar	Orange Zone
82	Siwan	Bihar	Orange Zone
83	Gopalganj	Bihar	Orange Zone

Sr. No.	District	State	Zonal Classification
84	Bhojpur	Bihar	Orange Zone
85	Begusarai	Bihar	Orange Zone
86	Aurangabad	Bihar	Orange Zone
87	Madhubani	Bihar	Orange Zone
88	PurbiChampanan	Bihar	Orange Zone
89	Bhagalpur	Bihar	Orange Zone
90	Arwal	Bihar	Orange Zone
91	Saran	Bihar	Orange Zone
92	Nawada	Bihar	Orange Zone
93	Lakhisarai	Bihar	Orange Zone
94	Banka	Bihar	Orange Zone
95	Vaishali	Bihar	Orange Zone
96	Darbhanga	Bihar	Orange Zone
97	Jehanabad	Bihar	Orange Zone
98	Madhepura	Bihar	Orange Zone
99	Purnia	Bihar	Orange Zone
100	Sheikhpura	Bihar	Green Zone
101	Araria	Bihar	Green Zone
102	Jamui	Bihar	Green Zone
103	Katihar	Bihar	Green Zone
104	Khagaria	Bihar	Green Zone
105	Kishanganj	Bihar	Green Zone
106	Muzaffarpur	Bihar	Green Zone
107	PashchimChampanan	Bihar	Green Zone
108	Saharsa	Bihar	Green Zone
109	Samastipur	Bihar	Green Zone
110	Sheohar	Bihar	Green Zone
111	Sitamarhi	Bihar	Green Zone
112	Supaul	Bihar	Green Zone
113	Chandigarh	Chandigarh	Red Zone
114	Raipur	Chhattisgarh	Red Zone
115	Korba	Chhattisgarh	Orange Zone
116	Surajpur	Chhattisgarh	Green Zone
117	Bilaspur	Chhattisgarh	Green Zone
118	Durg	Chhattisgarh	Green Zone
119	Rajnandgaon	Chhattisgarh	Green Zone
120	Bastar	Chhattisgarh	Green Zone
121	Dantewada	Chhattisgarh	Green Zone
122	Dhamtari	Chhattisgarh	Green Zone
123	Janjgir-Champa	Chhattisgarh	Green Zone
124	Jashpur	Chhattisgarh	Green Zone
125	Kanker	Chhattisgarh	Green Zone
126	Kabirdham	Chhattisgarh	Green Zone
127	Korea	Chhattisgarh	Green Zone

Sr. No.	District	State	Zonal Classification
128	Mahasamund	Chhattisgarh	Green Zone
129	Raigarh	Chhattisgarh	Green Zone
130	Surguja	Chhattisgarh	Green Zone
131	Bijapur	Chhattisgarh	Green Zone
132	Narayanpur	Chhattisgarh	Green Zone
133	Sukma	Chhattisgarh	Green Zone
134	Kondagaon	Chhattisgarh	Green Zone
135	Baloda Bazar	Chhattisgarh	Green Zone
136	Gariyaband	Chhattisgarh	Green Zone
137	Balod	Chhattisgarh	Green Zone
138	Mungeli	Chhattisgarh	Green Zone
139	Balrampur	Chhattisgarh	Green Zone
140	Bemetara	Chhattisgarh	Green Zone
141	Dadra And Nagar Haveli	Dadra And Nagar Haveli	Green Zone
142	Daman	Daman And Diu	Green Zone
143	Diu	Daman And Diu	Green Zone
144	South East	Delhi	Red Zone
145	Central	Delhi	Red Zone
146	North	Delhi	Red Zone
147	South	Delhi	Red Zone
148	North East	Delhi	Red Zone
149	West	Delhi	Red Zone
150	Shahdara	Delhi	Red Zone
151	East	Delhi	Red Zone
152	New Delhi	Delhi	Red Zone
153	North West	Delhi	Red Zone
154	South West	Delhi	Red Zone
155	North Goa	Goa	Green Zone
156	South Goa	Goa	Green Zone
157	Ahmadabad	Gujarat	Red Zone
158	Surat	Gujarat	Red Zone
159	Vadodara	Gujarat	Red Zone
160	Anand	Gujarat	Red Zone
161	Banas Kantha	Gujarat	Red Zone
162	PanchMahals	Gujarat	Red Zone
163	Bhavnagar	Gujarat	Red Zone
164	Gandhinagar	Gujarat	Red Zone
165	Arvalli	Gujarat	Red Zone
166	Rajkot	Gujarat	Orange Zone
167	Bharuch	Gujarat	Orange Zone
168	Botad	Gujarat	Orange Zone
169	Narmada	Gujarat	Orange Zone
170	Chhotaudepur	Gujarat	Orange Zone
171	Mahisagar	Gujarat	Orange Zone

Sr. No.	District	State	Zonal Classification
172	Mahesana	Gujarat	Orange Zone
173	Patan	Gujarat	Orange Zone
174	Kheda	Gujarat	Orange Zone
175	Valsad	Gujarat	Orange Zone
176	Dohad	Gujarat	Orange Zone
177	Kachchh	Gujarat	Orange Zone
178	Navsari	Gujarat	Orange Zone
179	GirSomnath	Gujarat	Orange Zone
180	Dang	Gujarat	Orange Zone
181	SabarKantha	Gujarat	Orange Zone
182	Tapi	Gujarat	Orange Zone
183	Jamnagar	Gujarat	Orange Zone
184	Surendranagar	Gujarat	Orange Zone
185	Morbi	Gujarat	Green Zone
186	Amreli	Gujarat	Green Zone
187	Porbandar	Gujarat	Green Zone
188	Junagadh	Gujarat	Green Zone
189	DevbhumiDwarka	Gujarat	Green Zone
190	Sonipat	Haryana	Red Zone
191	Faridabad	Haryana	Red Zone
192	Gurugram	Haryana	Orange Zone
193	Nuh	Haryana	Orange Zone
194	Panipat	Haryana	Orange Zone
195	Panchkula	Haryana	Orange Zone
196	Palwal	Haryana	Orange Zone
197	Rohtak	Haryana	Orange Zone
198	Hisar	Haryana	Orange Zone
199	Ambala	Haryana	Orange Zone
200	Jhajjar	Haryana	Orange Zone
201	Bhiwani	Haryana	Orange Zone
202	Kaithal	Haryana	Orange Zone
203	Kurukshetra	Haryana	Orange Zone
204	Karnal	Haryana	Orange Zone
205	Jind	Haryana	Orange Zone
206	Sirsa	Haryana	Orange Zone
207	Yamunanagar	Haryana	Orange Zone
208	Fatehabad	Haryana	Orange Zone
209	CharkiDadri	Haryana	Orange Zone
210	Mahendragarh	Haryana	Green Zone
211	Rewari	Haryana	Green Zone
212	Una	Himachal Pradesh	Orange Zone
213	Chamba	Himachal Pradesh	Orange Zone
214	Hamirpur	Himachal Pradesh	Orange Zone
215	Kangra	Himachal Pradesh	Orange Zone

Sr. No.	District	State	Zonal Classification
216	Sirmaur	Himachal Pradesh	Orange Zone
217	Solan	Himachal Pradesh	Orange Zone
218	Bilaspur	Himachal Pradesh	Green Zone
219	Kinnaur	Himachal Pradesh	Green Zone
220	Kullu	Himachal Pradesh	Green Zone
221	Lahul And Spiti	Himachal Pradesh	Green Zone
222	Mandi	Himachal Pradesh	Green Zone
223	Shimla	Himachal Pradesh	Green Zone
224	Bandipora	Jammu And Kashmir	Red Zone
225	Shopian	Jammu And Kashmir	Red Zone
226	Anantnag	Jammu And Kashmir	Red Zone
227	Srinagar	Jammu And Kashmir	Red Zone
228	Baramulla	Jammu And Kashmir	Orange Zone
229	Kupwara	Jammu And Kashmir	Orange Zone
230	Ganderbal	Jammu And Kashmir	Orange Zone
231	Jammu	Jammu And Kashmir	Orange Zone
232	Udhampur	Jammu And Kashmir	Orange Zone
233	Kulgam	Jammu And Kashmir	Orange Zone
234	Budgam	Jammu And Kashmir	Orange Zone
235	Samba	Jammu And Kashmir	Orange Zone
236	Kathua	Jammu And Kashmir	Orange Zone
237	Rajouri	Jammu And Kashmir	Orange Zone
238	Ramban	Jammu And Kashmir	Orange Zone
239	Reasi	Jammu And Kashmir	Orange Zone
240	Pulwama	Jammu And Kashmir	Green Zone
241	Kishtwar	Jammu And Kashmir	Green Zone
242	Doda	Jammu And Kashmir	Green Zone
243	Poonch	Jammu And Kashmir	Green Zone
244	Ranchi	Jharkhand	Red Zone
245	Bokaro	Jharkhand	Orange Zone
246	Garhwa	Jharkhand	Orange Zone
247	Dhanbad	Jharkhand	Orange Zone
248	Deoghar	Jharkhand	Orange Zone
249	Hazaribagh	Jharkhand	Orange Zone
250	Simdega	Jharkhand	Orange Zone
251	Giridih	Jharkhand	Orange Zone
252	Koderma	Jharkhand	Orange Zone
253	Jamtara	Jharkhand	Orange Zone
254	Chatra	Jharkhand	Green Zone
255	Dumka	Jharkhand	Green Zone
256	East Singhbhum	Jharkhand	Green Zone
257	Godda	Jharkhand	Green Zone
258	Gumla	Jharkhand	Green Zone
259	Latehar	Jharkhand	Green Zone



Sr. No.	District	State	Zonal Classification
260	Lohardaga	Jharkhand	Green Zone
261	Pakur	Jharkhand	Green Zone
262	Palamu	Jharkhand	Green Zone
263	Sahebganj	Jharkhand	Green Zone
264	SaraikelaKharsawan	Jharkhand	Green Zone
265	West Singhbhum	Jharkhand	Green Zone
266	Khunti	Jharkhand	Green Zone
267	Ramgarh	Jharkhand	Green Zone
268	Bengaluru Urban	Karnataka	Red Zone
269	Mysuru	Karnataka	Red Zone
270	Bengaluru Rural	Karnataka	Red Zone
271	Belagavi	Karnataka	Orange Zone
272	Vijayapura	Karnataka	Orange Zone
273	Kalaburagi	Karnataka	Orange Zone
274	Bagalkote	Karnataka	Orange Zone
275	Mandya	Karnataka	Orange Zone
276	Ballari	Karnataka	Orange Zone
277	Dharwad	Karnataka	Orange Zone
278	Dakshina Kannada	Karnataka	Orange Zone
279	Bidar	Karnataka	Orange Zone
280	Chikkaballapura	Karnataka	Orange Zone
281	Gadag	Karnataka	Orange Zone
282	Uttara Kannada	Karnataka	Orange Zone
283	Tumakuru	Karnataka	Orange Zone
284	Davangere	Karnataka	Green Zone
285	Udupi	Karnataka	Green Zone
286	Chamarajanagara	Karnataka	Green Zone
287	Chikkamagaluru	Karnataka	Green Zone
288	Chitradurga	Karnataka	Green Zone
289	Hassan	Karnataka	Green Zone
290	Haveri	Karnataka	Green Zone
291	Kodagu	Karnataka	Green Zone
292	Kolar	Karnataka	Green Zone
293	Koppal	Karnataka	Green Zone
294	Raichur	Karnataka	Green Zone
295	Shivamogga	Karnataka	Green Zone
296	Ramanagara	Karnataka	Green Zone
297	Yadgir	Karnataka	Green Zone
298	Kannur	Kerala	Red Zone
299	Kottayam	Kerala	Red Zone
300	Kasaragod	Kerala	Orange Zone
301	Idukki	Kerala	Orange Zone
302	Kozhikode	Kerala	Orange Zone
303	Kollam	Kerala	Orange Zone

Sr. No.	District	State	Zonal Classification
304	Palakkad	Kerala	Orange Zone
305	Pathanamthitta	Kerala	Orange Zone
306	Malappuram	Kerala	Orange Zone
307	Thiruvananthapuram	Kerala	Orange Zone
308	Alappuzha	Kerala	Orange Zone
309	Thrissur	Kerala	Orange Zone
310	Ernakulam	Kerala	Green Zone
311	Wayanad	Kerala	Green Zone
312	LehLadakh	Ladakh	Orange Zone
313	Kargil	Ladakh	Orange Zone
314	Lakshadweep District	Lakshadweep	Green Zone
315	Indore	Madhya Pradesh	Red Zone
316	Bhopal	Madhya Pradesh	Red Zone
317	Ujjain	Madhya Pradesh	Red Zone
318	Jabalpur	Madhya Pradesh	Red Zone
319	Dhar	Madhya Pradesh	Red Zone
320	Barwani	Madhya Pradesh	Red Zone
321	East Nimar	Madhya Pradesh	Red Zone
322	Dewas	Madhya Pradesh	Red Zone
323	Gwalior	Madhya Pradesh	Red Zone
324	Khargone	Madhya Pradesh	Orange Zone
325	Raisen	Madhya Pradesh	Orange Zone
326	Hoshangabad	Madhya Pradesh	Orange Zone
327	Ratlam	Madhya Pradesh	Orange Zone
328	Agar Malwa	Madhya Pradesh	Orange Zone
329	Mandsaur	Madhya Pradesh	Orange Zone
330	Sagar	Madhya Pradesh	Orange Zone
331	Shajapur	Madhya Pradesh	Orange Zone
332	Chhindwara	Madhya Pradesh	Orange Zone
333	Alirajpur	Madhya Pradesh	Orange Zone
334	Tikamgarh	Madhya Pradesh	Orange Zone
335	Shahdol	Madhya Pradesh	Orange Zone
336	Sheopur	Madhya Pradesh	Orange Zone
337	Dindori	Madhya Pradesh	Orange Zone
338	Burhanpur	Madhya Pradesh	Orange Zone
339	Harda	Madhya Pradesh	Orange Zone
340	Betul	Madhya Pradesh	Orange Zone
341	Vidisha	Madhya Pradesh	Orange Zone
342	Morena	Madhya Pradesh	Orange Zone
343	Rewa	Madhya Pradesh	Green Zone
344	Ashoknagar	Madhya Pradesh	Green Zone
345	Rajgarh	Madhya Pradesh	Green Zone
346	Shivpuri	Madhya Pradesh	Green Zone
347	Anuppur	Madhya Pradesh	Green Zone

Sr. No.	District	State	Zonal Classification
348	Balaghat	Madhya Pradesh	Green Zone
349	Bhind	Madhya Pradesh	Green Zone
350	Chhatarpur	Madhya Pradesh	Green Zone
351	Damoh	Madhya Pradesh	Green Zone
352	Datia	Madhya Pradesh	Green Zone
353	Guna	Madhya Pradesh	Green Zone
354	Jhabua	Madhya Pradesh	Green Zone
355	Katni	Madhya Pradesh	Green Zone
356	Mandla	Madhya Pradesh	Green Zone
357	Narsinghpur	Madhya Pradesh	Green Zone
358	Neemuch	Madhya Pradesh	Green Zone
359	Panna	Madhya Pradesh	Green Zone
360	Satna	Madhya Pradesh	Green Zone
361	Sehore	Madhya Pradesh	Green Zone
362	Seoni	Madhya Pradesh	Green Zone
363	Sidhi	Madhya Pradesh	Green Zone
364	Umaria	Madhya Pradesh	Green Zone
365	Singrauli	Madhya Pradesh	Green Zone
366	Niwari	Madhya Pradesh	Green Zone
367	Mumbai	Maharashtra	Red Zone
368	Pune	Maharashtra	Red Zone
369	Thane	Maharashtra	Red Zone
370	Nashik	Maharashtra	Red Zone
371	Palghar	Maharashtra	Red Zone
372	Nagpur	Maharashtra	Red Zone
373	Solapur	Maharashtra	Red Zone
374	Yavatmal	Maharashtra	Red Zone
375	Aurangabad	Maharashtra	Red Zone
376	Satara	Maharashtra	Red Zone
377	Dhule	Maharashtra	Red Zone
378	Akola	Maharashtra	Red Zone
379	Jalgaon	Maharashtra	Red Zone
380	Mumbai Suburban	Maharashtra	Red Zone
381	Raigad	Maharashtra	Orange Zone
382	Ahmednagar	Maharashtra	Orange Zone
383	Amravati	Maharashtra	Orange Zone
384	Buldhana	Maharashtra	Orange Zone
385	Nandurbar	Maharashtra	Orange Zone
386	Kolhapur	Maharashtra	Orange Zone
387	Hingoli	Maharashtra	Orange Zone
388	Ratnagiri	Maharashtra	Orange Zone
389	Jalna	Maharashtra	Orange Zone
390	Nanded	Maharashtra	Orange Zone
391	Chandrapur	Maharashtra	Orange Zone

Sr. No.	District	State	Zonal Classification
392	Parbhani	Maharashtra	Orange Zone
393	Sangli	Maharashtra	Orange Zone
394	Latur	Maharashtra	Orange Zone
395	Bhandara	Maharashtra	Orange Zone
396	Beed	Maharashtra	Orange Zone
397	Osmanabad	Maharashtra	Green Zone
398	Washim	Maharashtra	Green Zone
399	Sindhudurg	Maharashtra	Green Zone
400	Gondia	Maharashtra	Green Zone
401	Gadchiroli	Maharashtra	Green Zone
402	Wardha	Maharashtra	Green Zone
403	Imphal West	Manipur	Green Zone
404	Thoubal	Manipur	Green Zone
405	Bishnupur	Manipur	Green Zone
406	Chandel	Manipur	Green Zone
407	Churachandpur	Manipur	Green Zone
408	Imphal East	Manipur	Green Zone
409	Senapati	Manipur	Green Zone
410	Tamenglong	Manipur	Green Zone
411	Ukhrul	Manipur	Green Zone
412	Kakching	Manipur	Green Zone
413	Kangpokpi	Manipur	Green Zone
414	Jiribam	Manipur	Green Zone
415	Noney	Manipur	Green Zone
416	Pherzawl	Manipur	Green Zone
417	Tengnoupal	Manipur	Green Zone
418	Kamjong	Manipur	Green Zone
419	East Khasi Hills	Meghalaya	Orange Zone
420	East Garo Hills	Meghalaya	Green Zone
421	West Jaintia Hills	Meghalaya	Green Zone
422	Ribhoi	Meghalaya	Green Zone
423	South Garo Hills	Meghalaya	Green Zone
424	West Garo Hills	Meghalaya	Green Zone
425	West Khasi Hills	Meghalaya	Green Zone
426	North Garo Hills	Meghalaya	Green Zone
427	East Jaintia Hills	Meghalaya	Green Zone
428	South West Khasi Hills	Meghalaya	Green Zone
429	South West Garo Hills	Meghalaya	Green Zone
430	Aizawl	Mizoram	Green Zone
431	Champhai	Mizoram	Green Zone
432	Kolasib	Mizoram	Green Zone
433	Lawngtlai	Mizoram	Green Zone
434	Lunglei	Mizoram	Green Zone
435	Mamit	Mizoram	Green Zone

Sr. No.	District	State	Zonal Classification
436	Saiha	Mizoram	Green Zone
437	Serchhip	Mizoram	Green Zone
438	Hnahthial	Mizoram	Green Zone
439	Saitual	Mizoram	Green Zone
440	Khawzawl	Mizoram	Green Zone
441	Dimapur	Nagaland	Green Zone
442	Kohima	Nagaland	Green Zone
443	Mokokchung	Nagaland	Green Zone
444	Mon	Nagaland	Green Zone
445	Phek	Nagaland	Green Zone
446	Tuensang	Nagaland	Green Zone
447	Wokha	Nagaland	Green Zone
448	Zunheboto	Nagaland	Green Zone
449	Peren	Nagaland	Green Zone
450	Kiphire	Nagaland	Green Zone
451	Longleng	Nagaland	Green Zone
452	Jajapur	Odisha	Red Zone
453	Bhadrak	Odisha	Red Zone
454	Baleshwar	Odisha	Red Zone
455	Khordha	Odisha	Orange Zone
456	Sundargarh	Odisha	Orange Zone
457	Kendrapara	Odisha	Orange Zone
458	Koraput	Odisha	Orange Zone
459	Dhenkanal	Odisha	Orange Zone
460	Kalahandi	Odisha	Orange Zone
461	Cuttack	Odisha	Green Zone
462	Puri	Odisha	Green Zone
463	Anugul	Odisha	Green Zone
464	Balangir	Odisha	Green Zone
465	Bargarh	Odisha	Green Zone
466	Boudh	Odisha	Green Zone
467	Deogarh	Odisha	Green Zone
468	Gajapati	Odisha	Green Zone
469	Ganjam	Odisha	Green Zone
470	Jagatsinghapur	Odisha	Green Zone
471	Jharsuguda	Odisha	Green Zone
472	Kandhamal	Odisha	Green Zone
473	Kendujhar	Odisha	Green Zone
474	Malkangiri	Odisha	Green Zone
475	Mayurbhanj	Odisha	Green Zone
476	Nabarangpur	Odisha	Green Zone
477	Nayagarh	Odisha	Green Zone
478	Nuapada	Odisha	Green Zone
479	Rayagada	Odisha	Green Zone

Sr. No.	District	State	Zonal Classification
480	Sambalpur	Odisha	Green Zone
481	Sonepur	Odisha	Green Zone
482	Pondicherry	Puducherry	Orange Zone
483	Karaikal	Puducherry	Green Zone
484	Mahe	Puducherry	Green Zone
485	Yanam	Puducherry	Green Zone
486	Jalandhar	Punjab	Red Zone
487	Patiala	Punjab	Red Zone
488	Ludhiana	Punjab	Red Zone
489	S.A.S Nagar	Punjab	Orange Zone
490	Pathankot	Punjab	Orange Zone
491	Mansa	Punjab	Orange Zone
492	Tarn Taran	Punjab	Orange Zone
493	Amritsar	Punjab	Orange Zone
494	Kapurthala	Punjab	Orange Zone
495	Hoshiarpur	Punjab	Orange Zone
496	Faridkot	Punjab	Orange Zone
497	Sangrur	Punjab	Orange Zone
498	Shahid Bhagat Singh Nagar (Nawanshahr)	Punjab	Orange Zone
499	Firozpur	Punjab	Orange Zone
500	Sri Muktsar Sahib	Punjab	Orange Zone
501	Moga	Punjab	Orange Zone
502	Gurdaspur	Punjab	Orange Zone
503	Barnala	Punjab	Orange Zone
504	Rupnagar (Ropar)	Punjab	Green Zone
505	Fatehgarh Sahib	Punjab	Green Zone
506	Bathinda	Punjab	Green Zone
507	Fazilka	Punjab	Green Zone
508	Jaipur	Rajasthan	Red Zone
509	Jodhpur	Rajasthan	Red Zone
510	Kota	Rajasthan	Red Zone
511	Ajmer	Rajasthan	Red Zone
512	Bharatpur	Rajasthan	Red Zone
513	Nagaur	Rajasthan	Red Zone
514	Banswara	Rajasthan	Red Zone
515	Jhalawar	Rajasthan	Red Zone
516	Tonk	Rajasthan	Orange Zone
517	Jaisalmer	Rajasthan	Orange Zone
518	Dausa	Rajasthan	Orange Zone
519	Jhunjhunu	Rajasthan	Orange Zone
520	Hanumangarh	Rajasthan	Orange Zone
521	Bhilwara	Rajasthan	Orange Zone
522	SawaiMadhopur	Rajasthan	Orange Zone

Sr. No.	District	State	Zonal Classification
523	Chittorgarh	Rajasthan	Orange Zone
524	Dungarpur	Rajasthan	Orange Zone
525	Udaipur	Rajasthan	Orange Zone
526	Dholpur	Rajasthan	Orange Zone
527	Sikar	Rajasthan	Orange Zone
528	Alwar	Rajasthan	Orange Zone
529	Bikaner	Rajasthan	Orange Zone
530	Churu	Rajasthan	Orange Zone
531	Pali	Rajasthan	Orange Zone
532	Barmer	Rajasthan	Orange Zone
533	Karauli	Rajasthan	Orange Zone
534	Rajsamand	Rajasthan	Orange Zone
535	Baran	Rajasthan	Green Zone
536	Bundi	Rajasthan	Green Zone
537	Ganganagar	Rajasthan	Green Zone
538	Jalore	Rajasthan	Green Zone
539	Sirohi	Rajasthan	Green Zone
540	Pratapgarh	Rajasthan	Green Zone
541	North District	Sikkim	Green Zone
542	East District	Sikkim	Green Zone
543	South District	Sikkim	Green Zone
544	West District	Sikkim	Green Zone
545	Chennai	Tamil Nadu	Red Zone
546	Madurai	Tamil Nadu	Red Zone
547	Namakkal	Tamil Nadu	Red Zone
548	Thanjavur	Tamil Nadu	Red Zone
549	Chengalpattu	Tamil Nadu	Red Zone
550	Thiruvallur	Tamil Nadu	Red Zone
551	Tiruppur	Tamil Nadu	Red Zone
552	Ranipet	Tamil Nadu	Red Zone
553	Virudhunagar	Tamil Nadu	Red Zone
554	Thiruvarur	Tamil Nadu	Red Zone
555	Vellore	Tamil Nadu	Red Zone
556	Kanchipuram	Tamil Nadu	Red Zone
557	Theni	Tamil Nadu	Orange Zone
558	Tenkasi	Tamil Nadu	Orange Zone
559	Nagapattinam	Tamil Nadu	Orange Zone
560	Dindigul	Tamil Nadu	Orange Zone
561	Villupuram	Tamil Nadu	Orange Zone
562	Coimbatore	Tamil Nadu	Orange Zone
563	Cuddalore	Tamil Nadu	Orange Zone
564	Salem	Tamil Nadu	Orange Zone
565	Karur	Tamil Nadu	Orange Zone
566	Tuticorin	Tamil Nadu	Orange Zone

Sr. No.	District	State	Zonal Classification
567	Tiruchirappalli	Tamil Nadu	Orange Zone
568	Tirupathur	Tamil Nadu	Orange Zone
569	Kanniyakumari	Tamil Nadu	Orange Zone
570	Tiruvannamalai	Tamil Nadu	Orange Zone
571	Ramanathapuram	Tamil Nadu	Orange Zone
572	Tirunelveli	Tamil Nadu	Orange Zone
573	The Nilgiris	Tamil Nadu	Orange Zone
574	Sivaganga	Tamil Nadu	Orange Zone
575	Perambalur	Tamil Nadu	Orange Zone
576	Kallakurichi	Tamil Nadu	Orange Zone
577	Ariyalur	Tamil Nadu	Orange Zone
578	Erode	Tamil Nadu	Orange Zone
579	Pudukkottai	Tamil Nadu	Orange Zone
580	Dharmapuri	Tamil Nadu	Orange Zone
581	Krishnagiri	Tamil Nadu	Green Zone
582	Hyderabad	Telangana	Red Zone
583	Suryapet	Telangana	Red Zone
584	Ranga Reddy	Telangana	Red Zone
585	MedchalMalkajgiri	Telangana	Red Zone
586	Vikarabad	Telangana	Red Zone
587	Warangal Urban	Telangana	Red Zone
588	Nizamabad	Telangana	Orange Zone
589	JogulambaGadwal	Telangana	Orange Zone
590	Nirmal	Telangana	Orange Zone
591	Nalgonda	Telangana	Orange Zone
592	Adilabad	Telangana	Orange Zone
593	Sangareddy	Telangana	Orange Zone
594	Kamareddy	Telangana	Orange Zone
595	KumuramBheemAsifabad	Telangana	Orange Zone
596	Karimnagar	Telangana	Orange Zone
597	Khammam	Telangana	Orange Zone
598	Mahabubnagar	Telangana	Orange Zone
599	Jagitial	Telangana	Orange Zone
600	RajannaSircilla	Telangana	Orange Zone
601	JayashankarBhupalapally	Telangana	Orange Zone
602	Medak	Telangana	Orange Zone
603	Jangoan	Telangana	Orange Zone
604	Narayanpet	Telangana	Orange Zone
605	Mancherial	Telangana	Orange Zone
606	Peddapalli	Telangana	Green Zone
607	Nagarkurnool	Telangana	Green Zone
608	Mulugu	Telangana	Green Zone
609	BhadradiKothagudem	Telangana	Green Zone
610	Mahabubabad	Telangana	Green Zone



Sr. No.	District	State	Zonal Classification
611	Siddipet	Telangana	Green Zone
612	Warangal Rural	Telangana	Green Zone
613	Wanaparthy	Telangana	Green Zone
614	YadadriBhuvanagiri	Telangana	Green Zone
615	North Tripura	Tripura	Orange Zone
616	Gomati	Tripura	Orange Zone
617	Dhalai	Tripura	Green Zone
618	South Tripura	Tripura	Green Zone
619	West Tripura	Tripura	Green Zone
620	Khowai	Tripura	Green Zone
621	Sepahijala	Tripura	Green Zone
622	Unakoti	Tripura	Green Zone
623	Agra	Uttar Pradesh	Red Zone
624	Lucknow	Uttar Pradesh	Red Zone
625	Saharanpur	Uttar Pradesh	Red Zone
626	Kanpur Nagar	Uttar Pradesh	Red Zone
627	Moradabad	Uttar Pradesh	Red Zone
628	Firozabad	Uttar Pradesh	Red Zone
629	Gautam Buddha Nagar	Uttar Pradesh	Red Zone
630	Bulandshahr	Uttar Pradesh	Red Zone
631	Meerut	Uttar Pradesh	Red Zone
632	Rae Bareli	Uttar Pradesh	Red Zone
633	Varanasi	Uttar Pradesh	Red Zone
634	Bijnor	Uttar Pradesh	Red Zone
635	Amroha	Uttar Pradesh	Red Zone
636	Sant Kabeer Nagar	Uttar Pradesh	Red Zone
637	Aligarh	Uttar Pradesh	Red Zone
638	Muzaffarnagar	Uttar Pradesh	Red Zone
639	Rampur	Uttar Pradesh	Red Zone
640	Mathura	Uttar Pradesh	Red Zone
641	Bareilly	Uttar Pradesh	Red Zone
642	Ghaziabad	Uttar Pradesh	Orange Zone
643	Hapur	Uttar Pradesh	Orange Zone
644	Baghpat	Uttar Pradesh	Orange Zone
645	Basti	Uttar Pradesh	Orange Zone
646	Budaun	Uttar Pradesh	Orange Zone
647	Sambhal	Uttar Pradesh	Orange Zone
648	Auraiya	Uttar Pradesh	Orange Zone
649	Shamli	Uttar Pradesh	Orange Zone
650	Sitapur	Uttar Pradesh	Orange Zone
651	Bahraich	Uttar Pradesh	Orange Zone
652	Kannauj	Uttar Pradesh	Orange Zone
653	Azamgarh	Uttar Pradesh	Orange Zone
654	Mainpuri	Uttar Pradesh	Orange Zone

Sr. No.	District	State	Zonal Classification
655	Shravasti	Uttar Pradesh	Orange Zone
656	Banda	Uttar Pradesh	Orange Zone
657	Jaunpur	Uttar Pradesh	Orange Zone
658	Etah	Uttar Pradesh	Orange Zone
659	Kasganj	Uttar Pradesh	Orange Zone
660	Sultanpur	Uttar Pradesh	Orange Zone
661	Prayagraj	Uttar Pradesh	Orange Zone
662	Jalaun	Uttar Pradesh	Orange Zone
663	Mirzapur	Uttar Pradesh	Orange Zone
664	Etawah	Uttar Pradesh	Orange Zone
665	Pratapgarh	Uttar Pradesh	Orange Zone
666	Ghazipur	Uttar Pradesh	Orange Zone
667	Gonda	Uttar Pradesh	Orange Zone
668	Mau	Uttar Pradesh	Orange Zone
669	Bhadohi	Uttar Pradesh	Orange Zone
670	Unnao	Uttar Pradesh	Orange Zone
671	Pilibhit	Uttar Pradesh	Orange Zone
672	Balrampur	Uttar Pradesh	Orange Zone
673	Ayodhya	Uttar Pradesh	Orange Zone
674	Gorakhpur	Uttar Pradesh	Orange Zone
675	Jhansi	Uttar Pradesh	Orange Zone
676	Hardoi	Uttar Pradesh	Orange Zone
677	Kaushambi	Uttar Pradesh	Orange Zone
678	Barabanki	Uttar Pradesh	Green Zone
679	Kheri	Uttar Pradesh	Green Zone
680	Hathras	Uttar Pradesh	Green Zone
681	Maharajganj	Uttar Pradesh	Green Zone
682	Shahjahanpur	Uttar Pradesh	Green Zone
683	Ambedkar Nagar	Uttar Pradesh	Green Zone
684	Ballia	Uttar Pradesh	Green Zone
685	Chandauli	Uttar Pradesh	Green Zone
686	Chitrakoot	Uttar Pradesh	Green Zone
687	Deoria	Uttar Pradesh	Green Zone
688	Farrukhabad	Uttar Pradesh	Green Zone
689	Fatehpur	Uttar Pradesh	Green Zone
690	Hamirpur	Uttar Pradesh	Green Zone
691	Kanpur Dehat	Uttar Pradesh	Green Zone
692	Kushi Nagar	Uttar Pradesh	Green Zone
693	Lalitpur	Uttar Pradesh	Green Zone
694	Mahoba	Uttar Pradesh	Green Zone
695	Siddharth Nagar	Uttar Pradesh	Green Zone
696	Sonbhadra	Uttar Pradesh	Green Zone
697	Amethi	Uttar Pradesh	Green Zone
698	Haridwar	Uttarakhand	Red Zone

Sr. No.	District	State	Zonal Classification
699	Dehradun	Uttarakhand	Orange Zone
700	Nainital	Uttarakhand	Orange Zone
701	Udam Singh Nagar	Uttarakhand	Green Zone
702	Almora	Uttarakhand	Green Zone
703	PauriGarhwal	Uttarakhand	Green Zone
704	Bageshwar	Uttarakhand	Green Zone
705	Chamoli	Uttarakhand	Green Zone
706	Champawat	Uttarakhand	Green Zone
707	Pithoragarh	Uttarakhand	Green Zone
708	RudraPrayag	Uttarakhand	Green Zone
709	Tehri Garhwal	Uttarakhand	Green Zone
710	Uttar Kashi	Uttarakhand	Green Zone
711	Kolkata	West Bengal	Red Zone
712	Howrah	West Bengal	Red Zone
713	24 Paraganas North	West Bengal	Red Zone
714	24 Paraganas South	West Bengal	Red Zone
715	Medinipur West	West Bengal	Red Zone
716	Medinipur East	West Bengal	Red Zone
717	Darjeeling	West Bengal	Red Zone
718	Jalpaiguri	West Bengal	Red Zone
719	Kalimpong	West Bengal	Red Zone
720	Maldah	West Bengal	Red Zone
721	Hooghly	West Bengal	Orange Zone
722	PaschimBardhaman	West Bengal	Orange Zone
723	Nadia	West Bengal	Orange Zone
724	PurbaBardhaman	West Bengal	Orange Zone
725	Murshidabad	West Bengal	Orange Zone
726	Dinajpur Uttar	West Bengal	Green Zone
727	Bankura	West Bengal	Green Zone
728	Birbhum	West Bengal	Green Zone
729	Coochbehar	West Bengal	Green Zone
730	Dinajpur Dakshin	West Bengal	Green Zone
731	Purulia	West Bengal	Green Zone
732	Alipurduar	West Bengal	Green Zone
733	Jhargram	West Bengal	Green Zone

**No. 40-3/2020-DM-I(A)**  
**Government of India**  
**Ministry of Home Affairs**

North Block, New Delhi-110001  
Dated 1<sup>st</sup> May, 2020

**ORDER**

Whereas under directions of the National Disaster Management Authority (NDMA), guidelines on lockdown measures to contain the spread of COVID-19 in all parts of the country were issued vide Order of even number dated 24.03.2020 under the Disaster Management Act 2005 for a period of 21 days with effect from 25.03.2020. Under further directions of NDMA, the lockdown period was extended upto 03.05.2020 vide Order of even number dated 14.04.2020 and consolidated revised guidelines were issued vide Order of even number dated 15.04.2020;

Whereas in exercise of the powers under section 6(2)(i) of the Disaster Management Act, 2005, NDMA has issued an Order number 1-29/2020-PP dated 01.05.2020 directing the Chairperson, NEC that lockdown measures be continued to be implemented in all parts of the Country, for a further period of two weeks with effect from 04.05.2020;

Whereas under directions of the aforesaid Order of NDMA dated 01.05.2020, and in exercise of the powers, conferred under Section 10(2)(l) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, NEC, hereby issues directions to all the Ministries/ Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities that the lockdown period is extended for a further period of two weeks with effect from 04.05.2020;

Whereas, in exercise of the powers, conferred under Section 10(2)(l) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, NEC, hereby issues new guidelines on lockdown measures, as annexed, which will come into effect from 04.05.2020 for a period of two weeks, for strict implementation.

  
Union Home Secretary

**To:**

1. The Secretaries of Ministries/ Departments of Government of India
2. The Chief Secretaries/Administrators of States/Union Territories  
(As per list attached)

**Copy to:**

- i. All members of the National Executive Committee.
- ii. Member Secretary, National Disaster Management Authority.

**New Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/ UT Governments and State/ UT authorities for containment of COVID-19 in the country for the extended period of National Lockdown for a further period of two weeks with effect from 4<sup>th</sup> May, 2020.**

**[As per Ministry of Home Affairs (MHA) Order No. 40-3/2020-DM-I (A) dated 1<sup>st</sup> May, 2020]**

1. With the extension of the Lockdown period for a further period of two weeks with effect from 4<sup>th</sup> May 2020, new guidelines, as under, will be applicable based on the risk profiling of the districts into Red (Hotspot), Green and Orange zones.
2. **Identification of Red (Hotspots), Green and Orange Zones**
  - i. Based on their risk profile, the criteria for dividing the districts of the country into three zones, viz., **green, red and orange**, will be as follows:
    - a. **Green Zones:** Green Zones shall be defined as per the following criteria: districts with zero confirmed case till date; or, districts with no confirmed case in the last 21 days.
    - b. **Red Zones or Hotspot Districts:** Districts shall be defined as Red Zones or Hotspot districts, by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), taking into account total number of active cases, doubling rate of confirmed cases, extent of testing and surveillance feedback.
    - c. **Orange Zones:** Districts, which are neither defined as Red nor as Green Zones, shall be Orange Zones.
  - ii. MoHFW will share the list of Red Zone (Hotspot), Orange Zone and Green Zone districts and related information with State/ UTs on a weekly basis or earlier as required. States/ UTs, on review, may consider inclusion of **additional districts** as Red Zone (Hotspots) and Orange Zone districts depending on the extent of spread of COVID-19 infection. **However, States and UTs may not lower the classification of any district, that is included in the list of Red Zone (Hotspots) and Orange Zone districts by MoHFW.**
  - iii. Districts classified either as Red or Orange Zones, may have one or more Municipal Corporation (MC) areas. In such cases, States/ UTs and District administrations may make an assessment of the distribution of cases - within the jurisdiction of the MC(s); and the area falling outside the MC(s) boundaries. In such cases, the classification of zones shall be as follows:
    - a. In case the district is classified as a Red Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as an Orange Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
    - b. In case the district is classified as an Orange Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as a Green Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
    - c. In case in the area of the district outside the limits of the MC (s) does have one or more confirmed case(s) in the last 21 days, this part of the



district shall continue to be labeled as a Red or Orange Zone, as per the classification of the district.

- d. While assessing the classification of a zone, cases should be registered in the zone where the case originates, rather than where it is treated.

### 3. Identification of Containment Zones

- i. Containment Zones shall be demarcated within **Red (Hotspots) and Orange Zones** by States/ UTs and District Administrations based on the guidelines of MoHFW. The boundary of the Containment Zone shall be defined by District Administrations taking into account the following factors: mapping of cases and contacts; geographical dispersion of cases and contacts; area with well demarcated perimeter; and enforceability.
- ii. The boundary of the Containment Zone will be a residential colony, *mohalla*, municipal ward, municipal zone, Police Station area, towns etc., in case of urban areas; and, a village, cluster of villages, Gram Panchayats, group of Police Stations, blocks etc., in case of rural areas.

#### Protocol within Containment Zones:

- iii. Intensive surveillance mechanism as outlined in the Standard Operating Protocol (SOP) issued by MoHFW is to be established within the Containment Zone. **The local authority shall ensure 100% coverage of Aarogya Setu app among the residents of Containment Zones.**
- iv. In the Containment Zone, following activities shall be undertaken by the local authorities:
  - a. Contact Tracing.
  - b. Home or Institutional quarantining of individuals based on risk assessment by medical officers. This risk assessment will be based on symptoms, contact with confirmed cases, and travel history.
  - c. Testing of all cases with Severe Acute Respiratory Infection (SARI), Influenza Like Illness (ILI) and other symptoms specified by MOHFW.
  - d. House to house surveillance by special teams constituted for this purpose.
  - e. Clinical management of all cases as per protocol.
  - f. Counselling and educating people; and establishing effective communication strategies.
- v. In these **Containment Zones**, within Red (Hotspots) and Orange Zones, **where maximum precaution is required**, there shall be strict perimeter control to ensure that there is no movement of population in or out of these zones except for medical emergencies and for maintaining supply of essential goods and services. The guidelines issued in this regard by MoHFW will be strictly implemented by State/ UT Governments and the local district authorities.

### 4. The following activities will continue to remain prohibited across the country, irrespective of the Zone, for a period of two weeks with effect from 4<sup>th</sup> May, 2020:

- i. All domestic and international air travel of passengers, except for medical services, air ambulance and for security purposes or for purposes as permitted by MHA.
- ii. All passenger movement by trains, except for security purposes or for purposes as permitted by MHA.



- iii. Inter-State Buses for public transport, except as permitted by MHA.
  - iv. Metro rail services.
  - v. Inter-State movement of individuals except for medical reasons or for activities as permitted by MHA.
  - vi. All schools, colleges, educational/ training/ coaching institutions etc. However, online/ distance learning shall be permitted.
  - vii. Hospitality services other than those used for housing health/ police/ Government officials/ healthcare workers, stranded persons including tourists, and those used for quarantine facilities.
  - viii. All cinema halls, shopping malls, gymnasiums, sports complexes, swimming pools, entertainment parks, theatres, bars and auditoriums, assembly halls and similar places.
  - ix. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ other gatherings.
  - x. All religious places/ places of worship shall be closed for public. Religious congregations are strictly prohibited.
- 5. Measures for well being and safety of persons**
- i. The movement of individuals, for all non-essential activities, shall remain strictly prohibited between 7 pm to 7 am. Local authorities shall issue orders under appropriate provisions of law, such as prohibitory orders [curfew] under Section 144 of CrPC, for this purpose, and ensure strict compliance.
  - ii. In all zones, persons above 65 years of age, persons with co-morbidities, pregnant women, and children below the age of 10 years, shall stay at home, except for meeting essential requirements and for health purposes, as per the National Directives.
  - iii. In Containment Zones, Out-Patient Departments (OPDs) and Medical clinics shall not be permitted to operate. However, these may be permitted to operate in Red, Orange and Green Zones, with social distancing norms and other safety precautions.
- 6. Activities in Containment Zones**
- i. Strict perimeter control.
  - ii. Establishment of clear entry and exit points.
  - iii. Movement of persons only for maintaining supply of goods and services; and for medical emergencies.
  - iv. No unchecked influx of people and transport.
  - v. Recording of details of people moving in and out of perimeter.
- 7. Activities in Red Zones (Hotspots) [Outside Containment Zones]**
- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall **not** be permitted:
    - a. Cycle rickshaws and auto rickshaws.
    - b. Taxis and cab aggregators.
    - c. Intra-district and inter-district plying of buses.
    - d. Barber shops, spas and salons.
  - ii. The following activities shall be permitted with **restrictions** as specified:
    - a. Movement of individuals and vehicles, only for permitted activities. Four wheeler vehicles will have maximum two passengers besides the vehicle driver; for two wheelers, pillion rider is not allowed.

- b. Industrial establishments in urban areas: Only Special Economic Zones (SEZs), Export Oriented Units (EOUs), industrial estates and industrial townships with access control; Manufacturing units of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates; Production units, which require continuous process, and their supply chain; Manufacturing of IT hardware; Jute industry with staggered shifts and social distancing; and, Manufacturing units of packaging material are permitted.

All industrial activities are permitted in rural areas.

- c. Construction activities in urban areas: Only in situ construction (where workers are available on site and no workers are required to be brought in from outside) and construction of renewable energy projects are permitted.

All construction activities are permitted in rural areas.

- d. All malls, market complexes and markets shall remain closed in urban areas, i.e., areas within the limits of municipal corporations and municipalities. However, shops selling essential goods in markets and market complexes are permitted.

All standalone (single) shops, neighborhood (colony) shops and shops in residential complexes are permitted to remain open in urban areas, without any distinction of essential and non-essential.

All shops in rural areas, except in malls, are permitted to remain open, without any distinction of essential and non-essential.

Social distancing (2 Gaz ki doori) will be maintained in all cases.

- e. E-commerce activities will be permitted only in respect of essential goods.
- f. Private offices can operate with upto 33% strength as per requirement, with the remaining persons working from home.
- g. All Government offices shall function with officers of the level of Deputy Secretary and above to the extent of 100% strength. The remaining staff will attend upto 33% as per requirement. However, Defense and Security services, Health and Family Welfare, Police, Prisons, Home Guards, Civil Defence, Fire and Emergency Services, Disaster management and related services, NIC, Customs, FCI, NCC, NYK and Municipal services shall function without any restrictions; delivery of public services shall be ensured and necessary staff will be deployed for such purpose.

#### 8. **Activities in Orange Zones [Outside Containment Zones]**

- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall **not** be permitted:
  - a. Inter-district and Intra-district plying of buses.
- ii. The following activities shall be permitted with **restrictions** as are specified:
  - a. Taxis and cab aggregators, with 1 driver and 2 passengers only.
  - b. Inter-district movement of individuals and vehicles, only for permitted activities. Four wheeler vehicles will have maximum two passengers besides the driver.



- 9. Activities in Green Zones**
- i. All activities are permitted in Green Zones, except those activities that are prohibited under Para 4.
  - ii. Buses can operate with upto 50% seating capacity.
  - iii. Bus depots can operate with upto 50% capacity.
- 10. All other activities will be permitted activities, which are not specifically prohibited/ permitted with restrictions in the various Zones, under these guidelines. However, States/ UTs, based on their assessment of the situation, and with the primary objective of keeping the spread of COVID-19 in check, may allow only select activities from out of the permitted activities, with such restrictions as felt necessary.**
- 11.** All States/ UTs shall allow inter-state movement of goods/ cargo, including empty trucks.
- 12.** No State/ UT shall stop the movement of cargo for cross land-border trade under Treaties with neighbouring countries.
- 13.** No separate/ fresh permissions are required from authorities for activities already permitted to operate under the guidelines on Lockdown measures up to May 3, 2020. The following Standard Operating Protocols (SOPs) issued by MHA will continue to operate:
- i. SOP on transit arrangement for foreign national(s) in India and release of quarantine persons, issued vide Order dated April 02, 2020.
  - ii. SOP on movement of stranded labour within States/ UTs, issued vide Order dated April 19, 2020.
  - iii. SOP on sign-on and sign-off of Indian seafarers, issued vide Order dated April 21, 2020.
  - iv. SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons, issued vide Order dated April 29, 2020.
  - v. SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons by train, issued vide Order dated May 01, 2020.
- 14. Strict enforcement of the lockdown guidelines**  
State/ UT Governments shall not dilute these guidelines issued under the Disaster Management Act, 2005, in any manner, and shall strictly enforce the same.
- 15. Instructions for enforcement of above lockdown measures:**
- i. All the district magistrates shall strictly enforce the above lockdown measures and the National Directives for COVID 19 Management, for public and work places, as specified in **Annexure I**.
  - ii. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such Incident Commander. The Incident Commander will issue passes for enabling essential movements as explained.
  - iii. The Incident Commanders will in particular ensure that all efforts for mobilization of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.



**16. Penal provisions**

Any person violating these lockdown measures and the National Directives for COVID-19 Management will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure II**.

  
Union Home Secretary

**National Directives for COVID-19 Management**

**PUBLIC PLACES**

1. Wearing of face cover is compulsory in all public places.
2. All persons in charge of public places and transport shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare.
3. No organization/ manager of public place shall allow gathering of 5 or more persons.
4. Marriages related gatherings shall ensure social distancing, and the maximum number of guests allowed shall not be more than 50.
5. Funeral/ last rites related gatherings shall ensure social distancing, and the maximum numbers allowed shall not be more than 20.
6. Spitting in public places shall be punishable with fine, as may be prescribed by the State/ UT local authority.
7. Consumption of liquor, *paan*, *gutka*, tobacco etc. in public places is not allowed.
8. Shops selling liquor, *paan*, *gutka*, tobacco etc. will ensure minimum six feet distance (*2 gaz ki doori*) from each other, and also ensure that not more than 5 persons are present at one time at the shop.

**WORK PLACES**

9. Wearing of face cover is compulsory in all work places and adequate stock of such face covers shall be made available.
10. All persons in charge of work places shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare, both within the work places and in company transport.
11. Social distancing at work places shall be ensured through adequate gaps between shifts, staggering the lunch breaks of staff, etc.
12. Provision for thermal scanning, hand wash and sanitizer preferably with touch free mechanism will be made at all entry and exit points and common areas. In addition, sufficient quantities of handwash and sanitizer shall be made available in the work places.
13. Frequent sanitization of entire workplace, common facilities and all points which come into human contact e.g. door handles etc., shall be ensured, including between shifts.
14. Persons above 65 years of age, persons with co-morbidities, pregnant women and children below the age of 10 years shall stay at home, except for meeting essential requirements and for health purposes.
15. Use of *Arogya Setu* app shall be made mandatory for all employees, both private and public. It shall be the responsibility of the Head of the respective Organizations to ensure 100% coverage of this app among the employees.
16. Large physical meetings to be avoided.
17. Hospitals/ clinics in the nearby areas, which are authorized to treat COVID-19 patients, should be identified and list should be available at work place all the times. Employees showing any symptom of COVID-19 should be immediately sent for check up to such facilities. Quarantine areas should be earmarked for isolating employees showing symptoms till they are safely moved to the medical facilities.



18. Arrangements for transport facilities shall be ensured with social distancing, wherever personal/ public transport is not feasible.
  19. Intensive communication and training on good hygiene practices shall be taken up.
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**Offences and Penalties for Violation of Lockdown Measures**

**A. Section 51 to 60 of the Disaster Management Act, 2005**

**51. Punishment for obstruction, etc.**—Whoever, without reasonable cause

- (a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or
- (b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

**52. Punishment for false claim.**—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**53. Punishment for misappropriation of money or materials, etc.**—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**54. Punishment for false warning.**—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

**55. Offences by Departments of the Government.**—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to

be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

**56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.**—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

**57. Penalty for contravention of any order regarding requisitioning.**—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

**58. Offence by companies.**—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly:

Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

*Explanation.*—For the purpose of this section—

- i. “company” means any body corporate and includes a firm or other association of individuals; and
- ii. “director”, in relation to a firm, means a partner in the firm.

**59. Previous sanction for prosecution.**—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

**60. Cognizance of offences.**—No court shall take cognizance of an offence under this Act except on a complaint made by—

- (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or
- (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

**B. Section 188 in the Indian Penal Code, 1860**

**188.** Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or tends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

*Explanation.*—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

*Illustration*

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

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**GOVERNMENT OF MAHARASHTRA**  
**Department of Revenue and Forest, Disaster Management,**  
**Relief and Rehabilitation, Mantralaya, Mumbai- 400 032**  
**No: DMU/2020/CR. 92/DisM-1, Dated: 2<sup>nd</sup> May 2020**

**ORDER**

**Extension to Lockdown and Revised Guidelines on the measures to be taken for containment of COVID-19 in the State**

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**Reference:**

- 1) Revenue and Forest, Disaster Management, Relief and Rehabilitation Department Order No. DMU-2020/C.R.92/DMU-1, dated 25th March 2020, 15th April 2020, dated 17th April, 2020, 21st April 2020, 23rd April 2020, 24th April 2020, 28th April 2020, 30<sup>th</sup> April 2020 and 1<sup>st</sup> May 2020
- 2) Ministry of Home Affairs (MHA) Order No. 40-3/2020-DM-I (A) Dated 15th April, 2020, 19th April, 2020, 21st April, 2020, 24th April, 2020, 29th April 2020 and 1<sup>st</sup> May 2020

Whereas, in exercise of the powers, conferred under the Disaster Management Act 2005, the undersigned, in his capacity as Chairperson, State Executive Committee has issued an Order dated 15<sup>th</sup> April, 2020 to extend the lockdown measures up to 3<sup>rd</sup> May, 2020 and issued revised consolidated guidelines vide Order dated 17<sup>th</sup> April 2020 to contain the spread of COVID-19.

Whereas, the Ministry of Home Affairs, Government of India vide its order dated 1<sup>st</sup> May 2020 has extended lockdown measures and guidelines for further period of two weeks i.e. up to 17<sup>th</sup> May 2020 with effect from 4<sup>th</sup> May 2020 for containment of COVID-19 epidemic in the country.

Whereas, the consolidated revised guidelines will not apply in containment zones, as demarcated by the concerned authorities. If any new area is included in the category of a containment zone, the activities allowed in that area till the time of its categorization as a containment zone, will be suspended except for those activities as are specially permitted under the guidelines of Ministry of Health and Family Welfare (MoHFW), Government of India.

Whereas, in exercise of the powers, conferred under the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, State Executive Committee, hereby issues directions to extend these lockdown measures till 17<sup>th</sup> May 2020 and all

*A. J. Kulkarni*



Departments of Government of Maharashtra shall strictly implement the enclosed revised guidelines.

BY ORDER AND IN THE NAME OF THE GOVERNOR OF MAHARASHTRA

  
(AJAY MEHTA)

CHIEF SECRETARY

GOVERNMENT OF MAHARASHTRA

**Copy to:**

1. Principal Secretary to Hon'ble Governor of Maharashtra, Mumbai,
2. Hon'ble Chairman, Maharashtra Legislative Council,
3. Hon'ble Speaker, Maharashtra Legislative Assembly,
4. Principal Secretary to Hon'ble Chief Minister, Government of Maharashtra,
5. Secretary to Hon'ble Deputy Chief Minister, Government of Maharashtra,
6. Private Secretary to Leader of Oppostion, Legislative Council / Assembly,
7. Private Secretaries of All Hon'ble Minister/Minister of State, Mantralaya,
8. All Additional Chief Secretaries/Principal Secretaries/Secretaries of Government of Maharashtra,
9. Director General of Police, Maharashtra State, Mumbai,
10. Principal Secretary, Public Health Department, Mantralaya,
11. Secretary, Medical Education, Mantralaya,
12. All Divisional Commissioners in the State,
13. All Commissioners of Police in the State,
14. All Commissioners of Municipal Corporations in the State,
15. All District Collectors,
16. All Chief Executive Officers, Zilla Parishad,
17. All District Superintendents of Police in the State.

**GOVERNMENT OF MAHARASHTRA**  
**Department of Revenue and Forest, Disaster Management,**  
**Relief and Rehabilitation, Mantralaya, Mumbai- 400 032**  
**No: DMU/2020/CR. 92/DisM-1, Dated: 2<sup>nd</sup> May 2020**

**Subject: New Revised Guidelines on the measures to be taken for containment of COVID-19 in the State during extended period of Lockdown upto 17<sup>th</sup> May 2020 with effect from 4<sup>th</sup> May 2020**  
[As per Ministry of Home Affairs (MHA) Order No. 40-3/2020-DM-I (A) dated 1<sup>st</sup> May, 2020 and Govt. of Maharashtra Notification No DMU/ 2020/CR. 92 /DisM-1 dated 2<sup>nd</sup> May, 2020 of Department of Revenue and Forest, Disaster Management, Relief and Rehabilitation]

1. With the extension of the Lockdown period for a further period of two weeks with effect from 4<sup>th</sup> May 2020, new guidelines, as under, will be applicable based on the risk profiling of the districts into Red (Hotspot), Green and Orange zones.
2. **Identification of Red (Hotspots), Green and Orange Zones**
  - i. Based on their risk profile, the criteria for dividing the districts of the State into three zones, viz., **green, red and orange**, will be as follows:
    - a. **Green Zones:** Green Zones shall be defined as per the following criteria: districts with zero confirmed case till date; or; districts with no confirmed case in the last 21 days.
    - b. **Red Zones or Hotspot Districts:** Districts shall be defined as Red Zones or Hotspot districts, by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), taking into account total number of active cases, doubling rate of confirmed cases, extent of testing and surveillance feedback.
    - c. **Orange Zones:** Districts, which are neither defined as Red nor as Green Zones, shall be Orange Zones.
  - ii. MoHFW will share the list of Red Zone (Hotspot), Orange Zone and Green Zone districts and related information with the State periodically. The District Collector, on review, may consider inclusion of **additional areas** as Red Zone (Hotspots) and Orange Zone depending on the extent of spread of COVID-19 infection. **However, it shall not lower the classification of any district, that is included in the list of Red Zone (Hotspots) and Orange Zone districts by MoHFW.**
  - iii. The Districts classified either as Red or Orange Zones, may have one or more Municipal Corporation (MC) areas. In such cases, the District administrations may make an assessment of the distribution of cases - within the jurisdiction of the MC(s);

*Ajith*

and the area falling outside the MC(s) boundaries. In such cases, the classification of zones shall be as follows:

- a. In case the district is classified as a Red Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as an Orange Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
- b. In case the district is classified as an Orange Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as a Green Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
- c. In case in the area of the district outside the limits of the MC (s) does have one or more confirmed case(s) in the last 21 days, this part of the district shall continue to be labeled as a Red or Orange Zone, as per the classification of the district.
- d. While assessing the classification of a zone, cases should be registered in the zone where the case originates, rather than where it is treated.

### 3. Identification of Containment Zones

- i. Containment Zones shall be demarcated within **Red (Hotspots) and Orange Zones** by the District Administrations in judicious manner based on the guidelines of MoHFW. The boundary of the Containment Zone shall be defined by District Administrations taking into account the following factors: mapping of cases and contacts; geographical dispersion of cases and contacts; area with well demarcated perimeter; and enforceability.
- ii. The boundary of the Containment Zone will be a residential colony, *mohalla*, municipal ward, municipal zone, Police Station area, towns etc., in case of urban areas; and, a village, cluster of villages, Gram Panchayats, group of Police Stations, blocks etc., in case of rural areas. In congested cities like Mumbai and Pune these containment zones should be defined judiciously keeping in mind the capacity of administrative reach and control.

#### Protocol within Containment Zones:

- iii. Intensive surveillance mechanism as outlined in the Standard Operating Protocol (SOP) issued by MoHFW is to be established within the Containment Zone. The **local authority shall ensure 100% coverage of Aarogya Setu app among the residents of Containment Zones.**
- iv. In the Containment Zone, following activities shall be undertaken by the local authorities:
  - a. Contact Tracing.

*Ajith*

- b. Home or Institutional quarantining of individuals based on risk assessment by medical officers. This risk assessment will be based on symptoms, contact with confirmed cases, and travel history.
    - c. Testing of all cases with Severe Acute Respiratory Infection (SARI), Influenza Like Illness (ILI) and other symptoms specified by MOHFW.
    - d. House to house surveillance by special teams constituted for this purpose.
    - e. Clinical management of all cases as per protocol.
    - f. Counseling and educating people; and establishing effective communication strategies.
  - v. In these **Containment Zones**, within Red (Hotspots) and Orange Zones, **where maximum precaution is required**, there shall be strict perimeter control to ensure that there is no movement of population in or out of these zones except for medical emergencies and for maintaining supply of essential goods and services. The guidelines issued in this regard by MoHFW will be strictly implemented by State and the local district authorities.
4. **The following activities will continue to remain prohibited across the country, irrespective of the Zone, for a period of two weeks i.e. upto 17<sup>th</sup> May with effect from 4<sup>th</sup> May, 2020:**
  - i. All domestic and international air travel of passengers, except for medical services, air ambulance and for security purposes or for purposes as permitted by MHA.
  - ii. All passenger movement by trains, except for security purposes or for purposes as permitted by MHA.
  - iii. Inter-State Buses for public transport, except as permitted by MHA.
  - iv. Metro rail services.
  - v. Inter-State movement of individuals except for medical reasons or for activities as permitted by MHA.
  - vi. All schools, colleges, educational/ training/ coaching institutions etc. However, online/ distance learning shall be permitted.
  - vii. Hospitality services other than those used for housing health/ police/ Government officials/ healthcare workers, stranded persons including tourists, and those used for quarantine facilities.
  - viii. All cinema halls, shopping malls, gymnasiums, sports complexes, swimming pools, entertainment parks, theatres, bars and auditoriums, assembly halls and similar places.
  - ix. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ other gatherings.
  - x. All religious places/ places of worship shall be closed for public. Religious congregations are strictly prohibited.

5. **Measures for well-being and safety of persons**

- i. The movement of individuals, for all non-essential activities, shall remain strictly prohibited between 7 pm to 7 am. Local authorities shall issue orders under appropriate provisions of law, such as prohibitory orders under Section 144 of CrPC, for this purpose, and ensure strict compliance.
- ii. In all zones, persons above 65 years of age, persons with co-morbidities, pregnant women, and children below the age of 10 years, shall stay at home, except for meeting essential requirements and for health purposes, as per the National Directives.
- iii. In Containment Zones, Out-Patient Departments (OPDs) and Medical clinics shall not be permitted to operate. However, these may be permitted to operate in Red, Orange and Green Zones, with social distancing norms and other safety precautions.

6. **Activities in Containment Zones**

- i. Strict perimeter control.
- ii. Establishment of clear entry and exit points.
- iii. Movement of persons only for maintaining supply of goods and services; and for medical emergencies.
- iv. No unchecked influx of people and transport.
- v. Recording of details of people moving in and out of perimeter.

7. **Activities in Red Zones (Hotspots) [Outside Containment Zones]**

- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall **not** be permitted:
  - a. Cycle rickshaws and auto rickshaws.
  - b. Taxis and cab aggregators.
  - c. Intra-district and inter-district plying of buses.
  - d. Barber shops, spas and salons.
- ii. The following activities shall be permitted with **restrictions** as specified:
  - a. Movement of individuals and vehicles, only for permitted activities. Four wheeler vehicles will have maximum two passengers besides the vehicle driver; for two wheelers, pillion rider is not allowed.
  - b. Industrial establishments in urban areas: Only Special Economic Zones (SEZs), Export Oriented Units (EOUs), industrial estates and industrial townships with access control *excluding from the area of all Municipal Corporations within the Mumbai Metropolitan Region (MMR), Malegaon Municipal Corporation, Pune Municipal Corporation (PMC) and the Pimpri-Chinchwad Municipal Corporation (PCMC)*; Manufacturing units of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates; Production units, which require continuous

process, and their supply chain; Manufacturing of IT hardware; with staggered shifts and social distancing; and, Manufacturing units of packaging material are permitted.

All industrial activities are permitted in rural areas.

- c. Construction activities in urban areas: Only in-situ construction (where workers are available on site and no workers are required to be brought in from outside) and construction of renewable energy projects are permitted.  
All construction activities are permitted in rural areas.
- d. All malls, market complexes and markets shall remain closed in urban areas, i.e., areas within the limits of municipal corporations and municipalities. However, shops selling essential goods in markets and market complexes are permitted.  
All standalone (single) shops, neighborhood (colony) shops and shops in residential complexes are permitted to remain open in urban areas *excluding the area of all Municipal Corporations within the Mumbai Metropolitan Region (MMR), Malegaon Municipal Corporation, Pune Municipal Corporation (PMC) and the Pimpri-Chinchwad Municipal Corporation (PCMC)*, without any distinction of essential and non-essential provided any particular lane has no more than five shops. In case there are more than five shops in the lane /road then the only shops that are selling essential commodities shall remain open.  
All shops in rural areas, except in malls, are permitted to remain open, without any distinction of essential and non-essential.  
Social distancing (2 Gaz ki doori) will be maintained in all cases.
- e. E-commerce activities will be permitted only in respect of essential goods, medicine, medical equipment, etc.
- f. Private offices in the area *excluding the area of all Municipal Corporations within the Mumbai Metropolitan Region (MMR), Malegaon Municipal Corporation, Pune Municipal Corporation (PMC) and the Pimpri-Chinchwad Municipal Corporation (PCMC)* can operate with upto 33% strength as per requirement, with the remaining persons working from home.
- g. All Government offices in the area *excluding the area of all Municipal Corporations within the Mumbai Metropolitan Region (MMR), Malegaon Municipal Corporation, Pune Municipal Corporation (PMC) and the Pimpri-Chinchwad Municipal Corporation (PCMC)* shall function with officers of the level of Deputy Secretary and above to the extent of 100%

*Aj Mehta*

strength. The remaining staff will attend upto 33% as per requirement. However, Defense and Security services, Health and Family Welfare, Police, Prisons, Home Guards, Civil Defence, Fire and Emergency Services, Disaster management and related services, NIC, Customs, FCI, NCC, NYK and Municipal services shall function without any restrictions; delivery of public services shall be ensured and necessary staff will be deployed for such purpose.

- h. All Pre-monsoon related works including the protection of building, shuttering, water-proofing, flood protection, propping and structural repairs of building, demolition of unsafe buildings, etc. Also the pre-monsoon works related to Metro works and any other such works permitted by the Municipal Commissioner of Municipal Corporation of Greater Mumbai (MCGM), all Municipal Corporations in Mumbai Metropolitan Region (MMR), Pune Municipal Corporation (PMC) and the Pimpri-Chinchwad Municipal Corporation (PCMC).

**8. Activities in Orange Zones [Outside Containment Zones]**

- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall not be permitted:
  - a. Inter-district and Intra-district plying of buses.
- ii. The following activities shall be permitted with **restrictions** as are specified:
  - a. Taxis and cab aggregators, with 1 driver and 2 passengers only.
  - b. Inter-district movement of individuals and vehicles, only for permitted activities. The passes for the same will have to be obtained from the District Magistrates or its representatives. Four wheeler vehicles will have maximum two passengers besides the driver.
- iii. Apart from these activities, the activities that are mentioned above in Paragraph 7(ii) shall be permitted with stipulated restrictions under these guidelines.

**9. Activities in Green Zones**

- i. All activities are permitted in Green Zones, except those activities that are prohibited under Para 4. No travel into green zone will be permitted without authorized pass.
- ii. Buses can operate with upto 50% seating capacity.
- iii. Bus depots can operate with upto 50% capacity.  
However, the buses shall ply only within the green zone.

10. The activities that are permitted by the State Government from time to time through various Orders and guidelines shall be continued with specific restrictions mentioned therein.

11. All other activities will be permitted activities, which are not specifically prohibited/ permitted with restrictions in the various Zones, under these guidelines. However, based on assessment of the situation, and with the primary objective of keeping the spread of COVID-19 in check, may allow only select activities from out of the permitted activities, with such restrictions as felt necessary.
12. All concerned State/ district authorities shall allow inter-state movement of goods/ cargo, including empty trucks.
13. No State/ district authorities shall stop the movement of cargo for cross land-border trade under Treaties with neighbouring countries.
14. No separate/ fresh permissions are required from authorities for activities already permitted to operate under the guidelines on Lockdown measures up to 17<sup>th</sup> May, 2020. The following Standard Operating Protocols (SOPs) issued by the state Government will continue to operate:
  - i. SOP on sign-on and sign-off of Indian seafarers, issued vide Order dated 22<sup>nd</sup> April 2020.
  - ii. SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons, issued vide Order dated 30<sup>th</sup> April and 1<sup>st</sup> May, 2020.
15. **Strict enforcement of the lockdown guidelines**

No Department of the State Government / District Administration or any authority shall dilute these guidelines issued under the Disaster Management Act, 2005, in any manner, and shall strictly enforce the same without any additional conditions / directions.
16. **Instructions for enforcement of above lockdown measures:**
  - i. All the district magistrates and concerned authorities shall strictly enforce the above lockdown measures and the Directives for COVID 19 Management, for public and work places, as specified in **Annexure I**.
  - ii. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such Incident Commander. The Incident Commander will issue passes for enabling essential movements as explained.
  - iii. The Incident Commanders will in particular ensure that all efforts for mobilization of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.

*Ajith*



17. **Penal provisions**

Any person violating these lockdown measures and the National Directives for COVID-19 Management will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure II.**

  
(AJOY MEHTA)

CHIEF SECRETARY  
GOVERNMENT OF MAHARASHTRA

**Directives for COVID-19 Management**

**PUBLIC PLACES**

1. Wearing of face cover is compulsory in all public places.
2. All persons in charge of public places and transport shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare.
3. No organization/ manager of public place shall allow gathering of 5 or more persons.
4. Marriages related gatherings shall ensure social distancing, and the maximum number of guests allowed shall not be more than 50.
5. Funeral/ last rites related gatherings shall ensure social distancing, and the maximum numbers allowed shall not be more than 20.
6. Spitting in public places shall be punishable with fine, as may be prescribed by the State/ UT local authority.
7. Consumption of liquor, *paan*, ~~and~~, tobacco etc. in public places is not allowed.
8. The shops of *paan*, ~~and~~ and tobacco shall remain closed.
9. Shops selling liquor will ensure minimum six feet distance (*2 gaz ki doori*) from each other, and also ensure that not more than 5 persons are present at one time at the shop. The Excise Department shall monitor this strictly.

**WORK PLACES**

10. Wearing of face cover is compulsory in all work places and adequate stock of such face covers shall be made available.
11. All persons in charge of work places shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare, both within the work places and in company transport.
12. Social distancing at work places shall be ensured through adequate gaps between shifts, staggering the lunch breaks of staff, etc.
13. Provision for thermal scanning, hand wash and sanitizer preferably with touch free mechanism will be made at all entry and exit points and common areas. In addition, sufficient quantities of handwash and sanitizer shall be made available in the work places.
14. Frequent sanitization of entire workplace, common facilities and all points which come into human contact e.g. door handles etc., shall be ensured, including between shifts.
15. Persons above 65 years of age, persons with co-morbidities, pregnant women and children below the age of 10 years shall stay at home, except for meeting essential requirements and for health purposes.
16. Use of *Arogya Setu* app shall be made mandatory for all employees, both private and public. It shall be the responsibility of the Head of the respective Organizations to ensure 100% coverage of this app among the employees.
17. Large physical meetings to be avoided.

*Aj Mehta*

18. Hospitals/ clinics in the nearby areas, which are authorized to treat COVID-19 patients, should be identified and list should be available at work place all the times. Employees showing any symptom of COVID-19 should be immediately sent for check up to such facilities. Quarantine areas should be earmarked for isolating employees showing symptoms till they are safely moved to the medical facilities.
  19. Arrangements for transport facilities shall be ensured with social distancing, wherever personal/ public transport is not feasible.
  20. Intensive communication and training on good hygiene practices shall be taken up.
- 

*H. J. Mella*

**Offences and Penalties for Violation of Lockdown Measures**

**A. Section 51 to 60 of the Disaster Management Act, 2005**

**51. Punishment for obstruction, etc.**—whoever, without reasonable cause —

- (a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or
- (b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

**52. Punishment for false claim.**—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**53. Punishment for misappropriation of money or materials, etc.**—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

**54. Punishment for false warning.**—whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

**55. Offences by Departments of the Government.**—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

*A. J. N. K.*

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

**56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.**—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

**57. Penalty for contravention of any order regarding requisitioning.**—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

**58. Offence by companies.**—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly:

Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

*Explanation.*—For the purpose of this section—

- i. “company” means any body corporate and includes a firm or other association of individuals; and
- ii. “Director”, in relation to a firm, means a partner in the firm.

**59. Previous sanction for prosecution.**—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

**60. Cognizance of offences.**—No court shall take cognizance of an offence under this Act except on a complaint made by—

*A. J. M. K.*

- (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or
- (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

**B. Section 188 in the Indian Penal Code, 1860**

**188. Disobedience to order duly promulgated by public servant.**—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or trends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

*Explanation.*—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

*Illustration*

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

Ajith

<b>District wise List of Red / Orange / Green Zone as on May 2, 2020*</b>		
<b>Sr. No.</b>	<b>District</b>	<b>Zone</b>
1	Mumbai	Red Zone
2	Pune	Red Zone
3	Thane	Red Zone
4	Nashik	Red Zone
5	Palghar	Red Zone
6	Nagpur	Red Zone
7	Solapur	Red Zone
8	Yavatmal	Red Zone
9	Aurangabad	Red Zone
10	Satara	Red Zone
11	Dhule	Red Zone
12	Akola	Red Zone
13	Jalgaon	Red Zone
14	Mumbai-Suburban	Red Zone
15	Raigad	Orange Zone
16	Ahmednagar	Orange Zone
17	Amravati	Orange Zone
18	Buldhana	Orange Zone
19	Nandurbar	Orange Zone
20	Kolhapur	Orange Zone
21	Hingoli	Orange Zone
22	Ratnagiri	Orange Zone
23	Jalna	Orange Zone
24	Nanded	Orange Zone
25	Chandrapur	Orange Zone
26	Parbhani	Orange Zone
27	Sangli	Orange Zone
28	Latur	Orange Zone
29	Bhandara	Orange Zone
30	Beed	Orange Zone
31	Osmanabad	Green Zone
32	Washim	Green Zone
33	Sindhudurg	Green Zone
34	Gondia	Green Zone
35	Gadchiroli	Green Zone
36	Wardha	Green Zone

**\* This list is to be updated periodically by the Concerned Competent Authorities**



आयुक्त आरोग्य सेवा व अभियान संचालक,  
राष्ट्रीय आरोग्य अभियान



सार्वजनिक आरोग्य विभाग, महाराष्ट्र शासन यांचे कार्यालय

दुरध्वनी - ०२२ - २२७१७५००  
फॅक्स - ०२२ - २२६४२९५५  
E-mail - mdrnhm.mumbai@gmail.com

आरोग्य भवन, ३रा मजला,  
सेंट जॉर्ज रुग्णालय आवार, पी. डिमेलो रोड,  
सीएसटी जवळ, फोर्ट, मुंबई ४००००१

अति महत्वाचे

जा.क्र.राकाव्य/कोविड-१९,मार्गदर्शक,सुचना/...../२०२०

दिनांक:- ८ एप्रिल,२०२०

प्रती,

जिल्हाधिकारी, जिल्हाधिकारी कार्यालय (सर्व)  
मुख्य कार्यकारी अधिकारी,(सर्व)  
जिल्हा परिषद, जिल्हे (सर्व)

विषय:- कोविड-१९ मार्गदर्शक सुचनांचे अंमलबजावणी करणेबाबत.

संदर्भ:- कोविड- १९ च्या संदर्भात केंद्रशासनाच्या संशयीत/बाधित व्यक्तींच्या व्यवस्थापनाबाबत सुधारित  
मार्गदर्शक सुचना.

उपरोक्त संदर्भिय विषयान्वये, संपूर्ण जगात COVID-१९ (कोरोना व्हायरस) चा प्रादुर्भाव मोठ्या प्रमाणात झाला आहे आणि मोठ्या प्रमाणात मृत्यू देखील झाले आहेत. COVID-१९ हा जगातील जवळपास २०० देशात पसरलेला असून इतरही देशात पसरत आहे. तसेच जागतिक आरोग्य संघटनेने COVID-१९ ला संसर्गजन्य आजार म्हणून घोषित केले आहे.

सदर विषाणू चा आपल्या भारत देशात व महाराष्ट्र राज्यात देखील शिरकाव झालेला असून, त्याचा फैलाव मोठ्या प्रमाणावर होत आहे. दिनांक ७ एप्रिल २०२० पर्यंत भारतामध्ये कोविड-१९ चे ४४२९ रुग्ण असून महाराष्ट्रामध्ये सर्वाधिक १०९८ रुग्णांची नोंद झाली आहे. कोरोना विषाणूचा प्रसार रोखण्यासाठी केंद्र शासनाने संपूर्ण भारत देशात २९ दिवसांचा लॉक डाउन पुकारलेला असूनही कोविड-१९ चा प्रसार महाराष्ट्रामध्ये वाढत आहे. त्यामुळे, केंद्रशासनाकडून कोविड-१९ वर नियंत्रण करण्यासाठी संशयीत/बाधित व्यक्तींच्या व्यवस्थापनाबाबत सुधारित मार्गदर्शक सुचना प्राप्त झाल्या आहेत. तरी सदर मार्गदर्शक सुचनांची आपल्या स्तरावर तात्काळ तंतोतंत अंमलबजावणी करण्यात यावी.

सोबत सलग्न प्रत - कोविड-१९ अद्ययावत मार्गदर्शक सुचना.

डॉ.अनुप कुमार यादव (IAS)

आयुक्त, आरोग्य सेवा तथा अभियान संचालक  
राष्ट्रीय नागरी आरोग्य अभियान, मुंबई

प्रत माहितीस्तव,

- मा. प्रधान सचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय, महाराष्ट्र, मुंबई
- संचालक, आरोग्य सेवा, मुंबई
- संचालक, आरोग्य सेवा, पुणे

निरोगी गाव, निरोगी देश





Ministry of Health & Family Welfare  
Directorate General of Health Services  
EMR Division

**Guidance document on appropriate management of suspect/confirmed cases of COVID-19**

**1. Introduction:** Since its first detection in China, Coronavirus Disease 2019 (COVID-19) has now spread to over 210 countries/territories, with reports of local transmission happening across the world. As per WHO (as of 7<sup>th</sup> April, 2020), there has been a total of 12,14,466 confirmed cases and 67,767 deaths due to COVID-19 worldwide.

In India, as on 7<sup>th</sup> April, 2020, 4421 confirmed cases and 114 deaths reported from 31 States/UTs.

**2. Purpose of this document**

A series of measures have been taken by both the Central and State Governments to break the chain of transmission. One among these is to isolate all suspect and confirmed cases of COVID-19. However, as the number of cases increases, it would be important to appropriately prepare the health systems and use the existing resources judiciously. Available data in India suggests that nearly 70% of cases affected with COVID-19 either exhibit mild or very mild symptoms. Such cases may not require admission to COVID-19 blocks/ dedicated COVID-19 hospitals.

It is important to put in place mechanisms for triaging and decisions making for identification of the appropriate COVID dedicated facility for providing care to COVID-19 patients. The purpose of this document is to put in place such SOPs to ensure optimal utilization of available resources and thereby providing appropriate care to all the COVID-19 patients. This will ensure that available hospital beds capacity is used only for moderate to severe cases of COVID-19. The SOPs specified hereafter also specify the different types of facilities to be set up for various categories of Covid-19 cases.

### **Guiding principles**

**All the selected facilities must be dedicated for COVID management. Three types of COVID dedicated facilities are proposed in this document. All 3 types of COVID Dedicated facilities will have separate ear marked areas for suspect and confirmed cases. Suspect and confirmed cases should not be allowed to mix under any circumstances.**

**All suspect cases (irrespective of severity of their disease) will be tested for COVID-19. Further management of these cases will depend on their (i) clinical status and (ii) result of COVID-19 testing.**

**All three types of facilities will be linked to the Surveillance team (IDSP)**

**All these facilities will follow strict infection prevention and control practices**

**3. Types of COVID Dedicated Facilities:** There are three types of COVID Dedicated Facilities –

**(1) COVID Care Center (CCC):**

- 1.1. The COVID Care Centers shall offer care only for cases that have been clinically assigned as **mild or very mild cases or COVID suspect cases.**
- 1.2. The COVID Care Centers are makeshift facilities. These may be set up in hostels, hotels, schools, stadiums, lodges etc., both public and private. If need be, existing quarantine facilities could also be converted into COVID Care Centers. Functional hospitals like CHCs, etc, which may be handling regular, non-COVID cases should be designated as COVID Care Centers as a last resort. This is important as essential non COVID Medical services like those for pregnant women, newborns etc, are to be maintained.
- 1.3. Wherever a COVID Care Center is designated for admitting both the confirmed and the suspected cases, these facilities **must have separate areas for suspected and confirmed cases with preferably separate entry and exit. Suspect and confirmed cases must not be allowed to mix under any circumstances.**
- 1.4. As far as possible, wherever suspect cases are admitted in the COVID Care Center, preferably individual rooms should be assigned for such cases.
- 1.5. Every Dedicated COVID Care Centre must necessarily be mapped to one or more Dedicated COVID Health Centres and at least one Dedicated COVID Hospital for referral purpose (details

given below).

- 1.6. Every Dedicated COVID Care Centre must also have a dedicated Basic Life Support Ambulance (BLSA) equipped with sufficient oxygen support on 24x7 basis, for ensuring safe transport of a case to Dedicated higher facilities if the symptoms progress from mild to moderate or severe.
- 1.7. The human resource to man these Care Centre facilities may also be drawn from AYUSH doctors. Training protocols developed by AIIMS is uploaded on MoHFW website. Ministry of AYUSH has also carried out training sessions. The State AYUSH Secretary/ Director should be involved in this deployment. State wise details of trained AYUSH doctors has been shared with the States. Their work can be guided by an Allopathic doctor.

**(2) Dedicated COVID Health Centre (DCHC):**

- 2.1. The Dedicated COVID Health Centre are hospitals that shall offer care for all cases that have been **clinically assigned as moderate**.
- 2.2. These should either be a full hospital or a separate block in a hospital with preferably separate entry\exit/zoning.
- 2.3. Private hospitals may also be designated as COVID Dedicated Health Centres.
- 2.4. Wherever a Dedicated COVID Health Center is designated for admitting both the confirmed and the suspect cases with moderate symptoms, these hospitals **must have separate areas for suspect and confirmed cases. Suspect and confirmed cases must not be allowed to mix under any circumstances**.
- 2.5. These hospitals would have beds with assured Oxygen support.
- 2.6. Every Dedicated COVID Health Centre must necessarily be mapped to one or more Dedicated COVID Hospitals.
- 2.7. Every DCHC must also have a dedicated Basic Life Support Ambulance (BLSA) equipped with sufficient oxygen support for ensuring safe transport of a case to a Dedicated COVID Hospital if the symptoms progress from moderate to severe.

**(3) Dedicated COVID Hospital (DCH):**

- 3.1. The Dedicated COVID Hospitals are hospitals that shall offer comprehensive care primarily for those who have been **clinically assigned as severe**.
- 3.2. The Dedicated COVID Hospitals should either be a full hospital or a separate block in a hospital with preferably separate entry\exit.

- 3.3. Private hospitals may also be designated as COVID Dedicated Hospitals.
- 3.4. These hospitals would have fully equipped ICUs, Ventilators and beds with assured Oxygen support.
- 3.5. These hospitals **will have separate areas for suspect and confirmed cases. Suspect and confirmed cases should not be allowed to mix under any circumstances.**
- 3.6. The Dedicated COVID Hospitals would also be referral centers for the Dedicated COVID Health Centers and the COVID Care Centers.

**All these facilities will follow strict infection prevention and control practices.**

#### **4. Management of COVID cases**

##### **4.1. Assessment of patients:**

In addition to patients arriving directly through helpline/ referral to above categories of COVID dedicated facilities, in field settings during containment operations, the supervisory medical officer to assess for severity of the case detected and refer to appropriate facility.

States\UTs may identify hospitals with dedicated and separate space and set up Fever Clinics in such hospitals. The Fever Clinics may also be set up in CHCs, in rural areas subject to availability of sufficient space to minimize the risk of cross infections. In urban areas, the civil\general hospitals, Urban CHCs and Municipal Hospitals may also be designated as Fever Clinics. These could be set up preferably near the main entrance for triage and referral to appropriate COVID Dedicated Facility. Wherever space allows, a temporary make shift arrangement outside the facility may be arranged for this triaging.

The medical officer at the fever clinics could identify suspect cases and refer to COVID Care Centre, Dedicated COVID Health Centre or Dedicated COVID Hospital, depending on the clinical severity.

##### **4.2 Categorization of patients**

**Patients may be categorized into three groups and managed in the respective COVID hospitals – Dedicated COVID Care Centre, dedicated COVID Health Centre and dedicated COVID**

**Hospitals.**

**Group 1:** Suspect and confirmed cases clinically assigned as mild and very mild

**Group 2:** Suspect and confirmed cases clinically assigned as moderate

**Group 3:** Suspect and confirmed cases clinically assigned as severe

**Group 1: Suspect and confirmed cases clinically assigned as mild and very mild (COVID Care Centres)**

- **Clinical criteria:** Cases presenting with fever and/or upper respiratory tract illness (Influenza Like Illness, ILI).
- These patients will be accommodated in COVID Care Centers.
- The patients would be tested for COVID-19 and till such time their results are available they will remain in the “suspect cases” section of the COVID Care Center preferably in an individual room.
- Those who test positive, will be moved into the “confirmed cases” section of the COVID Care Center.
- If test results are negative, patient will be given symptomatic treatment and be discharged with advice to follow prescribed medications and preventive health measures as per prescribed protocols.
- If any patient admitted to the COVID Care Center qualifies the clinical criteria for moderate or severe case, such patient will be shifted to a Dedicated COVID Health Centre or a Dedicated COVID Hospital.
- Apart from medical care the other essential services like food, sanitation, counseling etc. at the COVID Care Centers will be provided by local administration. Guidelines for quarantine facilities (available on MoHFW website) may be used for this purpose.

**Group 2: Suspect and confirmed cases clinically assigned as moderate (Dedicated COVID Health Centres)**

- **Clinical criteria:** Pneumonia with no signs of severe disease (Respiratory Rate 15 to 30/minute, SpO2 90%-94%).
- Such cases will not be referred to COVID Care Centers but instead will be admitted to Dedicated COVID Health centres.
- It will be manned by allopathic doctors and cases will be monitored on above mentioned clinical parameters for assessing severity as per treatment protocol (available on MoHFW website).
- They will be kept in “suspect cases” section of Dedicated COVID Health Centres, till such time as their results are not available preferably in an individual room.
- Those testing positive shall be shifted to “confirmed cases” section of Dedicated COVID Health Centre.
- Any patient, for whom the test results are negative, will be shifted to a non-COVID hospital and will be managed according to clinical assessment. Discharge as per clinical assessment.
- If any patient admitted to the Dedicated COVID Health Center qualifies the clinical criteria for severe case, such patient will be shifted to a Dedicated COVID Hospital.

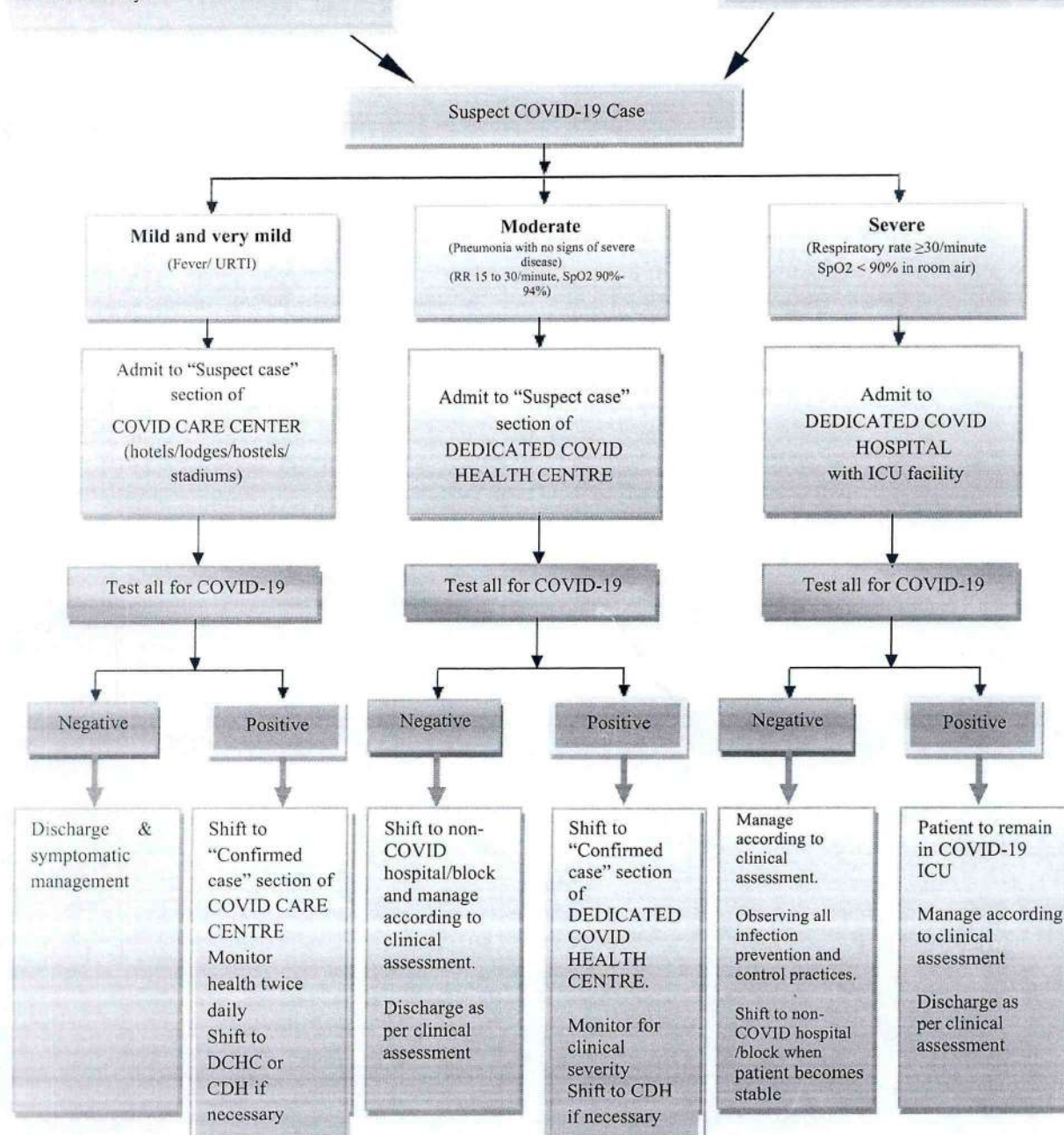
**Group 3: Suspect and confirmed cases clinically assigned as severe (Dedicated COVID Hospital)**

- **Clinical criteria:** Severe Pneumonia (with respiratory rate  $\geq 30$ /minute and/or SpO2 < 90% in room air) or ARDS or Septic shock
- Such cases will be directly admitted to a Dedicated COVID Hospital’s ICU till such time as test results are obtained.
- If test results are positive, such patient will remain in COVID-19 ICU and receive treatment as per standard treatment protocol. Patients testing negative will be managed with adequate infection prevention and control practices.

## Algorithm for isolation of suspect/confirmed cases of COVID-19

Suspect cases directly reporting to COVID dedicated facility.

Screening at Fever Clinics



कोविड-१९ या आजाराला प्रतिबंध करण्यासाठी  
पी.पी.ई.कीट व एन-९५ मास्क उत्पादन, वितरण व विक्री  
बाबत मार्गदर्शक सूचना

महाराष्ट्र शासन  
वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग,  
शासन परिपत्रक क्रमांक: कोविड -२०२०/प्र.क्र.१५९/प्रशा-१  
नवीन मंत्रालय, मुंबई ४०० ००१.  
दिनांक: ११, एप्रिल, २०२०.

- वाचा:- १) सार्वजनिक आरोग्य विभाग पत्र क्र. कोरोना-२०२०/प्र.क्र.५८/आरोग्य-५ दि.  
२४.०३.२०२०  
२) वैद्यकीय शिक्षण व औषधी द्रव्ये विभागाचे पत्र क्र.विविवि-२०२०/प्र.क्र.१३९/  
प्रशा- १, दि. २६.०३.२०२०  
३)सार्वजनिक आरोग्य विभाग अधिसूचना क्र. कोरोना-२०२०/प्र.क्र.५८/आरोग्य-५ दि.  
०३.०४.२०२०  
४) वस्त्रोद्योग मंत्रालय,केंद्र सरकार यांचे पत्र क्र. F.BN.o.८/४/२०२०/R&D, दि.  
०६.०४.२०२०  
५) हाफकीन जीव औषध निर्माण महामंडळ मर्या.मुंबई यांचे पत्र दि. ०८.०४.२०२०  
६) मा.सर्वोच्च न्यायालय,नवी दिल्ली यांचे रिट पिटीशन (सिव्हील) डायरी  
नं.१०७९५/२०२० व अन्य याचिकांमध्ये दि. ०८.०४.२०२० चे आदेश

शासन परिपत्रक:-

महाराष्ट्र राज्यात दिनांक १३ मार्च २०२० च्या अधिसूचनेनुसार साथरोग नियंत्रण कायदा, १८९७ ची अंमलबजावणी सुरु झालेली आहे. तसेच कोरोनाचा प्रादुर्भाव रोखण्यासाठी दिनांक १४ मार्च,२०२० च्या अधिसूचनेनुसार कोविड-१९ उपाययोजना नियम २०२० नियमावली लागू करण्यात आलेली आहे.कोरोना रुग्णांवर प्रत्यक्ष उपचार करणाऱ्या आरोग्य सेवेतील वैद्यकीय अधिकारी,परिचारीका व निमवैद्यकीय कर्मचाऱ्यांना प्रादुर्भावापासून संरक्षणासाठी पी.पी.ई. किट व एन ९५ मास्कची नितांत आवश्यकता असते. तसेच केंद्र शासनाने दिनांक १ एप्रिल २०२० पासून पी.पी.ई. किट व एन ९५ मास्क या बाबी औषधे म्हणून अधिसूचीत केले आहे.

०२. सार्वजनिक आरोग्य विभागाच्या दिनांक २४.०३.२०२० च्या पत्रानुसार कोविड-१९ मुळे उद्भवलेल्या आजारावर प्रतिबंध व उपचारास्तव औषधे, वैद्यकीय साहित्य व उपकरणे यांची उपलब्ध विविध दरकरार, शासन उपक्रम व हाफकिन महामंडळाकडील निविदेच्या दरानुसार पुरवठा करण्यास



तयार असणाऱ्या पुरवठादारांकडून खरेदी करण्याचे अधिकार जिल्हा स्तरावर जिल्हाधिकारी यांच्या अध्यक्षतेखाली गठीत करण्यात आलेल्या समितीला देण्यात आलेले आहेत.

०३. मा.सर्वोच्च न्यायालय, नवी दिल्ली यांनी रिट पिटीशन (सिव्हील) डायरी नं. १०७९५/२०२०, जेरील बानार्ईत वि. केंद्र शासन व इतर रिट पिटीशन मध्ये दि.०८.०४.२०२० रोजी कोविड-१९ रुग्णांवर उपचार करणारे डॉक्टर व आरोग्य कर्मचारी यांच्यामध्ये कोविड-१९ आजाराच्या प्रादुर्भावास प्रतिबंध होण्याच्या अनुषंगाने पी.पी.ई. किट व एन ९५ मास्कच्या वापराबाबत तसेच . राज्यात आरोग्य सेवा देणाऱ्या अधिकारी व कर्मचाऱ्यांना उपलब्ध करून देण्यात येणारे पी.पी.ई. किट व एन ९५ मास्क दर्जेदार व गुणवत्तापूर्ण व मुबलक प्रमाणात असणे आवश्यक आहे. जेणेकरून त्यांना करोना या साथरोगाचा प्रादुर्भाव होण्याचा धोका निर्माण होणार नाही, याची दक्षता घेण्याचे आदेश दिले आहेत.

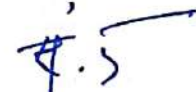
०४. सार्वजनिक आरोग्य विभागाचे पी.पी.ई. किट व एन ९५ यांचे उत्पादन,वितरण व विक्री याबाबतची अधिसूचित केलेली दि. ०३.०४.२०२० ची अधिसूचना त्या विभागाच्या दि. ०९.०४.२०२० च्या अधिसूचनेद्वारे रद्द करण्यात आली आहे

०५. यास्तव सक्षम प्राधिकार्यांनी दिलेल्या सूचना व साथरोग कायदा १८९७ अन्वये निर्गमित करण्यात आलेली अधिसूचना व नियमावलीतील तरतूदीनुसार पी.पी.ई. किट व एन ९५ मास्क यांचे उत्पादन,वितरण व विक्री याबाबत खालील निदेश देण्यात येत आहेत.

- १) पी.पी.ई. किट या बाबीचे विनिर्देश SITRA आणि DRDE या प्रयोगशाळांनी तर एन ९५ मास्क या बाबीचे विनिर्देश ICMR संस्थेने तसेच वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मुंबई यांच्या दिनांक २६.०३.२०२० च्या पत्रान्वये अन्वये निश्चित करण्यात आलेली आहेत. तसेच केंद्र शासनाच्या वस्त्रोद्योग मंत्रालयाच्या दिनांक ०६.०४.२०२० च्या पत्रानुसार पीपीई किट (Body coveralls) प्रमाणित करण्यासाठी अधिकृत मान्यता असलेल्या SITRA आणि DRDE या प्रयोगशाळांची मान्यता असणे आवश्यक आहे.
- २) सदर विषयी करण्यात येणारी खरेदी उपरोक्त शासन पत्र, सार्वजनिक आरोग्य विभाग, दिनांक २४.०३.२०२० अन्वये निर्मित केलेल्या निर्देशानुसार करण्यात यावी.
- ३) प्रस्तुत विषयी मा. सर्वोच्च न्यायालयाने दिलेल्या आदेशाचे पालन व्हावे व सदर आदेशात नमूद पात्र संवर्ग /व्यक्तींसाठी सदर आदेशाची अंमलबजावणी करण्यात यावी.
- ४) प्रस्तुत विषयी करण्यात येणारी खरेदी केवळ गरजेनुसारच करण्याची दक्षता सर्व संबंधितांनी घ्यावी.

- ५) पीपीई किट व एन -९५ यांची दरनिश्चिती व त्याचे विविध संस्थांना वितरण करण्याचे अधिकार संबंधित विभागीय आयुक्त / जिल्हाधिकारी व संबंधित महापालिका आयुक्त यांना देण्यात येत आहेत.
- ६) सदर परिपत्रक हे महाराष्ट्र शासनाच्या अधिपत्याखालील सर्व विभाग, वैद्यकीय आस्थापना (सार्वजनिक आरोग्य विभाग, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, नगरविकास विभाग, ग्रामविकास विभाग, सर्व महानगरपालिका/नगरपालिका, राज्य कामगार विमा योजना इ. लागू राहतील)
- ७) सदर परिपत्रकातील तरतूदींचे उल्लंघन केल्यास सर्व संबंधित साथरोग नियंत्रण अधिनियम १८९७, आपत्ती व्यवस्थापन अधिनियम-२००५ व औषधे व सौंदर्य प्रसाधने अधिनियम १९४९ मधील विविध तरतूदीनुसार दंडनीय कारवाईस पात्र राहतील.
- ८) सदर परिपत्रक सार्वजनिक आरोग्य विभागाच्या सहमतीने निर्गमित करण्यात येत आहे.
- ९) सदर परिपत्रकातील तरतूदी परिपत्रक निर्गमित झाल्याच्या दिनांकापासून अंमलात येतील व याबाबतच्या पुढील आदेशापर्यंत लागू राहिल.

महाराष्ट्राचे राज्यपाल यांचे आदेशानुसार व नावाने.



( डॉ. संजय मुखर्जी )

सचिव, महाराष्ट्र शासन

प्रत,

१. मा.मुख्य सचिव, महाराष्ट्र शासन, मंत्रालय, मुंबई
२. प्रधान सचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय, मुंबई
३. सचिव, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय, मुंबई
४. सचिव, आपत्ती व्यवस्थापन, मंत्रालय, मुंबई
५. आयुक्त औषधे व प्रशासन, महाराष्ट्र राज्य
६. सह सचिव (औषधे), वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय, मुंबई
७. सर्व विभागीय आयुक्त
८. सर्व महापालिका/नगरपालिका आयुक्त
९. सर्व जिल्हाधिकारी
१०. सर्व मुख्य कार्यकारी अधिकारी, जिल्हा परिषद
११. व्यवस्थापकीय संचालक, हाफकिन जीव औषध निर्माण महामंडळ मर्या., मुंबई

१२. आयुक्त, आरोग्य सेवा व संचालक, रा.ग्रा.अ, मुंबई
१३. आयुक्त, राज्य कामगार विमा योजना, मुंबई
१४. संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई
१५. संचालक, आरोग्य सेवा, मुंबई/पुणे
१६. सहसंचालक, आरोग्य सेवा (सर्व)
१७. सर्व अधिष्ठाता शासकीय वैद्यकीय महाविद्यालय व रुग्णालये
१८. सर्व जिल्हा शल्यचिकित्सक
१९. सर्व जिल्हा आरोग्य अधिकारी

## महाराष्ट्र शासन

क्रमांक कोरोना २०२०/प्र.क्र. ५८ /आरोग्य ५  
सार्वजनिक आरोग्य विभाग  
गोकुळदास तेजपाल रुग्णालय आवार  
कॉम्प्लेक्स बिल्डिंग, नविन मंत्रालय, मुंबई-४०० ००९  
दिनांक- १६ एप्रिल २०२०

प्रति,

महानगरपालिका आयुक्त (सर्व)  
जिल्हाधिकारी (सर्व)  
जिल्हा शल्य चिकित्सक (सर्व)

विषय: महाराष्ट्र राज्यातील कोवीड १९ आजारामुळे रुग्णांची गंभीर परिस्थिती झाल्यास  
आवश्यकतेनुसार विशेष कार्यदलातील तज्ञ डॉक्टरांचे मार्गदर्शन घेण्याबाबत..

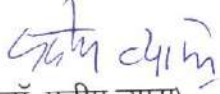
संदर्भ: शासन आदेश क्र कोरोना २०२०/प्र क्र ५८/आरोग्य ५ दिनांक १३.०४.२०२०.

महाराष्ट्र राज्यात कोविड-१९ बाधित रुग्ण व यामुळे झालेल्या मृत्यूंची संख्या देशात अन्य राज्यांपेक्षा जास्त आहे. याची कारणमिमांसा, विश्लेषण व उपायोजना करण्यास्तव तज्ञ डॉक्टरांचे विशेष कार्यदल (टास्क फोर्स) संदर्भाधिन आदेशान्वये गठीत करण्यात आलेले आहे.

राज्यातील कोरोनाबाधित एकूण रुग्ण लक्षात घेता या रुग्णांपैकी गंभीर व अतिगंभीर रुग्णांचे प्रमाण अल्प असले तरी या प्रत्येक रुग्णाची दक्षता घेऊन त्याचे प्राण कर्तव्यभावनेतून वाचविणेसाठी या विशेष कार्यदलातील तज्ञ डॉक्टरांनी गंभीर व अतिगंभीर परिस्थितीतील रुग्णांच्या उपचाराबाबत सामाजिक बांधीलकी व रुग्णसेवेच्या भावनेतून उपचार करणाऱ्या संबंधीत डॉक्टरांना / जिल्हा शल्य चिकित्सक / वैद्यकीय अधिक्षक, उपजिल्हा रुग्णालये यांना आवश्यकतेनुसार सल्ला व मार्गदर्शन देण्यास तयारी दर्शविली आहे. ही सेवा एकप्रकारे तज्ञ डॉक्टरांच्या मार्गदर्शनासाठी हॉटलाईन सेवा असणार आहे. हे तज्ञ डॉक्टरांच्यांचे नांवासमोर दर्शविलेल्या दिवशी आपत्कालीन परिस्थितीत सल्ला देण्यासाठी उपलब्ध असतील.

क्र.	दिवस	तज्ञांचे नांव	ईमेल आयडी	भ्रमणध्वनी क्र
१	सोमवार	डॉ झहीर उदवाडीया, हिंदुजा हॉस्पिटल	zfudwadia@gmail.com	९८२०२ २५३०९
२	मंगळवार	डॉ नितीन कर्णीक, लोकमान्य टिळक हॉस्पिटल, सायन	niteenkarnik@gmail.com	९८२१४ ८३४०४
३	बुधवार	डॉ वसंत नागवेकर, लिलावती हॉस्पिटल	drnagvekar@gmail.com	९८२०० ५५१७८
४	गुरुवार	डॉ केदार तोरस्कर, व्होकार्ड हॉस्पिटल	drkedart@hotmail.com	९८१९८ ४४४५१
५	शुक्रवार	डॉ. ओम श्रीवास्तव, कस्तुरबा / जसलोक हॉस्पिटल	omshrivastava90@gmail.com	९८६९१ १८७८०
६	शनिवार	डॉ. शशांक जोशी,	shashank.sr@gmail.com	९३२०१ ८६३०२
७	रविवार	डॉ राहुल पंडीत, फोर्टीस हॉस्पिटल	icupandit@gmail.com	९८२०५ ९५५१९

उपरोक्त तज्ञांच्या सल्ला घेतांना शक्यतो संबंधीत कोवीड १९ गंभीर व अतिगंभीर रुग्णांवर उपचार करणारे प्रमुख डॉक्टर्स किंवा जिल्हा शल्य चिकित्सक यांचेमार्फत मार्गदर्शन घेण्यात यावे. तसेच या तज्ञांचे भ्रमणध्वनी कुठल्याही परिस्थितीत रुग्ण, रुग्णाचे नातेवाईक किंवा सर्वसामान्य जनतेस उपलब्ध होणार नाहीत याची दक्षता घ्यावी.

  
(डॉ. प्रदीप व्यास)

प्रधान सचिव, सार्वजनिक आरोग्य विभाग

प्रत

मुख्य सचिव, महाराष्ट्र राज्य, मंत्रालय, मुंबई.  
प्रधान सचिव, नगरविकास विभाग, मंत्रालय, मुंबई.  
सचिव, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय, मुंबई.  
सचिव, उच्च व तंत्र शिक्षण विभाग (टास्क फोर्स - मंत्रालय समन्वयक) मंत्रालय, मुंबई  
विभागीय आयुक्त, मुंबई.  
आयुक्त, आरोग्य सेवा व संचालक, रा. आ. अ. मुंबई  
निवड नस्ती आरोग्य ५

प्रत माहितीस्तव

मा. मंत्री, सार्वजनिक आरोग्य विभाग यांचे खाजगी सचिव, मंत्रालय, मुंबई  
मा. राज्यमंत्री, सार्वजनिक आरोग्य विभाग यांचे खाजगी सचिव, मंत्रालय, मुंबई

**महाराष्ट्र राज्यातील कोरोना विषाणू  
प्रसारावरील प्रतिबंधात्मक उपाय म्हणून  
लागू करण्यात आलेल्या  
लॉकडाऊनच्या कालावधीतील  
शासकीय कार्यालयातील  
उपस्थितीबाबत.**

**महाराष्ट्र शासन  
सामान्य प्रशासन विभाग  
शासन निर्णय क्रमांक : समय 2020/प्र.क्र.35/18(र.वका.)  
मादाम कामा रोड, हुतात्मा राजगुरु चौक,  
मंत्रालय (विस्तार), मुंबई 400032  
दिनांक : 18 एप्रिल, 2020**

**वाचा:- :**

1. शासन अधिसूचना, सार्वजनिक आरोग्य विभाग, क्रमांक : कोरोना-2020 / प्र. क्र.58 / आरोग्य-5, दिनांक 14 मार्च, 2020,
2. शासन निर्णय, सामान्य प्रशासन विभाग, क्रमांक : समय-2020 / प्र. क्र. 35 /18 (र.वका.), दिनांक 18 मार्च, 2020,
3. शासन निर्णय, सामान्य प्रशासन विभाग, क्रमांक : समय-2020 / प्र. क्र. 35 /18 (र.वका.), दिनांक 20 मार्च, 2020,
4. शासन निर्णय, सामान्य प्रशासन विभाग, क्रमांक : समय-2020 / प्र. क्र. 35 /18(र.वका.), दिनांक 23 मार्च, 2020,
5. शासन परिपत्रक, सामान्य प्रशासन विभाग, क्रमांक : समय-2020 / प्र. क्र. 35 /18(र.वका.), दिनांक 6 एप्रिल, 2020,
6. शासन अधिसूचना, आपत्ती व्यवस्थापन व मदत व पुनर्वसन, क्रमांक :डीएमयू 2020/ सीआर 92/डीआयएसएम-1, दिनांक 13 एप्रिल, 2020,
7. केंद्रशासनाच्या गृह मंत्रालयाची अधिसूचना क्र. 40-3/2020-डीएम-आय-(ए) दि. 15 एप्रिल, 2020
8. शासन अधिसूचना, आपत्ती व्यवस्थापन व मदत व पुनर्वसन, क्रमांक :डीएमयू 2020/ सीआर 92/डीआयएसएम-1, दिनांक 15 एप्रिल, 2020.
9. शासन अधिसूचना, आपत्ती व्यवस्थापन व मदत व पुनर्वसन, क्रमांक :डीएमयू 2020/ सीआर 92/डीआयएसएम-1, दिनांक 17 एप्रिल, 2020.

**शासन निर्णय:-**

कोरोना विषाणूंचा (COVID-19) प्रसार राज्यातील कार्यालयांमध्ये होऊ नये, तसेच राज्यातील अधिकारी/कर्मचारी यांना त्यांचा संसर्ग होऊ नये म्हणून विविध प्रतिबंधात्मक उपाययोजना राबविण्याच्या दृष्टीने या विभागाच्या संदर्भाधीन 2 ते 5 येथील शासन आदेशान्वये विविध सूचना निर्गमित करण्यात आलेल्या आहेत.

तसेच आता उक्त क्रमांक 8 येथील अधिसूचनेन्वये सर्व राज्यातील लॉकडाऊनचा कालावधी दि. 3 मे, 2020 पर्यंत वाढविण्यात आलेला आहे.

2. उक्त संदर्भ क्र. 4 येथील दि. 23 मार्च, 2020 च्या शासन निर्णयान्वये शासकीय कार्यालयातील अधिकारी/कर्मचारी यांची कार्यालयीन उपस्थिती 5 टक्के इतकी ठेवण्याबाबत सूचना देण्यात आल्या होत्या. आता, उक्त संदर्भ क्र. 8 येथील अधिसूचनेन्वये लॉकडाऊनचा कालावधी दि. 3 मे, 2020 पर्यंत वाढविण्यात आला असल्याची बाब विचारात घेऊन तसेच यासंदर्भात सर्वकष विचार करून राज्याच्या शासकीय कार्यालयातील उपस्थितीबाबत शासनाने खालीलप्रमाणे सुधारित निर्णय घेतले आहेत:-

अ) संपूर्ण राज्यातील शासकीय कार्यालयांमध्ये अधिकारी व कर्मचारी यांची उपस्थिती 10 टक्के इतकी ठेवण्यात यावी. याअनुषंगाने रोटेशन पध्दतीने कार्यालयीन उपस्थिती निश्चित करण्यासाठी प्रत्येक मंत्रालयीन सचिव/संबंधित कार्यालयप्रमुख यांनी आवश्यक ती उपाययोजना करावी.

ब) तथापि मंत्रालयातील सर्व सह/उपसचिवांनी कार्यालयात उपस्थित रहाणे बंधनकारक राहिल. यापैकी महिला अधिकार्यांना कार्यालयीन उपस्थितीपासून सूट देण्याचे अधिकार संबंधित मंत्रालयीन सचिवांना/ कार्यालयप्रमुखांना राहतील.

क) उपरोक्त "अ" व "ब" येथील उपस्थितीबाबतचे आदेश दि. 20 एप्रिल 2020 पासून अंमलात येतील.

ड) उक्त आदेशाचा भंग करणारे अधिकारी/ कर्मचारी हे शिस्तभंगविषयक कार्यवाहीस पात्र राहतील.

इ) मंत्रालय उपहारगृह तात्काळ सुरु करण्यासाठी संबंधित कार्यासनाने यासंदर्भात तातडीने उचित कार्यवाही करावी.

फ) लॉकडाऊनच्या कालावधीमध्ये उपनगरीय रेल्वेसेवा पूर्णपणे बंद असल्याने बृहन्मुंबई येथील शासकीय कार्यालयातील तसेच मंत्रालयातील शासकीय अधिकारी / कर्मचारी यांनी त्यांच्या कार्यालयापर्यंतच्या प्रवासासाठी महाराष्ट्र राज्य मार्ग परिवहन महामंडळ (MSRTC) तसेच स्थानिक स्वराज्य संस्थांच्या बससेवेचा (उदा.BEST/NMMT इ.)उपयोग करावा.

तसेच बृहन्मुंबई व्यतिरिक्त अन्य ठिकाणच्या कर्मचाऱ्यांनीही संबंधित प्राधिकरणाच्या उपलब्ध बससेवेचा उपयोग करावा.

ग) कोरोना विषाणूचा संसर्ग टाळण्यासाठी सोशल डिस्टन्सींग ठेवणे अत्यंत आवश्यक आहे. तथापि असे निदर्शनास आले आहे की, अत्यावश्यक सेवेतील कर्मचाऱ्यांसाठी उपलब्ध असलेल्या बसेसची संख्या पुरेशी नसल्याने त्यामध्ये अत्यंत गर्दी होत असल्याने कर्मचाऱ्यांना विषाणूचा संसर्ग होण्याची शक्यता नाकारता येत नाही. परिणामी अनेक अधिकारी/ कर्मचारी कार्यालयात जाण्यास इच्छुक नसल्याचे दिसते. सबब या बसेसमधील प्रवाशांमध्ये उपलब्ध आसन व्यवस्थेपेक्षा अतिरिक्त प्रवासी घेतले जाणार नाहीत, याची संबंधित स्थानिक प्राधिकरण तसेच महाराष्ट्र राज्य मार्ग परिवहन महामंडळ (MSRTC) यांच्या प्रशासनाने उचित दक्षता घ्यावी. तसेच तशा सूचना सर्व संबंधितांना निर्गमित कराव्यात. याकरिता सकाळी 7 ते 11 या कालावधीत तसेच सायंकाळी 4 ते 7 या कालावधीत पुरेशा संख्येने बसेसच्या सेवा उपलब्ध होतील याकरिता आवश्यक उपाययोजना करण्यात याव्यात.

ह) मंत्रालयातील अधिकारी / कर्मचारी यांची असलेली मोठी संख्या तसेच त्यांना दूरच्या ठिकाणावरून करावा लागणारा प्रवास तसेच मुंबई उपनगरीय रेल्वे सेवेवरील त्यांची अवलंबितता या सर्व बाबी विचारात घेता महाराष्ट्र राज्य मार्ग परिवहन महामंडळास (MSRTC) याद्वारे आदेशित करण्यात येते की, त्यांनी सकाळी 7 ते 11 यावेळेमध्ये पश्चिम रेल्वे, मध्य रेल्वे, हार्बर या रेल्वेस्थानकांजवळून मंत्रालयापर्यंत (मधल्या विविध टप्पा / रेल्वे स्थानकावरील कर्मचाऱ्यांनाही घेऊन) त्याचप्रमाणे सायंकाळी 4 ते 7 यावेळेत मंत्रालयापासून उक्त स्थानकापर्यंत जाण्यासाठी विशेष व पुरेशा संख्येने बसेसच्या सेवा सुरु कराव्या. बसमधील गर्दी टाळण्याकरिता दोन बसेसमधील कालावधी जास्त असणार नाही याची दक्षता घ्यावी.

बृहन्मुंबई क्षेत्राकरिता BEST यांनी वरीलप्रमाणे विशेष बससेवा मंत्रालयीन अधिकारी / कर्मचारी यांच्यासाठी सुरु कराव्यात.

य) सदरच्या सूचना पुढील आदेशापर्यन्त लागू राहतील.

3. सदर शासन निर्णय महाराष्ट्र शासनाच्या [www.maharashtra.gov.in](http://www.maharashtra.gov.in) या संकेतस्थळावर उपलब्ध करण्यात आला असून त्याचा संगणक संकेतांक क्र.....असा आहे. हे आदेश डिजिटल स्वाक्षरीने साक्षांकित करून काढण्यात येत आहेत.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नांवाने,



(अंशु सिन्हा)  
सचिव ( प्र.सु.व.र.व.का )

प्रत :

1. मा.राज्यपाल यांचे सचिव (5 प्रती),
2. मा.सभापती, महाराष्ट्र विधानपरिषद, महाराष्ट्र विधानमंडळ सचिवालय, मुंबई
3. मा.अध्यक्ष, महाराष्ट्र विधानसभा, महाराष्ट्र विधानमंडळ सचिवालय, मुंबई
4. मा.विरोधी पक्षनेता, विधानपरिषद/विधानसभा, महाराष्ट्र विधानमंडळ

सचिवालय, मुंबई.

5. सर्व सन्माननीय विधानसभा, विधानपरिषद व संसद सदस्य,
6. मा. मुख्यमंत्र्यांचे प्रधान सचिव(5 प्रती), मंत्रालय, मुंबई 400032.
7. मा.उपमुख्यमंत्र्यांचे सचिव, मंत्रालय, मुंबई 400032.
8. सर्व मा.मंत्री / मा. राज्यमंत्री यांचे खाजगी सचिव, मंत्रालय, मुंबई 400032.
9. मा.मुख्य सचिव यांचे वरिष्ठ स्वीय सहायक, मंत्रालय, मुंबई 400032.
10. मा.महाअधिवक्ता, महाराष्ट्र राज्य,
11. सर्व अपर मुख्य सचिव / प्रधान सचिव / सचिव, मंत्रालय, मुंबई 400032.
12. प्रबंधक, उच्च न्यायालय, अपील शाखा, मुंबई
13. प्रबंधक, उच्च न्यायालय, मूल शाखा, मुंबई
14. प्रबंधक, लोकायुक्त व उपलोकायुक्त यांचे कार्यालय,
15. सचिव, राज्य निवडणूक आयोग, मुंबई,
16. सचिव, महाराष्ट्र लोकसेवा आयोग, मुंबई,
17. प्रधान सचिव, विधानमंडळ सचिवालय, विधान भवन, मुंबई,
18. मुख्य माहिती आयुक्त, राज्य माहिती आयोग, मुंबई,
19. राज्य मुख्य सेवा हक्क आयुक्त, राज्य सेवा हक्क आयोग, मुंबई,
20. सर्व विभागीय आयुक्त,
21. आयुक्त, सर्व महानगर पालिका,
22. व्यवस्थापकीय संचालक, BEST महामंडळ, मुंबई
23. व्यवस्थापकीय संचालक, महाराष्ट्र राज्य परिवहन महामंडळ, मुंबई
24. सर्व जिल्हाधिकारी,
25. सर्व जिल्हा परिषदांचे मुख्य कार्यकारी अधिकारी,
26. सर्व मंत्रालयीन विभागांच्या अधिपत्याखालील सर्व विभागप्रमुख / प्रादेशिक प्रमुख / कार्यालय प्रमुख,
27. महासंचालक, माहिती व जनसंपर्क महासंचालनालय, मुंबई (5 प्रती ),
28. भारतीय जनता पार्टी, महाराष्ट्र प्रदेश, सी.डी.ओ.बॅरक नं.1, योगक्षेम समोर, वसंतराव भागवत चौक, नरिमन पॉईंट, मुंबई 400020.
29. इंडियन नॅशनल काँग्रेस, महाराष्ट्र प्रदेश काँग्रेस(आय) समिती, टिळक भवन, काकासाहेब गाडगीळ मार्ग, दादर, मुंबई-400025.
30. नॅशनलीस्ट काँग्रेस पार्टी, ठाकरसी हाऊस, जे.एन.हेरेडीया मार्ग, बेलार्ड इस्टेट, मुंबई 400038.
31. शिवसेना, शिवसेना भवन, गडकरी चौक, दादर, मुंबई-400028.
32. बहुजन समाज पार्टी, प्रदेश सचिव, महाराष्ट्र राज्य, बी.एस.जी.भवन, प्लॉट नं. 83-अ, कलेक्टर कॉलनी, चेंबूर, मुंबई-400014.
33. भारतीय कम्युनिस्ट पार्टी, महाराष्ट्र कमिटी, 314, राजभवन, एस.व्ही.पटेल रोड, मुंबई 400004.
34. भारतीय कम्युनिस्ट(माक्सवादी) पार्टी, महाराष्ट्र कमिटी, जनशक्ती हॉल, ग्लोब मिल पॅलेस, वरळी, मुंबई 400013.
35. महाराष्ट्र नवनिर्माण सेवा, राजगड, मातोश्री टॉवर, शिवाजी पार्क, दादर, मुंबई 400028.
36. सामान्य प्रशासन विभागातील सर्व कार्यासने, मंत्रालय, मुंबई 400032
37. निवड नस्ती (का.18), सामान्य प्रशासन विभाग, मंत्रालय, मुंबई400032.



 <p>सर्वजनिक आरोग्य विभाग महाराष्ट्र शासन</p>	 <p>महाराष्ट्र शासन आरोग्य सेवा संचालनालय, पुणे कार्यालय</p>	 <p>NATIONAL HEALTH MISSION, MAHARASHTRA NHM राष्ट्रीय आरोग्य अभियान महाराष्ट्र</p>
<p>संचालक दूरध्वनी क्रमांक कार्यालय दूरध्वनी क्र.</p>	<p>२६१२२२५६ (वै.) २६१२२५०८ (का) २६११९५७८ (का)</p>	<p>नवीन मध्यवर्ती इमारत, पहिला मजला, पुणे ४११ ००१ (महाराष्ट्र राज्य) भारत Email ID : <a href="mailto:dhs pune1@gmail.com">dhs pune1@gmail.com</a> website : <a href="http://arogya.maharashtra.gov.in">arogya.maharashtra.gov.in</a></p>
<p>आरोग्य सेवा</p>	<p>जा.क्र. संआसे/कोवीड/डिसइन्फेक्टंट रसायने वापर /कक्ष-५८/ /२०२० दिनांक : १९ एप्रिल २०२० ९०२४६-९०३४८</p>	

प्रति,


कार्यकारी आरोग्य अधिकारी, वृहन्मुंबई महानगरपालिका  
जिल्हा शल्य चिकित्सक, जिल्हा रुग्णालय ....(सर्व)  
जिल्हा आरोग्य अधिकारी, जिल्हा परिषद ... (सर्व)  
वैद्यकिय आरोग्य अधिकारी, मनपा ... (सर्व)

विषय:- व्यक्तींवर किंवा समुहावर डिसइन्फेक्टंट रसायने न फवारण्याबाबत

संदर्भ:- केंद्र सरकारने दिलेले निर्देश.

सध्याच्या कोवीड १९ उद्रेकाच्या पार्श्वभूमीवर अनेक ठिकाणी सॅनिटेशन डोम / टनेलचा वापर होत आहे असे दिसून येत आहे. या डोम / टनेलद्वारे व्यक्तींच्या / समुहाच्या अंगावर डिसइन्फेक्टंट रसायनांची फवारणी करण्यात येते. तथापि, सदर सॅनिटेशन डोम/टनेलला कोणताही शास्त्रीय आधार नाही. अनेकदा ही रसायने व्यक्तीला अपायकारक देखील ठरू शकतात त्यामुळे व्यक्ती / व्यक्ती समुहावर डिसइन्फेक्टंट रसायनांची फवारणी करणारी सॅनिटेशन डोम/ टनेल अथवा त्यासदृश यंत्रणांचा वापर करण्यात येऊ नये, असे निर्देश केंद्र शासनाने दिले आहेत.

सोबत संदर्भीय पत्र जोडले आहे.

  
(डॉ. अर्चना पाटील)  
संचालक आरोग्य सेवा, पुणे

प्रत सन्नेह अग्रेषित : संचालक आरोग्य सेवा ,मुंबई

प्रत माहितीस्तव सादर:

मा. आयुक्त आरोग्य सेवा तथा अभियान संचालक, राष्ट्रीय आरोग्य अभियान, मुंबई  
मा. प्रधान सचिव, सार्वजनिक आरोग्य विभाग, गो.ते. रुग्णालय, मुंबई

**Advisory against spraying of disinfectant on people for COVID-19 management**

Ministry of Health & Family Welfare has received many queries regarding the efficacy (if any) of use disinfectants such as Sodium hypochlorite spray used over the individuals to disinfect them. The strategy seems to have gained a lot of media attention and is also being reportedly used at local levels in certain districts/local bodies.

**Purpose of the document**

To examine the merit of using disinfectants as spray over human body to disinfect them from COVID-19 and to provide appropriate advisory

**Disinfectants** are chemicals that destroy disease causing pathogens or other harmful microorganisms. It refers to substances applied on inanimate objects owing to their strong chemical properties.

Chemical disinfectants are recommended for cleaning and disinfection only of frequently touched areas/surfaces by those who are suspected or confirmed to have COVID-19. Precautionary measures are to be adopted while using disinfectants for cleaning – like wearing gloves during disinfection.

In view of the above, the following advisory is issued:

- Spraying of individuals or groups is **NOT recommended** under any circumstances. Spraying an individual or group with chemical disinfectants is physically and psychologically harmful.
- Even if a person is potentially exposed with the COVID-19 virus, spraying the external part of the body does not kill the virus that has entered your body. Also there is no scientific evidence to suggest that they are effective even in disinfecting the outer clothing/body in an effective manner.
- Spraying of chlorine on individuals can lead to irritation of eyes and skin and potentially gastrointestinal effects such as nausea and vomiting. Inhalation of sodium hypochlorite can lead to irritation of mucous membranes to the nose, throat, respiratory tract and may also cause bronchospasm.
- Additionally use of such measures may in fact lead to a false sense of disinfection & safety and actually hamper public observance to hand washing and social distancing measures.

## महाराष्ट्र शासन

क्रमांक कोरोना २०२०/प्र.क्र. ८९/आरोग्य ५

सार्वजनिक आरोग्य विभाग

गोकुळदास तेजपाल रुग्णालय आवार

कॉम्प्लेक्स बिल्डिंग, नविन मंत्रालय, मुंबई-४०० ००९

दिनांक- २९ एप्रिल २०२०

प्रति,

महानगरपालिका आयुक्त (सर्व)

जिल्हाधिकारी (सर्व)

जिल्हा शल्यचिकित्सक (सर्व)

जिल्हा आरोग्य अधिकारी (सर्व)

विषय: केंद्र सरकारकडून विकसित करण्यात आलेले आरोग्य सेतू ॲप वापरण्याच्या सूचना निर्गमित करणेबाबत.

भारत सरकारने कोविड-१९ ची माहिती सर्वसामान्य जनतेला उपलब्ध करून देण्यासाठी ॲन्ड्रॉईड व आओएस प्रणाली धारक भ्रमणध्वनी धारकांसाठी बहुभाषिक (एकूण ११ भाषांमध्ये उपलब्ध) आरोग्य सेतू ॲप विकसित केले आहे. या ॲपची सर्वसाधारण वैशिष्ट्ये खालीलप्रमाणे आहे-

- हे ॲप ब्ल्युटूथ टेक्नॉलॉजीवर आधारित आहे. याद्वारे कोविड-१९ बाधित रुग्णांच्या भ्रमणध्वनी क्रमांकाच्या संकलित माहितीच्या आधारे जी.पी.एस. टेक्नॉलॉजीद्वारे कोविड बाधित रुग्ण आस-पास आल्यास (साधारणतः सहा फुटांच्या अंतरावर) वापरकर्त्यास धोक्याची सूचना देते.
- या ॲप मध्ये कोविड-१९ बाधेची स्वः चाचणी सुविधा, प्रतिबंधात्मक उपायोजना, सामाजिक अंतर बाळगणे व प्रतिबंधासाठी काय करावे किंवा काय करून नये याबाबतची प्रमाणित माहिती वापरकर्त्यास मिळते.
- स्वः चाचणीमध्ये वापरकर्ता अति धोकादायक स्थितीत आढळल्यास या ॲपद्वारे जवळच्या कोविड तपासणी केंद्राचा क्रमांक उपलब्ध करून दिला जातो. अथवा तात्काळ १०७५ या टोल फ्री क्रमांकावर संपर्क करण्याबाबत वापरकर्त्यास या ॲपद्वारे सूचविण्यात येते.
- या ॲप द्वारे कोविड-१९ बाधेच्या अनुषंगाने वापरकर्त्याच्या सर्वसाधारण प्रश्नांची प्रमाणित उत्तरे दिली जातात. तसेच, सर्व राज्यातील हेल्प लाईन क्रमांक उपलब्ध करून दिले जातात.
- या ॲप द्वारे लॉक डाऊन काळात वापरकर्त्यास अपरिहार्य परिस्थितीत एका ठिकाणाहून दुसऱ्या ठिकाणी जाण्याची आवश्यकता भासल्यास ई-पास द्वारे अर्ज करून पास मिळविण्याची सुविधा उपलब्ध करून देण्यात आलेली आहे.

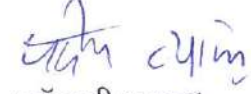
हे ॲप खालीलप्रमाणे डाऊनलोड करण्याची सुविधा आहे.

**ios : [itms-apps://itunes.apple.com/app/id505825357](https://itunes.apple.com/app/id505825357)**

**Android : <https://play.google.com/store/apps/details?id=nic.goi.arogyasetu>**

हे ऑप कोविड-१९ बाधीत रुग्णांचे संकलित केलेल्या भ्रमणध्वनी वापरकर्त्यांच्या कक्षेत आल्यानंतर धोक्याची सूचना देत असल्याने, आपल्या अधिपत्याखालील क्षेत्रातील सर्व कोविड-१९ बाधीत रुग्ण, संशयीत रुग्ण, विलगीकरण व अलगीकरण असलेल्या तसेच रुग्णालयातून उपचारअंती सोडून देण्यात आलेले सर्व नागरीकांचे भ्रमणध्वनी क्रमांक संकलित करावे.

सर्व सक्षम प्राधिकाऱ्यांना त्यांचे अधिकार क्षेत्रामध्ये कोविड-१९ बाधीत रुग्ण, विलगीकरण कक्षातील सर्व रुग्ण, संस्थामध्ये अलगीकरण करण्यात आलेले सर्व संशयीत बाधीत रुग्ण, रुग्णालयातून डिस्चार्ज मिळालेले बाधा मुक्त नागरीक या सर्वांना तसेच, आरोग्य सेवा देणारे डॉक्टर्स, परिचारीका व इतर आरोग्य कर्मचारी यांनाही जनहितार्थ हे ऑप डाऊनलोड करून त्याचा वापर करण्याबाबत सूचना देण्यात याव्यात व सर्व सामान्य जनतेला सदर ऑपचा वापर करण्याबाबत आवाहन करण्यात यावे.



(डॉ. प्रदीप व्यास)

प्रधान सचिव, सार्वजनिक आरोग्य विभाग

प्रत

अपर मुख्य सचिव, महसूल व ग्राम विकास विभाग, मंत्रालय, मुंबई  
प्रधान सचिव, नगरविकास विभाग, मंत्रालय, मुंबई.  
सचिव, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय, मुंबई.  
उप सचिव, मा. मुख्य सचिव कार्यालय, मंत्रालय, मुंबई.  
आयुक्त आरोग्य सेवा, मुंबई.  
संचालक आरोग्य सेवा, १/२  
संचालक, वैद्यकीय शिक्षण व संशोधन संचालनालय, मुंबई

प्रत, माहीतीस्तव.

मा.मंत्री (आरोग्य) यांचे खाजगी सचिव  
मा.राज्यमंत्री (आरोग्य) यांचे खाजगी सचिव

**GOVERNMENT OF MAHARASHTRA**

No. CORONA-2020/ CR 84 /Arogya-5  
Public Health Department,  
Gokuldas Tejpal Hospital Compound  
New Mantralaya, Mumbai – 1

Date - 23 . 04. 2020

To,

All District Collectors

All Municipal Commissioners

**Subject:** COVID-19 Case Investigation form filling and update of IHIP portal

**Reference:** NCDC Letter T-18015/307/2020-IDSP, dated 31<sup>st</sup> March 2020

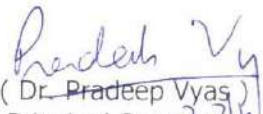
Dear Colleagues,

I would like to appreciate the consistent dedication and hardwork of the officers and staff to fight against COVID-19 under your able leadership. The upsurge in the number of cases has demanded the human resources for management of correct data for analysis and decision making.

It becomes difficult to get clarity on picture for the state, when the data is either incomplete or not clear. The expert committee at NCDC, New Delhi has revised the case investigation form (CIF) is shared with you by Director Health, Maharashtra in former communication. The training of CIF filling is completed across 34 districts and Municipal Corporation with the help of WHO-NPSP's Surveillance Medical Officers (SMOs). In this regard, I request you to please ensure

- CIF is filled at all treatment centers i.e. CCC/ DCHC / DCH by trained medical officer/nodal officers
- The filled in CIF needs to be shared with DHO/MOH/CS/EHO office for records and compilations in coordination with respective IDSP officers
- The filled in CIF should be entered into IHIP platform in addition to basic details being entered into Special Surveillance System portal
- WHO Medical officers (NPSP, NTEP, IHCI & NTD) will help you with training, entry, desk review and data analysis of CIF's and linelist

Data Analytical reports should substantial evidences to support decision making and corrective measures to enhance the sensitivity of surveillance. I am sure you would extend required access and support to WHO team (NPSP, NTEP, IHCI & NTD) to reinforce the current COVID response and coordination.

  
( Dr. Pradeep Vyas )  
Principal Secretary,  
Public Health Department

Copy to:

1. Commissioner Health cum Mission Director, NHM, Mumbai
2. Director Health Services
3. Dr. Sandip Shinde, Team Leader, WHO-NPSP, Maharashtra

**GOVERNMENT OF MAHARASHTRA**

No. CORONA-2020/ CR 84 /Arogya-5  
Public Health Department,  
Gokuldas Tejpal Hospital Compound  
New Mantralaya, Mumbai – 1

Date - 23 . 04. 2020

To

All District Collectors  
All Municipal Commissioners

**Subject:** WHO Maharashtra Team's support for COVID response and coordination

**Reference:** Zoom VC on Hon'ble HFM interaction with WHO field staff for COVID-19 containment - April 15

Dear Colleagues,

**World Health Organization** (WHO) National Public Health Surveillance Project (NPSP) has supported the State Health Department in area of Vaccine Preventable Disease Surveillance and strengthening of Immunization activities through strategic support in advocacy, micro-planning, capacity building, monitoring and technical support.

The Team WHO-NPSP has played pivotal role in COVID response and coordination. I would like to urge you to seek their continued support in following area of work,

- **Capacity Building (Trainings):**
  - Epidemiology and Infection Prevention and Control (IPC) of Medical officers
  - Training of front line workers (FLWs)
  - COVID CIF filling training of DSO, MOs, Residents, Nodal officers of COVID Hospitals
  - Sensitization of IMA, IAP and CSOs for COVID cases (SARI Surveillance) reporting
- **Containment activity:**
  - Virtual training to health workers and medical officers for creating containment zone
  - Microplanning support at Districts and Corporations for cluster containment
  - Monitoring of containment areas and sharing feedback
- **Advocacy through Task force:**
  - Member of Divisional Task Force for technical support
  - Monitoring with Collectors and Commissioners through field visits
  - Support regular video conference and review of COVID response and coordination

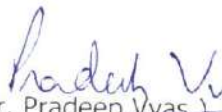
- **Technical Support and Coordination:**

- Assessment of COVID Management Hospitals. 100+ hospital assessment is done
- Training and operationalization of sentinel site SARI (Sever Acute Respiratory Illness) Surveillance
- Training and technical support for contact tracing

- **Data Analysis:**

- Desk review of CIFs and report generation through linelist
- Data cleaning and correction through regular review at District/Corporation in coordination with IDSP/Epid Cell
- Analyze and assess COVID logistics i.e. N95, Triple layer masks, PPE stock, VTM etc.

The crucial coordination between IDSP and WHO-NPSP network was highlighted by Hon. Union Health Minister and Secretary Health (H & FW) in recent video-conferences with field staff. I am sure you would extend required access and support to WHO team (NPSP, NTEP, IHCI & NTD) to reinforce the current COVID response and coordination.

  
( Dr. Pradeep Vyas )  
Principal Secretary, 12/7/2020  
Public Health Department

Copy to :

1. Commissioner Health cum Mission Director, NHM, Mumbai
2. Director Health Services
3. Dr. Sandip Shinde, Team Leader, WHO-NPSP, Maharashtra

**GOVERNMENT OF MAHARASHTRA**

No. CORONA-2020/ CR 84 /Arogya-5  
Public Health Department,  
Gokuldas Tejpal Hospital Compound  
New Mantralaya, Mumbai – 1

Date - . 04. 2020

To,

All District Collectors

All Municipal Commissioners

**Subject:** Severe Acute Respiratory Illness (SARI) Surveillance and Testing for COVID-19 control

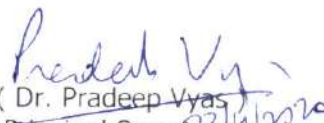
**Reference:** ICMR Letter No. NIE/SPH/EIS/2C/2019, dated 9<sup>th</sup> April 2020

Dear Colleagues,

I would like to acknowledge the commitment and exemplary work of the officers and staff to fight against COVID-19 under your able leadership. ICMR is supporting the states in COVID-19 testing through VRDL network. However, it is also important to strengthen surveillance through early detection of suspect cases. Director-General, ICMR letter dated 21 March 2020 approves testing of all hospitalized patients Severe Acute Respiratory Illness (SARI) which includes fever and cough and/or shortness of breath.

Director Health, Maharashtra has shared the SOPs and protocols Government health facilities/hospitals and designated private hospitals (enclosed). This will help to identify SARI cases which require testing, identification of the COVID-19 clusters for rapid action and intervention. State Surveillance officer-IDSP with technical assistance from WHO's Surveillance Medical Officers (SMOs) and Cardio-vascular Health Officers (CVHOs) are supporting the district surveillance units to operationalize timely data collection of SARI hospitalizations and testing. This activity will strengthen the surveillance and facilitate the early detection of COVID-19 cases.

I urge you to continue your oversight and supervision for SARI surveillance training, mapping of reporting sites, timely data reporting, testing and review to further enhance surveillance sensitivity.

  
( Dr. Pradeep Vyas )  
Principal Secretary,  
Public Health Department

Copy to :-

1. Commissioner Health cum Mission Director, NHM, Mumbai
2. Director Health Services
3. Dr. Sandip Shinde, Team Leader, WHO-NPSP, Maharashtra.



## महाराष्ट्र शासन

अति तात्काळ

क्रमांक न्यायिक २०२०/प्र.क्र.५८ / आ-५  
सार्वजनिक आरोग्य विभाग  
गोकुळदास तेजपाल रुग्णालय आवार  
मंत्रालय, मुंबई-४०० ००९  
ई.मेल- archana.walzade@nic.in  
दिनांक-

प्रति,

उप संचालक आरोग्य सेवा, प्रभारी मंडळ (सर्व)  
जिल्हा शल्य चिकित्सक, जिल्हा रुग्णालय (सर्व)  
जिल्हा आरोग्य अधिकारी, जिल्हा परिषद, (सर्व)  
वैद्यकीय आरोग्य अधिकारी, महानगरपालिका (सर्व)  
कार्यकारी वैद्यकीय अधिकारी, वृहन्मुंबई महानगरपालिका, मुंबई

विषय: कोवीड-१९, प्रतिबंधनासाठी हायड्रॉक्सी क्लोरोक्वीन (Hydroxychloroquine)  
चा वापर करण्याबाबत

- संदर्भ: १) भारतीय आयुर्विज्ञान अनुसंधान परिषद (ICMR) यांच्या  
दिनांक २२/३/२०२० रोजीच्या मार्गदर्शक सुचना  
२) संचालक आरोग्य सेवा, पुणे यांचे पत्र क्र. संआसे/  
कोरोना/४८७४-९७६, दिनांक २४ मार्च २०२०

उपरोक्त संदर्भीय परिपत्रकान्वये कोवीड-१९ च्या प्रतिबंधात्मक उपाययोजने अंतर्गत Hydroxychloroquine या गोळ्या प्रतिबंधात्मक स्वरूपात देण्यासाठी सुचना निर्गमित करण्यात आलेल्या आहेत. त्या विस्तृत स्वरूपात पुनःश्च निर्गमित करण्यात येत आहेत.

(१) प्रतिबंधात्मक Hydroxychloroquine घेण्यासाठी लक्षित वर्ग:

- (अ) कोवीड-१९ संशयीत आणि निदान झालेल्या रुग्णांच्या उपचारामध्ये समाविष्ट डॉक्टर, नर्स व इतर कर्मचारी.  
(ब) कोवीड-१९ Positive cases च्या घरातील संपर्क आलेल्या सर्व व्यक्ती (घरात राहणारे, काम करणारे इ.)

यामध्ये सर्वेक्षण पथकातील सर्व कर्मचारी आणि अधिकारी यांचा समावेश करावा. त्याच प्रमाणे ज्या ठिकाणी कोवीड-१९ चे रुग्ण आहेत अशा भागातील रुग्णालयातील कर्मचारी, अधिकारी, CCC, CHC, DCH मध्ये काम करणारे अधिकारी आणि कर्मचारी यांचा सुध्दा यामध्ये समावेश राहिल. या व्यतिरिक्त रुग्णालयातील किंवा क्षेत्रात काम करणारे

जे अधिकारी, कर्मचारी संशयीत किंवा निदान झालेल्या रुग्णाच्या सान्निध्यात येतील त्यांना सुध्दा प्रतिबंधात्मक Hydroxychloroquine चा लाभ मिळणे आवश्यक आहे.

Hydroxychloroquine देतांना पुढील प्रमाणे काळजी घेणे आवश्यक आहे.

१. गोळ्या संबंधित कर्मचारी यांनी स्वेच्छेने घेणे आवश्यक आहे. याबाबत माहिती सर्व कर्मचारी आणि अधिकारी यांना देण्यात यावी.
२. ज्या कर्मचाऱ्यांना किंवा सहवासितांना हृदय विकार, उच्चरक्तदाब, मधुमेह इ. आजार असतील अशा कर्मचाऱ्यांना तज्ञ डॉक्टरांच्या सल्ल्याने सदर गोळ्या देण्यात याव्यात.
३. त्याच प्रमाणे ज्या रुग्णांना हृदयांच्या ठोक्यांच्या नियमतेबाबत त्रास आहे त्यांना सुध्दा तपासूनच प्रतिबंधात्मक गोळ्या देण्यात याव्यात.
४. औषधीची गुंतागुंत झाल्यास त्याबाबत तात्काळ तपासणी करून औषधोपचार करण्यात यावा.
५. ज्यांना रेटीनोपॅथी (Retinopathy) किंवा हायपर सेन्सिटिव्हिटी (Hypersensitivity) आहे त्यांना Hydroxychloroquine देण्यात येऊ नये.
६. ज्यांना रक्तासंबंधित आजार आहेत त्यांना वैद्यकीय अधिकाऱ्यामार्फत तपासून औषधी देण्यात यावी.

## (२) हायड्रॉक्सी क्लोरोक्वीनचा डोस

(१) आरोग्य कर्मचारी

पहिला दिवस : ४०० एमजी - दिवसातून २ वेळा (एकूण ८०० एमजी)  
जेवणानंतर

दुसरा दिवस ते ७ आठवडे :- आठवडयातून एक वेळ ४०० एमजी जेवणानंतर

(२) कोव्हीड १९ पॉझेटिव्ह केसचे घरातील संपर्क आलेल्या व्यक्ती

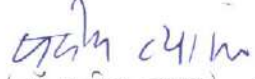
पहिला दिवस : ४०० एमजी - दिवसातून २ वेळा (एकूण ८०० एमजी)  
जेवणानंतर

दुसरा दिवस ते ३ आठवडे - आठवडयातून एक वेळ ४०० एमजी जेवणानंतर

उपरोक्त औषधे १५ वर्षाखालील व्यक्ती आणि Retinopathy, known hypersensitivity to Chloroquine यांना देऊ नये.

(३) महत्वाच्या सुचना

१. औपधे दिल्यानंतर दुष्परिणामाबाबत काळजी घ्यावी. काही दुष्परिणाम आढळल्यास त्वरीत वैद्यकीय सल्ला घ्यावा.
२. कोव्हीड १९ ची लक्षणे - ताप, खोकला, दम लागणे आढळल्यास त्वरीत रुग्णालयाशी संपर्क साधावा.
३. प्रोटोकॉलनुसार Institutional किंवा Home Quarantine मध्ये असल्यास या काळावधीमध्ये आणि घ्यावयाच्या खबरदारीमध्ये कोणताही फरक पडणार नाही.
४. हे औपध सुरु असले तरीही मार्गदर्शक सुचनानुसार PPE, N ९५, Triple layer mask याचा वापर व इतर संसर्ग प्रतिबंधाचे उपाय सुरु ठेवावेत त्यामध्ये कोणताही बदल करू नये.

  
(डॉ प्रदीप व्यास)

प्रधान सचिव, सार्वजनिक आरोग्य विभाग

प्रत:

जिल्हाधिकारी, (सर्व)

महानगरपालिका आयुक्त (सर्व)

संचालक आरोग्य सेवा, पुणे

संचालक आरोग्य सेवा, मुंबई

आयुक्त आरोग्य सेवा तथा अभियान संचालक, राष्ट्रीय आरोग्य अभियान, मुंबई

कोविड-१९ विषाणूचा संसर्ग / प्रादुर्भाव रोखण्यासाठी  
कार्यरत असलेल्या विविध विभागातील अधिकारी व  
कर्मचारी यांनी घ्यावयाच्या दक्षतेबाबतच्या मार्गदर्शक  
सूचना

महाराष्ट्र शासन

सार्वजनिक आरोग्य विभाग

गोकुळदास तेजपाल रुग्णालय कंपाऊंड, कॉम्प्लेक्स बिल्डिंग, १० वा मजला,

नवीन मंत्रालय, मुंबई ० ४०० -०१

शासन परिपत्रक क्र. कोरोना-२०२०/प्र क्र ५८/ आरोग्य ५

दिनांक २५ एप्रिल, २०२०.

प्रस्तावना :

राज्यात कोविड १९ या विषाणूच्या वाढत्या प्रादुर्भावामुळे संसर्गाचे प्रमाण वाढत असल्याचे आढळून येत आहे. यासाठी प्रतिबंधात्मक उपाय म्हणून राज्यात लॉकडाऊन केले असले तरी आपत्कालीन सेवेअंतर्गत आरोग्य / पोलीस / स्वच्छता / विद्युत/ महसुल /ग्राम विकास / शिधावाटप इत्यादी विभागातील अधिकारी / कर्मचारी कार्यरत आहेत. तसेच विभाग व क्षेत्रीय स्तरावरील कार्यालयीन आस्थापना मर्यादीत स्वरूपात सुरु आहेत.

आपत्कालीन परिस्थितीत कार्यरत असलेल्या अधिकारी व कर्मचारी आपले कर्तव्य पार पाडत असतांना काही अधिकारी / कर्मचारी कोविड १९ ने बाधित झाल्याचे निदर्शनास आले आहे.

केंद्र व राज्य शासनाकडून कोविड १९ प्रतिबंधात्मक उपाययोजनांबाबत सर्व माध्यमातून मोठ्या प्रमाणात जनजागृतीही करण्यात आलेली आहे. त्यानुसार भविष्यात या आजाराचा संसर्ग टाळण्यासाठी घ्यावयाच्या दक्षतेबाबत खालीलप्रमाणे मार्गदर्शक सूचना देण्यात येत आहेत.

परिपत्रक :

- कर्तव्यावर जातांना नियमानुसार विहित गणवेशाबरोबरच मास्क, हातमोजे व आवश्यकतेनुसार ॲप्रन परिधान करावा.
- कार्यालयात अथवा कामकाजाच्या ठिकाणी साबण, पाणी, व हॅन्ड सॅनिटायझर उपलब्ध असल्याचे खातरजमा करावी.
- आपल्या दैनंदिन कामकाजाला सुरुवात करण्यापूर्वी आपले हात साबण व पाण्याने किमान २० सेकंद स्वच्छ धुवावे. यानंतरच हातमोज्यांचा उपयोग करावा. हातमोजे घातल्यानंतर चेहरा, डोळे, नाक, तोंड यास स्पर्श करू नये. हातमोजे खिशात घालण्याचे टाळावे.
- जेथे सॅनिटायझर उपलब्ध असेल तेथे किमान ७ मिलीलिटर सॅनिटायझर हातावर घेऊन दोन्ही तळहातांना मागेपुढे लावावे. सॅनिटायझर किमान ६० टक्के अल्कोहोल असणारे असावे.
- आपण ज्या कार्यालयात अथवा कर्तव्याच्या ठिकाणी काम करत असू व ज्या वस्तुंना वारंवार हाताने स्पर्श होण्याचा संभव आहे अशा गोष्टींना (दरवाज्याचे हॅन्डल, पाण्याचे नळ इत्यादी) दोन

ते तीन तासाने एक टक्का प्रमाणात सोडीयम हायपोक्लोराईड असलेल्या निर्जंतुकीकरण द्रावणाने स्वच्छ करावे.

- हाताने चेहरा, डोळे, नाक, तोंड यास स्पर्श करू नये.
- दैनंदिन काम करत असतांना दोन व्यक्तींमधील कमितकमी अंतर एक मिटर ठेवावे.
- एकत्रित जास्त संख्येने काम करण्याची वेळ आल्यास कामाच्या ठिकाणी छोटे छोटे समुह करण्यात यावे जेणेकरून अपघाताने कोवीड १९ चा जंतुसंसर्ग झाल्यास फक्त त्या समुहातील संपर्क व्यक्तींचे विलगीकरण करणे शक्य होईल व दैनंदिन कामकाजावर विपरित परिणाम टाळता येईल.
- भ्रमणध्वनीचा वापर करतांना शक्यतो स्पिकरफोनचा वापर करावा. भ्रमणध्वनीचा स्पर्श शक्यतो चेहऱ्याला टाळावा.
- कार्यालयातून / कर्तव्याच्या ठिकाणावर आंघोळ करण्याची सुविधा उपलब्ध नसल्यास कर्तव्यावरून घरी परत गेल्यावर लगेच साबण व स्वच्छ पाण्याने आंघोळ करावी.

#### वैय्यक्तिक संरक्षक साधनांचा वापर :

- स्वच्छता विभाग / आरोग्य विभाग / पोलीस दलात कार्यरत असणाऱ्या अधिकारी व कर्मचारी यांनी त्यांना उपलब्ध करून दिलेल्या वैय्यक्तिक संरक्षक साधनांचा योग्यपणे व नियमित वापर करावा.
- मास्क वापरतांना सदर मास्क तोंड व हनुवटी झाकून जाईल अशा पध्दतीने लावावा. नाकावर ठेवण्यायोग्य भाग नाकाच्या हाडावर बसवावा. मास्कची लेस कानावरून व मानेच्या मागील बाजूस बांधावी जेणेकरून आपला चेहरा व मास्क यामध्ये अंतर राहणार नाही याची खात्री करावी. मास्क मानेला लटकवू नये, चेहऱ्यावरील मास्कला स्पर्श करणे टाळावे. मास्क ओलसर झाल्यास तो त्वरीत बंद कचरापेटीत शक्यतो कागदात लपेटून फेकावा व नविन मास्क घालावा. मास्क काढतांना प्रथमतः खालील बाजूने काढावा नंतर लेसचा वापर करून मास्क हाताळावा. मास्क काढतांना मास्कचा शरीराच्या इतर कोणत्याही भागास स्पर्श होणार नाही याची काळजी घ्यावी. त्याचप्रमाणे वापरलेले मास्क, रबरी हातमोजे इत्यादीची विल्हेवाट बंद कचरापेटीत करावी.
- सर्व अधिकारी व कर्मचारी यांनी एकमेकांचे मोबाईल फोन, रुमाल, पाणी बॉटल, ग्लास इत्यादी बाबी वापरू नयेत अथवा हाताळू नयेत.
- सर्व विभागप्रमुख कार्यालय प्रमुख यांना आपल्या अधिनस्थ अधिकारी व कर्मचारी यांना त्यांच्या कर्तव्याशी निगडीत तांत्रिक क्षमतेचे पर्सनल प्रोटेक्टीव्ह किट, हॅन्डग्लोव्हज, ॲप्रन, स्वच्छता कर्मचाऱ्यांना गमबूट, जॅकेट, रबरी हातमोजे, मास्क, साबण व सॅनिटायझरचा आवश्यकतेनुसार पुरवठा करावा.

सर्व कार्यालय प्रमुखांना उपरोक्त नुसार सूचना कर्तव्यावरील अधिकारी व कर्मचाऱ्यांसाठी प्रसारित कराव्यात व या सूचनांची काटेकोर अंमलबजावणी होते किंवा नाही याची पडताळणी करण्यासाठी नोडल अधिकारी यांची नेमणूक करावी व आपले अधिनस्थ अधिकारी व कर्मचारी कोवीड १९ पासून बाधित होणार नाहीत याची दक्षता घ्यावी.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

*प्रदीप व्यास*

(डॉ. प्रदीप व्यास)

प्रधान सचिव, सार्वजनिक आरोग्य विभाग

- १) मा. राज्यपाल यांचे प्रधान सचिव
- २) मा. मुख्यमंत्री यांचे प्रधान सचिव
- ३) मा. उपमुख्यमंत्री यांचे प्रधान सचिव
- ४) मा. मंत्री (आरोग्य), मंत्रालय, मुंबई
- ५) मा. राज्यमंत्री (आरोग्य) मंत्रालय, मुंबई
- ६) अपर मुख्य सचिव/प्रधान सचिव/सचिव, मंत्रालय, मुंबई
- ७) सचिव, विधानमंडळ सचिवालय, मुंबई
- ८) आयुक्त, आरोग्य सेवा तथा संचालक, राष्ट्रीय आरोग्य अभियान, मुंबई
- ९) सर्व विभागीय आयुक्त
- १०) आयुक्त, महानगरपालिका (सर्व)
- ११) जिल्हाधिकारी (सर्व)
- १२) मा. मुख्य सचिव यांचे उप सचिव
- १३) संचालक, आरोग्य सेवा, आरोग्य सेवा संचालनालय, मुंबई / पुणे
- १४) प्रत उपसंचालक, आरोग्य सेवा परिमंडळ (सर्व)
- १५) प्रत जिल्हा शल्य चिकित्सक (सर्व)
- १६) प्रत जिल्हा आरोग्य अधिकारी (सर्व)
- १७) निवड नस्ती-आरोग्य ५

वैद्यकीय शिक्षण व संशोधन संचालनालय, मुंबई यांच्या  
अधिपत्याखालील संस्थांमधील डॉक्टर्स व इतर  
कर्मचारी यांच्याकरिता पीपीई किट्स खरेदीस मान्यता  
देण्याबाबत.

## महाराष्ट्र शासन

वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग,

शासन निर्णय, क्रमांक: वैशिवि-२०२०/प्र.क्र.१२३/प्रशा-२

९ वा मजला, नवीन मंत्रालय, गो.ते.रुग्णालय संकुल, लोकमान्य टिळक मार्ग, मुंबई ४०० ००१

दिनांक: ३० एप्रिल, २०२०.

- वाचा :
- १) वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, शासन निर्णय, क्र.वैशिवि-२०२०/प्र.क्र.१६/प्रशा-२, दिनांक ०४.०३.२०२०.
  - २) संचालक, वैद्यकीय शिक्षण यांचे पत्र क्र.संवैशिवसं/कोविड-१९/पीपीई/प्रस्ताव/०७४/अ/२०२०, दिनांक १५.०४.२०२०.
  - ३) सार्वजनिक आरोग्य विभाग, शासन निर्णय क्रमांक-करोना-२०२०/प्र.क्र.५८/आरोग्य-५, दिनांक १६.४.२०२०

### प्रस्तावना:

राज्यातील सर्व शासकीय वैद्यकीय महाविद्यालये व संलग्नित रुग्णालये यांच्या माध्यमातून कोविड-१९ या संसर्गजन्य आजाराच्या पार्श्वभूमीवर विलगीकरण कक्षासाठी एकूण ३१९८ खाटा तर एकूण ७७२ सीसीयु खाटा उपलब्ध करून देण्यात आल्या आहेत. त्याचप्रमाणे एकूण १० संस्थांमध्ये कोविड-१९ या आजाराच्या निदानासाठी चाचणीची सुविधा उपलब्ध करून देण्यात आली आहे.

२. संदर्भ क्रमांक ३ येथील सार्वजनिक आरोग्य विभागाच्या दिनांक १६.४.२०२० च्या शासन निर्णयानुसार कोविड-१९ या संसर्गजन्य आजाराच्या अनुषंगाने उदभवलेल्या आपत्कालीन परिस्थितीत राज्य स्तरावर औषधे व उपकरणांची खरेदी करण्यासाठी संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई यांच्या स्तरावर समिती गठीत करून त्याद्वारे खरेदी करण्यास मान्यता देण्यात आली आहे. त्याचप्रमाणे सदर समितीने हाफकिन अंतर्गत खरेदी कक्ष, बृहन्मुंबई महानगरपालिका, केंद्र शासनाचे उपक्रम-एच.एल.एल. लाईफ केअर, के.ए.पी.एल.केअर तसेच अन्य राज्य शासनाच्या मेडीकल सर्वीस कॉर्पोरेशनच्या दर सूचीनुसार खरेदी करणे आवश्यक आहे. सदर शासन निर्णयाद्वारे असेही स्पष्ट करण्यात आले आहे की, खरेदीसाठी राष्ट्रीय आरोग्य अभियानांतर्गत उपलब्ध निधी, वार्षिक योजनांतर्गत निधी, राष्ट्रीय आपत्ती कक्षाकडून प्राप्त निधी तसेच वैद्यकीय शिक्षण विभागाला राष्ट्रीय आपत्ती व्यवस्थापन कक्ष, महात्मा ज्योतिबा फुले योजनेतर्गत प्राप्त निधी, वैद्यकीय शिक्षण विभागाकडून प्राप्त झालेले अनुदान इत्यादीद्वारे उपलब्ध झालेले अनुदान वापरण्यात यावे.

३. कोविड-१९ या आजाराच्या वाढत्या प्रादुर्भावाच्या पार्श्वभूमीवर वैद्यकीय शिक्षण व संशोधन संचालनालयाच्या अधिपत्याखालील डॉक्टर्स, नर्सस, इतर पॅरामेडीकल कर्मचारी इत्यादींच्या वैयक्तिक सुरक्षेसाठी एकूण १,५०,००० इतक्या पीपीई किट्स खरेदीस मान्यता देण्याबाबतचा प्रस्ताव संदर्भ क्र.२ अन्वये शासनास सादर करण्यात आला आहे. या प्रस्तावाच्या अनुषंगाने शासनाने खालीलप्रमाणे निर्णय घेतला आहे.

## शासन निर्णय:

वैद्यकीय शिक्षण व संशोधन संचालनालय, मुंबई यांच्या अधिपत्याखालील संस्थांमधील डॉक्टर्स व इतर कर्मचारी यांच्याकरिता एकूण १,५०,००० (अक्षरी रुपये एक लाख पन्नास हजार) इतके पीपीई किट्स मान्यता धारक पुरवठा दारांकडून अभिव्यक्ती स्वारस्य ( Expression of Interest) मागवून त्याद्वारे खरेदी करण्यास व त्यावरील खर्च अंदाजे रु. १२,७७,१९,०००/- (अक्षरी रुपये बारा कोटी सत्याहत्तर लक्ष एकोणीस हजार) यास खालील अटींच्या अधीन राहून प्रशासकीय मंजूरी प्रदान करण्यात येत आहे.

१. संदर्भ क्र.३ येथील सार्वजनिक आरोग्य विभागाच्या दिनांक १६.०४.२०२० च्या शासन निर्णयातील निर्देशानुसार संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई यांच्या स्तरावर समिती गठीत करण्यात यावी व सदर समितीमार्फत प्रस्तावांतर्गत खरेदी करण्यात यावी. सदर समितीचे अस्तित्व व समितीस असलेले खरेदीचे अधिकार साथरोग कायदा १८९७ तसेच आपत्ती निवारण कायदा २००५ लागू असेपर्यंत अबाधित असतील.

२. पीपीई किटमध्ये खालीलप्रमाणे घटक अंतर्भूत असणे आवश्यक आहे.

- अ) PPE Coverall (SITRA/DRDE Approved) (it should include head cover and shoe cover)
- आ) N-95 Mask (NIOSH/ISI)
- इ) Gloves-NITRILE
- ई) Face Shield
- उ) Goggle

३. प्रत्येक पीपीई किट केंद्र शासनाच्या आरोग्य व कुटुंब कल्याण मंत्रालयाने विहित केलेल्या विनिर्दिष्टानुसार तयार करण्यात आले आहे, याची खातरजमा करावी. प्रस्थापित विनिर्दिष्टांबाबत कोणत्याही प्रकारची तडजोड करण्यात येऊ नये. यासाठी वैद्यकीय शिक्षण व संशोधन संचालनालयाच्या स्तरावर समिती गठीत करण्यात यावी.

४. हाफकिन जीव औषध निर्माण महामंडळ मर्यादित अंतर्गत खरेदी कक्ष यांनी शिफारस केल्याप्रमाणे प्रस्तावांतर्गत खरेदी रु.८५१.४६/- प्रति नग या कमाल दराने करण्यात यावी.

५. पुरवठादार निश्चित करताना कमी कालावधीत अधिक पुरवठा हा निकष प्रामुख्याने विचारात घेण्यात यावा.

६. संदर्भ क्र.३. येथील सार्वजनिक आरोग्य विभागाच्या दिनांक १६.४.२०२० च्या शासन निर्णयात नमूद मार्गानी प्राप्त अनुदानातून सदर खर्च भागविण्यात यावा. आवश्यकता भासल्यास संदर्भ क्र.१ येथील शासन निर्णयासोबतच्या परिशिष्टातील बाब क्र.३ मधील तरतुदी विचारात घेता प्रस्तावांतर्गत खर्च राज्यातील सर्व शासकीय वैद्यकीय/ दंत महाविद्यालये तसेच त्यांच्याशी संलग्नित रुग्णालये यांच्याकडील स्वीय प्रपंजी खात्यातून भागविण्यात यावा. यासाठी संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई यांनी त्या-त्या संस्थांकडील स्वीय प्रपंजी खात्यातील रक्कम विचारात घेऊन त्याप्रमाणे त्यातून खर्च भागविण्यास मान्यता द्यावी.



७. प्रस्तावांतर्गत खरेदी प्रक्रिया पूर्णतः संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई यांच्या स्तरावर गतीत समितीमार्फत राबविण्यात येईल. खरेदी करण्यात आलेल्या पीपीई किट्सचे वितरण आवश्यकतेनुसार मा.मुख्यसचिव यांच्या निर्देशाप्रमाणे करण्यात यावे.

२. सदर शासन निर्णय वित्त विभाग (व्यय-१३) यांनी दिनांक २२.४.२०२० रोजी दिलेल्या सहमतीनुसार तथा शासनाच्या मान्यतेने निर्गमित करण्यात येत असून त्याची तात्काळ अंमलबजावणी करण्यात यावी.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने,

  
30.8.2020

  
(प्रकाश सुरवसे)

उप सचिव, महाराष्ट्र शासन

प्रत:

१. मा.राज्यपालांचे सचिव, राजभवन, मुंबई.
२. मा. मुख्यमंत्री यांचे प्रधान सचिव, मंत्रालय, मुंबई.
३. मा.उपमुख्यमंत्री यांचे सचिव, मंत्रालय, मुंबई.
४. सर्व मा. मंत्री व मा.राज्यमंत्री, यांचे खासगी सचिव, मंत्रालय, मुंबई.
५. मा. मुख्य सचिव, महाराष्ट्र राज्य, मंत्रालय, मुंबई.
६. मा.प्रधान सचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय, मुंबई.
७. व्यवस्थापकीय संचालक, हाफकिन जीव औषध निर्माण महामंडळ मर्यादित, मुंबई.
८. संचालक, वैद्यकीय शिक्षण व संशोधन, मुंबई.
९. अधिष्ठाता, सर्व शासकीय वैद्यकीय/ दंत महाविद्यालये व रुग्णालये.
१०. महालेखापाल-१/२ (लेखा परीक्षा/ लेखा व अनुज्ञेयता)/ मुंबई/ नागपूर.
११. अधिदान व लेखाधिकारी, मुंबई.
१२. निवासी लेखापरीक्षा अधिकारी, मुंबई.
१३. सर्व संबंधित कोषागार अधिकारी.
१४. निवडनस्ती (प्रशा-२).

## **Addressing Social Stigma Associated with COVID-19**

Public health emergencies during outbreak of communicable diseases may cause fear and anxiety leading to prejudices against people and communities, social isolation and stigma. Such behavior may culminate into increased hostility, chaos and unnecessary social disruptions.

Cases have been reported of people affected with COVID-19 as well as healthcare workers, sanitary workers and police, who are in the frontline for management of the outbreak, facing discrimination on account of heightened fear and misinformation about infection. Even those who have recovered from COVID-19 face such discrimination. Further, certain communities and areas are being labeled purely based on false reports floating in social media and elsewhere.

There is an urgent need to counter such prejudices and to rise as a community that is empowered with health literacy and responds appropriately in the face of this adversity.

### **In this regard, all responsible citizens are advised to understand that:**

- Although COVID-19 is a highly contagious disease which spreads fast and can infect any one of us, we can protect ourselves through social distancing, washing our hands regularly and following sneezing / coughing etiquettes.
- Despite all precautions, if anybody catches the infection, it is not their fault. In situation of distress, the patient and the family need support and cooperation. It must be noted that the condition is curable and most people recover from it.
- Healthcare workers including doctors, nurses, and allied & healthcare professionals are rendering their services tirelessly to provide care and medical / clinical support in this situation of crisis. Sanitary workers and police are also doing selfless service and playing critical roles in addressing the challenge of COVID-19. They all deserve our support, praise and appreciation.

- All those directly involved in the management of COVID-19 are equipped with appropriate protective equipment to keep them safe from the infection.
- Targeting essential services providers and their families will weaken our fight against COVID-19 and can prove grievously detrimental for the entire nation.

**As responsible citizens, we must observe following Do's and Don'ts:**

- Dos**
- Appreciate efforts of people providing essential services and be supportive towards them and their families.
  - Share only the authentic information available on the website of Ministry of Health and Family Welfare, Govt. of India or the World Health Organisation.
  - Cross check any information related to CoVID-19 from reliable sources before forwarding any messages on social media.
  - Share positive stories of those who have recovered from COVID-19.

- Don'ts**
- Never spread names or identity of those affected or under quarantine or their locality on the social media.
  - Avoid spreading fear and panic.
  - Do not target healthcare and sanitary workers or police. They are there to help you.
  - Do not label any community or area for spread of COVID-19.
  - Avoid addressing those under treatment as COVID victims. Address them as "people recovering from COVID".

No. Z.21020/19/2020-TC  
Government of India  
Ministry of Health & Family Welfare  
(Tobacco Control Division)

Nirman Bhawan, New Delhi  
Dated the 10th April, 2020

To,

The Chief Secretaries of all States/UTs

**Subject: COVID 19 and spitting of Smokeless Tobacco in Public - regarding.**

Sir/Madam,

I am directed to refer to the subject mentioned above and to say that Indian Council of Medical Research (ICMR), Department of Health Research, Govt. of India has issued an appeal to the General Public namely "Not to consume and spit Smokeless Tobacco in Public".

2. As per the appeal "*Chewing Smokeless Tobacco products, Paan masala and areca nut (supari) increases the production of saliva followed by a very strong urge to spit. Spitting in public places could enhance the spread of the COVID19 virus*". In view of the increasing danger of COVID-19 pandemic, ICMR has appealed the general public to refrain from consuming the smokeless tobacco products and spitting in public places during the COVID epidemic.

3. The State/UT Governments have necessary authority under the Epidemic Diseases Act,1897, the Disaster Management Act, 2005 and also under various provisions of Indian Penal Code 1860 and Code of Criminal Procedure (CrPc) to deal with Covid-19.

4. In this background, it is requested that necessary preventive measures may be taken under the appropriate law to prohibit the use and spitting of chewing smokeless tobacco products in public.

5. This issues with the approval of the competent authority.

Yours faithfully,

(Pradip Kumar Pal)

Under Secretary to the Government of India

Tel: 011-23063019

1. Principal Secretary/Secretaries (Health) of all States/UTs
2. State Nodal Officers for Tobacco Control of all States/UTs
3. Chief Media Officer, PIB, MOHFW, Nirman Bhavan, New Delhi.

Ministry of Health & Family Welfare  
Directorate General of Health Services  
(EMR Division)

**Advisory against spraying of disinfectant on people for COVID-19 management**

Ministry of Health & Family Welfare has received many queries regarding the efficacy (if any) of use disinfectants such as Sodium hypochlorite spray used over the individuals to disinfect them. The strategy seems to have gained a lot of media attention and is also being reportedly used at local levels in certain districts/local bodies.

**Purpose of the document**

To examine the merit of using disinfectants as spray over human body to disinfect them from COVID-19 and to provide appropriate advisory

**Disinfectants** are chemicals that destroy disease causing pathogens or other harmful microorganisms. It refers to substances applied on inanimate objects owing to their strong chemical properties.

Chemical disinfectants are recommended for cleaning and disinfection only of frequently touched areas/surfaces by those who are suspected or confirmed to have COVID-19. Precautionary measures are to be adopted while using disinfectants for cleaning – like wearing gloves during disinfection.

In view of the above, the following advisory is issued:

- Spraying of individuals or groups is **NOT recommended** under any circumstances. Spraying an individual or group with chemical disinfectants is physically and psychologically harmful.
- Even if a person is potentially exposed with the COVID-19 virus, spraying the external part of the body does not kill the virus that has entered your body. Also there is no scientific evidence to suggest that they are effective even in disinfecting the outer clothing/body in an effective manner.
- Spraying of chlorine on individuals can lead to irritation of eyes and skin and potentially gastrointestinal effects such as nausea and vomiting. Inhalation of sodium hypochlorite can lead to irritation of mucous membranes to the nose, throat, respiratory tract and may also cause bronchospasm.
- Additionally use of such measures may in fact lead to a false sense of disinfection & safety and actually hamper public observance to hand washing and social distancing measures.

## **Advisory for ensuring safe drinking water during lock down and effective management of pandemic caused by Corona Virus**

COVID-19 has taken pandemic proportions in many countries and in view of the seriousness of the matter, Govt of India and State Governments have taken several pre-emptive measures to contain this disease in the country. Frequent washing of hands with frothing soaps is recognized as most efficient and effective measure in the listed preventive measures for controlling the spread of the virus. Thus, there is an urgent need to ensure that safe potable water is available to all citizens particularly in the rural areas where facility of medical sanitizers may not be available.

Public Health Engineering Departments/ Boards/ Nigams of the State Governments need to accord top priority for taking measures to augment supply in areas where water supply may be deficient as of now and special care may be given to vulnerable sections of the society like people residing in relief camps, places of quarantine, hospitals, old age homes, poor strata of society, slums, etc. It will be appropriate to integrate the identified needs of potable water in the micro-plans of the districts being formulated to combat the spread of COVID-19 disease.

Further, wherever chemical treatment for enhancing the safety of potable water is required, appropriate purifying chemicals like Chlorine tablets, bleaching powder, Sodium hypochlorite solution, Alum, etc. as may be needed, should be used. State Governments may assess the requirements of water purifying chemicals and availability of the same. In case the supply of the same is deficient, to meet the immediate requirement, then suitable intervention for their procurement from elsewhere sources may be resorted to. The purifying chemicals are among the essential commodities and therefore it may be ensured that these are part of the running supply chain.

In addition, sufficient field test kits may be made available to the villagers trained in their use and they may be advised to do periodic testing of water supplied and alert all concerned in the event of any contamination.

Arrangements for round the clock vigil may be made to ensure functionality of water supply systems from source to delivery points.

Personal safety measures like masks, sanitisers, etc. may be provided to the officials of PHED, particularly who are managing the operation and maintenance of the water supply systems in the field. Alternate arrangement should be in place to replace the staff managing water supply, in case they get infected.

It is possible that demand during this period may go up and if people have to fetch water from the public stand post, supply hours may be required to be increased to ensure social distancing.

Further, existing grievance redressal mechanism may be strengthened so that any interruption in water supply can be immediately brought to the notice of all the concerned and timely action can be ensured to reinstate the supply.

The principles of social distancing and relevant instructions issued by the Ministry of Home affairs, GoI to combat the COVID -19 pandemic may be complied with, by following the prescribed protocols.

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No.Z-28015/17/2020-Estt.I  
Government of India  
Ministry of Health & Family Welfare  
Department of Health & Family Welfare

Nirman Bhawan, New Delhi  
Dated the 19<sup>th</sup> April, 2020

**OFFICE MEMORANDUM**

Subject: Preventive measures to be taken by Ministries / Departments of Government of India, State/UT Government for containment of COVID-19.

In continuation of the Office Memorandum of even number dated 16<sup>th</sup> April, 2020 drawing attention to Ministry of Home Affairs' consolidated guidelines regarding functioning of offices from 20<sup>th</sup> April, 2020, all officers/officials are advised to take following precautionary measures in order to contain spread of COVID-19:

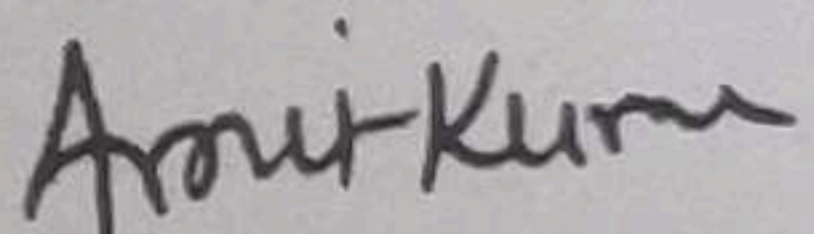
- (i) Must use reusable/cloth face cover
- (ii) Ensure proper cleaning and frequent sanitization of the workplace, particularly of the frequently touched surfaces.
- (iii) Cover your nose and mouth with handkerchief/tissue while sneezing and coughing.
- (iv) Maintain personal hygiene and physical distancing.
- (v) Strict disinfection protocols should be followed in in the building/room as per guidelines.
- (vi) Practice frequent hand washing with soap and water or use alcohol-based hand rub/sanitizers.
- (vii) Seating arrangement in Sections/rooms may be made to ensure adequate distance between officials in the rooms.
- (viii) Gathering especially in canteens must be avoided.
- (ix) Gathering of 5 or more persons at any place in the office should be avoided.
- (x) Discourage, to the maximum extent, entry of visitors in the office complex. Routine issue of visitors/temporary passes has already been suspended. Only Those visitors who have proper permission of the officer, whom they want to meet, should be allowed after being properly screened.
- (xi) Meetings should be done through video conferencing only.
- (xii) Undertake essential correspondence on official email and avoid sending physical files and documents to other offices, to the extent possible.
- (xiii) Facilitate delivery and receipt of dak at the entry point itself of the office building, as far as possible.

Amil

- (xiv) All officials are advised to take care of their own health and look out for symptoms such as fever, respiratory problem and, if feeling unwell, should leave the workplace immediately after informing their reporting officers.
- (xv) Such employees should observe home-quarantine as per the guidelines issued by MoH&FW, Government of India available at the following URL:  
<https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>
- (xvi) The leave sanctioning authorities are advised to sanction leave whenever any request is made for self-quarantine as a precautionary measure.
- (xvii) All employees who are at higher risk i.e. older employees, pregnant employees and employees who have underlying medical conditions should take extra precautions. These employees should not be exposed to any front-line work requiring direct contact with the public.

2. The employees who are residing in notified containment zones are advised to follow the guidelines of the local authorities regarding movement in these zones and should join office only when such conditions are relaxed by the concerned local authorities.

3. All employees are advised to strictly follow the above mentioned precautionary measures.

  
(Amit Kumar)

Under Secretary to Government of India  
Telefax: 23061323

To  
All officers and staff of the Ministry of Health and Family Welfare.

Copy to :

- (i) All Joint Secretaries in the MoH&FW for circulating the same among the autonomous bodies / subordinate offices under them.
- (ii) Director (Admn), Dte.GHS

No.Z.28015/17/2020-Estt.I  
Government of India  
Ministry of Health and Family Welfare  
Department of Health and FW

Nirman Bhawan, New Delhi  
Dated: 16<sup>th</sup> April 2020

**OFFICE MEMORANDUM**

Subject: Consolidated Revised Guidelines on the measures to be taken by Ministries/Department of Government of India, State/UT Governments for containment of COVID-19 – Reg.

Kind attention is invited to the Order No.40-3/2020-DM-I(A) dated 15<sup>th</sup> April 2020 whereby the Ministry of Home Affairs have issued consolidated revised guidelines on the measures to be taken by the Ministries/Department of Government of India, State/UT Governments and State/UT Authorities for containment of COVID-19 in the country.

2 Vide para 3 of the said order, the Ministry of Home Affairs have, inter-alia, allowed select additional permitted activities as enumerated in para 5 to 20 of the said order. As per para 18, all working days will be normal working days in respect of Ministry of Health & FW and its Autonomous/ Subordinate offices. The para 18 (i), is reproduced below :

(i) Defence, Central Armed Police Forces, **Health and Family Welfare**, Disaster management and Early Warning Agencies (IMC, INCOIS, SASE and National Centre of Seismology, CWC), National Informatics Centre (NIC), Food Corporation of India (FCI), NCC, Nehru Yuva Kendras (NYKs) and Customs **to function without any restriction.**

3. All the employees coming to the office must use reusable face cover. Those employees who are residing in notified containment zones are required to follow the guidelines of the concerned State Government regarding movement in these containment zones and join office only when they are allowed to do so.

*Amit Kumar*  
(Amit Kumar)

Under Secretary to the Govt. of India  
Telefax: 23061323

To  
All Officers and staff of the Ministry of Health and Family Welfare

Copy to (i) All Joint Secretaries in the M/o H & FW – for circulating the same among the autonomous/ subordinate offices under them.  
(ii) Director (Admn), Dte. GHS.

## **Enabling Delivery of Essential Health Services during the COVID 19 Outbreak:**

### **Guidance note**

#### ***Background***

The COVID 19 outbreak has placed unprecedented demands on our health system, Our health facilities and workforce are currently inundated by a plethora of activities related to controlling the pandemic. In doing so, there is a risk that essential health services which communities expect from the health system, would be compromised. It is likely that health seeking may be deferred because of social/physical distancing requirements or community reluctance owing to perceptions that health facilities may be infected. *Focusing* on COVID 19 related activities, and *continuing* to provide essential services, is important not only to maintain people's trust in the health system to deliver essential health services<sup>1</sup>, but also to minimize an increase in morbidity and mortality from other health conditions. Analyses from the 2014-2015 Ebola outbreak suggests that the increased number of deaths caused by measles, malaria, HIV/AIDS and tuberculosis attributable to health system failures exceeded deaths from Ebola<sup>2</sup>. Particular attention needs to be paid to the delivery of essential health care for specific population sub-groups, while ensuring the safety of health workers.

**Essential** services for all areas include maternal, new born and child health, prevention and management of communicable diseases, treatment for chronic diseases to avoid complications, and addressing emergencies. Non-Covid services such as health promotion activities, IEC campaigns, meetings of the Village Health Sanitation and Nutrition Committees/Mahila Arogya Samitis, community based screening for chronic conditions, other screening programmes, etc. could be deferred and undertaken after lockdown/restrictions are lifted. These services could be considered as **desirable**.

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<sup>1</sup> <https://www.who.int/publications-detail/covid-19-operational-guidance-for-maintaining-essential-health-services-during-an-outbreak> ; 25<sup>th</sup> Mar. 2020 (World Health Organization)

<sup>2</sup> Elston, J. W. T., Cartwright, C., Ndumbi, P., & Wright, J. (2017). The health impact of the 2014–15 Ebola outbreak. *Public Health*, 143, 60-70.

Parpia, A. S., Ndeffo-Mbah, M. L., Wenzel, N. S., & Galvani, A. P. (2016). Effects of response to 2014–2015 Ebola outbreak on deaths from malaria, HIV/AIDS, and tuberculosis, West Africa. *Emerging infectious diseases*, 22(3), 433.

This note is intended to guide states to deliver essential health services for the duration of the COVID 19 outbreak<sup>3</sup>. The structure of the document is as follows: Section 1 elucidates a set of basic principles categorized by health systems elements, and Section 2: provides guidance on the essential services with details annexed. For some services, detailed guidance notes have been issued to states from the GOI/MOHFW separately and those have been referenced in this document. (Annexure 1). States may refer to these documents as needed.

## ***Section 1: Health system approach to essential services***

### ***1. Reorganization of service delivery***

#### ***1.1 Facility Mapping and Planning***

- States would undertake mapping of all existing health facilities (city/ district/ block-wise) in the public and not for profit and private sectors.
- Identify and designate facilities or separate block within existing facilities to provide COVID -19 related services (Fever clinics, COVID Care Centre (CCC) Dedicated COVID Health Centre (DCHC) and Dedicated COVID Hospital (DCH)) as per guidance issued for appropriate management of suspect/confirmed cases of COVID-19.
- Remaining facilities/ blocks of facilities will continue to provide essential non COVID-19 services. States could also involve not-for profit/private sector in the provision of non COVID essential services, particularly for secondary and tertiary care, where public sector capacity needs to be supplemented. Utilization of not-for profit/private sector facilities would be based on number and spread of COVID 19 positive cases in the area. States could develop a phased engagement with the not for profit and private sector if existing public health facilities are converted into fever clinic/ CCC/ DCHC and there is a shortfall in government health facilities. States already have **PMJAY empanelled hospitals**. It should be ensured that they function to provide normal essential medical services.
- Dedicated first level 24\*7 hospital emergency units, may be set up in suitable CHCs/ SDHs to provide non COVID acute care, including provision of emergency obstetric services.
- Mobile Medical Units could be utilized for delivery of services, especially follow up care for RMNCAH, chronic communicable and non-communicable diseases duly following physical

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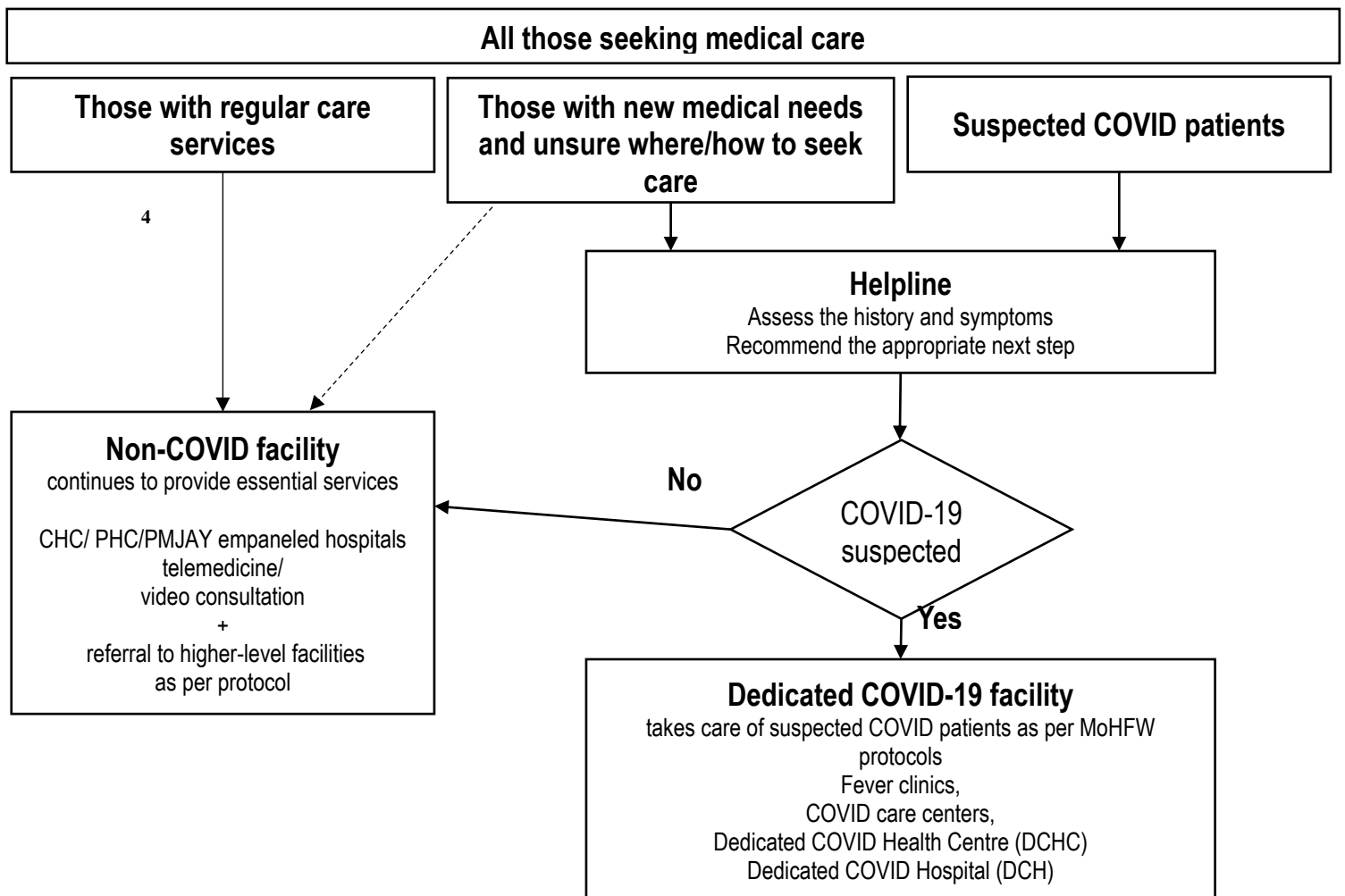
<sup>3</sup> Local orders issued under respective states' epidemic act will take precedence over any guidelines issued under this guidance document.

distance norms and appropriate protection measures for the health workforce after the lockdown.

## 1.2 Delivery of essential services maintaining physical distancing

### 1.2.1 Telehealth-

Suspected COVID patients and other patients requiring ambulatory care, should be encouraged to utilise tele-platforms to determine the need to visit a health facility/ hospital/ fever centre. (as depicted in Figure 1). This will avoid overcrowding of hospitals and prevent transmission of SARS-CoV-2 virus during travel or in health facilities. Other mechanisms to minimize patient provider encounters, include self-monitoring through App, use of helpline, web-applications, video-calls, tele-medicine etc.



<sup>4</sup> States must use/expand existing helplines such as 104 and others.

**This can be enabled through following options –**

- Patients needing services for minor ailments would be encouraged to contact the MPW (M or F) via telephone, who would assess the situation and enable tele-consultation with a Medical Officer.
- All SHC/PHCs, including HWCs particularly in affected areas may be linked with a Telemedicine Hub via telephone/ video call to facilitate consultation between the patient and the provider, which will be guided by Telemedicine Guidelines
- Private-for-profit and not-for-profit providers can also be engaged to provide these services particularly where a tele-medicine hub in government facilities does not exist. In such cases, the MoHFW Telemedicine guidelines on prescription generation will apply. Such providers should prescribe generic medicines.

The investigations and medicines prescribed (particularly from within the EML and EDL of the state) should be provided free of cost to all the patients seeking government facilitated care.

**1.2.2 Alternate models for outreach services**

- Services that are traditionally delivered through outreach such as immunization, antenatal care, screening for common NCDs/communicable diseases etc. would need to be re-organized during the period of lockdown/restriction. Where feasible, those due for any of these services, would be asked to come to peripheral facilities (SHCs/ PHCs/UPHCs, including HWCs/ Urban Health Posts) on particular dates/times, decided at local levels and informed telephonically or through ASHAs. This can be done by allocating fixed day services for each village / ward area, ensuring adherence to physical distancing and other IP protocols.
- More number of immunization sessions/VHNDs/UHNDs/screening sessions could be organized at the village/ward level after the lockdown. ASHAs must create awareness in the community about change in schedule and mobilize beneficiaries in small batches of 4-5 per session to avoid crowding and ensure physical distancing norms.
- To undertake such multiple sessions, retired nurses, ANMs, LHVs could be engaged at local level through additional funding provided through NHM.

### 1.2.3 Home Visits

- Home-visits by ASHAs should be optimized to provide follow up care to all beneficiaries in a particular household/hamlet/mohalla during one visit and avoid making repetitive visits to the same house/mohalla. This may include beneficiaries like high risk pregnant women or newborn, elderly and disabled individuals etc.
- Primary healthcare team at SHC, including HWC must be encouraged to follow up with the specific sub-population groups such as- Pregnant women with EDD in current month, all High-risk pregnant (HRP) women, Newborns, Children due for immunization, Children with SAM (severe or acute malnourishment), patients on treatment for TB, leprosy, HIV and viral hepatitis, patients with hypertension, diabetes, COPD, mental health, etc, patients undergoing planned procedures (dialysis, cancer treatment and scheduled blood transfusions, etc.)
- In case of any complications, SHC team should first contact the PHC – MO via phone or the tele-medicine or helpline, as appropriate and seek guidance about referring the patient. ***States should ensure that the communication costs paid to FLW continue to be paid.***
- During home visits, ASHAs should be alert to the possibility of increased gender based violence and inform MO and support the victim to access appropriate health and social services.

### 1.3 Triage

Despite encouraging patients with COVID like symptoms to use channels of telehealth, many individuals are likely to show up at those facilities providing non COVID essential services to seek care. Triage is thus important in all facilities. At SHC and PHC including HWC, referral would be through helplines to higher level facilities. Entry point screening during triaging would help minimize contact between probable COVID and non COVID cases. If possible temporary structures outside the building could be set up to facilitate triaging.

1. All the healthcare facilities to establish triaging mechanisms for beneficiaries/patients visiting the facility.
2. All frontline health workers should be trained in protocols for COVID screening, isolation and triage to be followed for anyone arriving with acute onset of cough, fever and breathlessness within last 14 days. States to be aware that protocols are



evolving and therefore to use the most updated provided on websites of MoHFW/ICMR/ NCDC

3. All service providers at peripheral facilities and frontline workers need to be vigilant and to report rise in cases of not only severe acute respiratory infections (SARIs), including pneumonia and influenza-like illnesses (ILIs) but also all fever cases, including dengue, TB, malaria, JE, etc.
4. MOHFW Guidelines for fever clinics also suggest that these be established at CHC/UHC or helplines to which patients could be referred from peripheral facilities.
5. All frontline health care workers in these facilities to be trained in IPC and provided appropriate PPE for their protection as per the guidance. The PPE could be prioritised in areas/ clusters where suspected COVID patients are likely to report.

## ***2. Human Resources-***

### ***2.1 HR deployment and capacity building***

Challenges of shortage, skewed distribution, and misalignment between health worker competencies and current/ likely population health needs are likely to be faced, in meeting the surge needs for COVID 19. Re-assignment of staff to treat COVID-19 patients and loss of staff who may be quarantined or infected is likely to pose further challenges. These predictable challenges could be offset through a combination of strategies. Guidance issued by MoHFW provides several strategies to augment health workforce availability. Some key strategies include:

- Expedite filling up existing vacancies
- Redeploy staff from non-affected areas and facilities;
- Utilize fit retirees for non-COVID services roles;
- Mobilise resources from Military, Railways, PSUs, ESIC etc.
- Hire/ requisition non-governmental, and private sector health workforce capacity, Suitable draft orders may be kept ready for temporary engagement, without creating any long term liability. Such hiring/ requisitioning can be beyond the sanctioned regular/ contractual strength

- Web portal can be created for empanelling Human Resources to provide essential non COVID-19 related services. These can include – Junior Residents, MD residents, Retired professionals and private providers etc.
- Where appropriate, consider establishing pathways for accelerated training of medical, nursing, and other key trainee groups, and ensuring supportive supervision;
- Identify high-impact clinical interventions for which rapid training would facilitate safe task sharing,
- Utilize web-based platforms to provide key trainings (e.g., on management of time-sensitive conditions and common undifferentiated presentations in frontline care),
- Utilise AYUSH doctors in delivery of non COVID essential services.
- Train and repurpose government and other workers from non-health sectors to support functions in health facilities (administration, maintenance, catering/ diets, logistics etc.)
- Increase home-based service support by appropriately trained, remunerated and supplied community health workers/ COVID volunteers
- The Empowered Group on human resources set up at the national level has also worked out various cadres of personnel and volunteers across sectors and departments that can also be involved in not only COVID related work but also for ensuring maintenance of other essential medical services. The respective roles of these cadres have also been mapped and a portal with data base of such cadres has been created. This data base and mapping will also be shared with the States to help them mobilise these cadres and volunteers for ensuring essential medical services are continued. Training programmes for these cadres and volunteers have also been worked out and are available on the iGoT platform.

## ***2.2 Ensuring staff safety and security measures:***

- All health care workers including frontline workers are to be trained in standard protocols for Infection Prevention Control and should adhere to advisories for infection prevention, personal protection and physical distancing norms, for facility level care, outreach visits or home-based care. Adequate and appropriate personal protective

equipment (masks, gloves and other equipment) should be provided to health workers so that they can adhere to the advisories and protect themselves at all facilities. This should also apply to health care workers in those private and not-for profit sector facilities that have been requisitioned/ mobilised to provide services.

- Handwashing corners should be available and functional at all facilities.
- Dedicated helplines including existing helplines for providing psycho-social support for health care workers may be created by using suitable professionals including psychiatry department residents.
- Timely payment should be ensured for ASHAs, and service providers including those requisitioned from outside of government sector.
- If necessary, additional incentives (financial and non-financial – e.g. accommodation particularly for those mobilised from other areas, certificate of appreciation) could be considered.
- Transport and stay arrangements during lockdown period/restrictions should be facilitated.

### ***3. Ensuring supplies of medicines and diagnostics***

- The DVDMS, BMMP portals and similar portals should be regularly updated and monitored to ensure that there are no stock outs and essential medicines, and essential diagnostics services and functional medical devices are available.
- Adequate funds may be made available, even over and above the stipulated untied funds to effectively respond to the needs and provide free essential medicines and diagnostics in case of higher caseload.
- States may consider approving the rates of medicines and equipment that have been discovered by neighbouring states following due process. The GOI will facilitate uploading the price lists of different medicines and formulations at the website to facilitate procurements at best possible rates.
- Patients on treatment for chronic diseases, both communicable and non-communicable, would be provided upto three months medicine supplies at a time as prescribed by medical officers. The medicines may be delivered at home through frontline workers/volunteers during the period of the restricted movement, provided

patients are stable. Patients may be advised to contact MPW/CHO where available or PHC-MO in case of any complications.

- In order to ensure uninterrupted supply of medicines, consumables and rapid diagnostic kits, alternate models may be explored. One option could be hiring of local youth by the district / block nodal officers as runners to pick up medicines from district drug ware-houses, CHCs or PHCs (as per the local context) and supply them to SHCs/ASHAs. The movement of such individuals during the period of restricted movement should be facilitated through ID cards and appropriate intimation to local authorities so that their movement between facilities is not hampered. Appropriate protective equipment (masks etc.) may be provided to runners.

#### ***4. Programme Management***

- The state should establish dedicated teams within each state and each district to ensure the continuity of essential services and COVID 19 preparedness and response. These teams will assess and monitor the delivery of essential services, identify gaps and potential needs to re-organise the referral pathways. The teams should work in close coordination with other teams engaged for COVID -19 preparedness and response for planning and optimal use of existing resources to ensure that COVID -19 related response and essential services (non COVID -19) services are effectively delivered. The teams would jointly work on reallocation of HR and reorganization of service delivery.

#### ***5. Finance***

- Ensure that facilities have sufficient funding to continue the provision of essential services. Additional funds in the form of increased allocation of untied funds based on facility caseloads can be provided. Managers of public facilities should receive greater authority to use funds, balancing the increased flexibility with transparent reporting requirements.
- The additional funds made available should be utilised to operationalise the above guidance involving strengthening of the health systems and providing financial

protection to the patients particularly for the essential services and COVID related testing, treatment and management.

- Ensure that existing entitlements related to essential health services as defined in this note are provided free of cost to those seeking care in public health facilities. Beneficiaries should be fully aware of their entitlements, so that they do not delay the process of seeking care for fear of financial hardship.

## **6. Accountability**

**6.1** Grievance redressal mechanisms for denial of entitlements for essential non-COVID and COVID-19-related services should be functional through existing channels in states with appropriate sensitization of callers.

**6.2** Routine disease surveillance, service delivery monitoring and reporting according to SHC/PHC requirements should continue uninterrupted to maintain accountability and continuously inform policy, local planning ,and decision-making.

### **Section 2: Essential Non-COVID services:**

All states should identify essential services that will be prioritized in their efforts to maintain continuity of service delivery. High-priority services include:

- Essential prevention for communicable diseases, particularly vaccination;
- Services related to reproductive health, including care during pregnancy and childbirth;
- Care of vulnerable populations, such as young infants and older adults;
- Provision of medications and supplies for the ongoing management of chronic diseases, including mental health conditions;
- Continuity of critical inpatient therapies;
- Management of emergency health conditions and common acute presentations that require time-sensitive intervention;
- Auxiliary services, such as basic diagnostic imaging, laboratory services, and blood bank services

The suggestive list of high priority essential services is listed below.

All PHC-MOs should ensure that frontline workers of SHC/HWC maintain lists of key sub-population groups in need of essential services, such as: pregnant women, recently delivered, infants and children under five, those on treatment for chronic diseases, requiring treatment for dialysis, cancer, blood transfusions, and other special needs. She/He should monitor regular follow up by ASHA/ANM/CHO of all such categories and ensure essential services as appropriate during the period of the lockdown/restriction.

## ***I. Reproductive, Maternal, New Born, Child and Adolescent Health services***

### **1. Ante natal services**

#### ***a. Routine Antenatal Care services***

- Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) and Village Health, Sanitation and Nutrition Day (VHSND) activities, which involve large gathering of beneficiaries could be suspended in view of restricted movements and the need for physical distancing.
- However, ANC services to be provided on walk in basis as per standard protocols at the SHC level following physical distancing norms.
- Ensure availability of TD/ IFA/ Calcium during ANC period.

#### ***b. High-risk pregnancy (HRP) tracking and follow up***

- ANMs and ASHAs to list and follow up HRPs to ensure early detection of complications, referral and follow up.
- ANCs during the last trimester should be prioritized. Telephonic contact to be made by ASHAs / ANMs to HRPs during last trimester to ascertain status and home based follow up to be provided if necessary. (ASHAs / ANMs to follow all precautions while visiting the household).

### **1. Intrapartum Services**

- *Ensuring safe institutional delivery-*

- Maintain due list of all pregnant women with Expected Date of Delivery (EDD) up to next three months (last trimester) at SHC level for active follow up. The district nodal officer should follow up with all peripheral centres to ensure that such lists are maintained.
- Ensure availability of Misoprostol and disposable delivery kits for clean deliveries at home with ASHAs if needed but encourage appropriate referral as per MoHFW guidelines for institutional delivery.
- Each pregnant woman to be linked with the appropriate health facility for delivery (as per antenatal status and doctor's advice) by the ANM / CHO or PHC MO.
- All districts should identify and communicate to peripheral facilities a list of functional and staffed CeMONC centres where HRP and women who develop complications are to be shifted.
- Availability of dedicated ambulances for COVID and non-COVID patients must be ensured at the district/ block level. Non-COVID patients must be transferred in non-COVID ambulances only.
- Ensure a BEmONC/CEmONC provider at appropriate facilities (Non-FRU and FRU respectively) by redeployment if necessary.
- All Blood banks/Blood Storage Units need to be kept functional.

## **2. Postpartum and new-born care**

- Ensure availability of IFA and calcium tablets during PNC period.
- In case of home deliveries, immediate visits to be made by ANM or CHO (where available) to assess the health of the woman and new-born. Facilitate timely referral in case of any complication using the dedicated non-COVID ambulances (102/Janani Express).

## **3. Family Planning Services and Safe Abortion services**

- Contraceptives (Condoms/ Oral Contraceptive Pills MALA/Chhaya, Injectable Contraceptive Antara /Emergency Contraceptives) to be provided to eligible couples / others needing them through all Public Health Facilities, including ASHA/SHC and PHC for easier access.
- Information about delayed availability of IUCDs and sterilization services until routine services resume should be displayed at all health facilities. Beneficiaries must be

counselled for adoption of and provided with temporary methods of other contraception methods like Condoms / OCP/ injectable etc. in the interim period.

- Medical and surgical abortion services to be ensured at appropriate facility level, with appropriate infection prevention measures including counselling for post abortion care and provision of contraception.

#### **4. Child Health**

##### ***a. Immunization services (including for pregnant women)***

- Birth doses for institutional deliveries to continue uninterrupted as these beneficiaries are already in the health facilities.
- Immunization services are to be provided at facilities wherever feasible, for walk-in beneficiaries.
- Every opportunity is to be utilized for vaccinating beneficiaries if they have already reported for at facilities. Subsequent vaccination could be provided at SHC or additional outreach sessions.
- Where essential services are operational and restrictions allow, fixed site vaccination and VPD surveillance should be implemented while maintaining physical distancing measures and appropriate infection control precautions.
- Delivery of immunization services though outreach must be assessed in local context and should be undertaken only if safety of health workers and community is not compromised.
- Catch-up vaccination should be conducted as soon as the restriction is eased. This will require tracking and follow-up with individuals who missed vaccinations.
- Mass vaccinations should not be undertaken until restriction is lifted.

##### ***b. New-born care and childhood illness management***

- Home-based new-born care visits are to be continued as per schedule by ASHAs. However, ASHAs to follow all precautions in case home visit is required to examine new-borns. Adequate and appropriate COVID protective equipment should be provided to ASHAs to protect themselves and to prevent infecting others. Breast feeding practices to be promoted with early initiation of breast feeding and Kangaroo Mother Care as per MAA/KMC guidelines.
- Admission to SNCU and NBSU to be continued as per existing guidelines.



- Instead of undertaking visits for Home Based Young Child Care, during the period of the lockdown/restriction, ASHAs may contact the family telephonically to assess health status of the child, especially for cough, cold, fever, breathlessness and diarrhoea. In case of any complication in new-born or young child, ASHAs to consult PHC MO for appropriate referral and management advice.
- In case of any childhood illnesses, ASHA/ANM should consult with PHC MO telephonically for appropriate referral and management advice
- Ensure adequate supply of ORS, Cotrimoxazole, Gentamycin, and Amoxicillin at the SHC, including HWCs.
- In case of suspected COVID-19 infection in children refer to nearest COVID-19 management facility and arrange for referral transport.

**c. Management of SAM children**

- During period of restriction, new admissions may be allowed only in Nutritional Rehabilitation Centres (NRC), where adequate supervisory and medical staff are available. SAM children with medical complications to be referred to nearby health facility (PHC/CHC) for medical management. For secondary care, the PHC/CHC – Medical Officer may refer the sick SAM children to the DH/Medical college.
- Previously admitted children who are stable and entered rehabilitation phase may be discharged early with appropriate feeding advice, and provided oral antibiotics, supplements except Potassium Chloride (Potklor) and Magnesium.
- For children who cannot be discharged, appropriate infection protocols to be maintained.
- List of SAM children (discharged from NRC) to be shared with Anganwadi centres for prioritizing home-based delivery of Take Home Ration.
- Follow up to be done telephonically and only children with medical complications to be called for physical follow up.

**d. Adolescent health:**

- Three months' supply of weekly iron folic acid supplementation tablets may be dispensed by ASHAs /AWWs for community distribution to adolescent boys and girls.

## **II. Communicable Diseases**

### **1. *Vector Borne Diseases***

- Activities such as distribution of Insecticide Treated Nets (ITN) and indoor residual spraying (IRS) in targeted areas should be resumed after the lockdown. IRS teams should ensure supply of sanitizers/soap and water at all operations sites, enable health checks for all team members, and use personal protective equipment.
- Care should be taken to watch for admissions in dengue cases and other vector borne diseases undertake antilarval and anti-fogging measure after the lockdown.

### **2. *Tuberculosis***

- List of all TB patients to be maintained at the PHC/ SHC level.
- Delivery of DOTS to TB patients to be ensured, closer to the community, with minimum or no travel – can be done through ASHAs/ ANM/ volunteers
- Routine screening for presumptive TB cases to continue at primary level facilities with diagnostic services to be provided uninterrupted at designated facilities as per advisories issued by National Tuberculosis Elimination Programme.

### **3. *Leprosy***

- Ensure that all Leprosy patients are provided through FLWs, including ASHAs with uninterrupted drug supplies, to ensure continuity of treatment.

### **4. *Viral Hepatitis:***

- For patients on antiviral treatment for hepatitis at Model Treatment Centres and Treatment Centres to dispense medicines for 3 months during the period of restrictions.
- A list of patients undergoing treatment for Hepatitis C to be submitted to the district administration so that patients/attendants can collect the medicines during the time restrictions are in place or duration of the outbreak. States could alternatively make medicines available to the patients, through ASHAs, MPHWs, volunteers or courier/ postal services.

### **5. *HIV***

- The National AIDS Control Programme (NACP) has already issued a guidance note for frontline service providers and programme managers engaged in HIV/AIDS response, reinforcing adherence to national guidelines on infection prevention and control
- ART centres are to be provided with sanitizers, masks and other protection Equipment for PLHIV and healthcare staff. Until the lockdown has been lifted, all large events have been deferred.
- States to ensure uninterrupted supply of Anti-retroviral drugs to PLHIV, through decentralized drug dispensation, online counseling, telemedicine guidance, information, education and communication (IEC) material through social media apps, etc.
- Three month long multi-month dispensation could be provided through Anti-retroviral treatment (ART) center, Link ART center and facility-integrated ART center.
- States to enable peer educators (PEs) and out-reach workers (ORWs) under NACP to provide multi-week (2-3 week) dispensation of commodities such as condom, needle and syringe, etc. to HRGs during the period of lockdown/restrictions.
- Strategies like community dispensation of commodities (through Care and Support Centers, home delivery through out-reach workers, volunteers, PLHIV networks) and family dispensation, could also be allowed.
- In case of all PLHIV coming to ART centers, triage of symptomatic PLHIV (with fever/cough/shortness of breath/other respiratory symptoms) should be done be prioritized while maintaining appropriate physical distancing and other protective measures.
- For patients stuck in other states/districts due to lockdown, the ART centres closest to place of stay could be authorised to dispense ARV drugs, to ensure uninterrupted treatment.

### **III. *Non-Communicable Diseases***

1. **Hypertension, Diabetes and other NCDs like COPDs-** All known/ diagnosed patients of Hypertension, Diabetes and COPD to receive regular supply of medicines for upto three months through ASHAs or SHCs on prescription.
2. **Dialysis and Cancer Treatment services** – Ensure uninterrupted availability of dialysis, and cancer treatment services. Health Department may issue directives to the district administration allowing easy movement of these patients to access care.
3. In case of patients, who cannot afford private vehicles, RBSK vehicles can be used for facilitating transport of patients. This can be coordinated by the PHC team, who can prepare list of such patients and work with District hospitals to organize appointments via telephone for next two months.
4. **Care for elderly/ disabled and palliative care patients** – List of patients/ individuals who need extended support to be maintained at the SHC level for regular follow up. ANMs or CHOs to undertake two visits per month to such households during the period of the outbreak, to assess for onset of complications and to monitor treatment adherence. ASHAs to maintain telephonic contact with these patients and their families.
5. **Blood disorders**
  - a. Services for patients with blood disorders- thalassemia, sickle cell diseases, and haemophilia need to be ensured.
  - b. Blood transfusion needs to take place at regular intervals and iron chelation should be continued, with ferritin level and CBC being checked at that time only. The requisite units required for transfusion must be communicated to the blood bank in advance (preferably three days), and availability of blood verified.
  - c. Request for scheduled patient transfusions should be sent early, to avoid long waiting periods. Thalassemia and sickle cell disease patients could enter their requirement of blood in e-raktkosh, specifying a particular blood unit and particular hospital blood bank.
  - d. So far as possible, two or more (depending upon the load) government health facilities, should be designated for blood disorder patients to receive services. These facilities should

not be COVID 19 dedicated hospitals, given the immune suppressed status of these patients.

- e. Patients requiring blood transfusion or (Anti haemophilic factor) infusion should be advised to also carry their identity cards and the hospital approval, outpatient cards to facilitate easy movement. The hospitals are requested to issues passes for these patients as well.

#### **IV. Emergency and Critical care Services**

1. Dedicated 108 / ALS ambulance in every district for management of emergencies pertaining to cardiac / trauma / burn / medical and surgical emergencies etc.
2. Emergency (medical, surgical and trauma) and critical care services including ICU/ HDU; SNCU/ NBSU; BEmONC/CEmONC; Burn wards and Blood transfusion services – Regular functioning to be maintained with adequate HR and equipment as per protocols and availability of resources at the facility.
3. Services to victims of sexual and physical violence should be ensured as per protocols. Information about support services under social welfare departments, NGOs, One stop crisis centres and helplines should be provided to the victim for long term support.

## Annexure 1:

1. Guidance document on appropriate management of suspect/confirmed cases of COVID-19, EMR Division, Director general of Health Services, MOHFW; accessed from <https://www.mohfw.gov.in/pdf/FinalGuidanceonMangaementofCovidcasesversion2.pdf>
2. Role of Frontline workers in Prevention and Management of CORONA Virus <https://www.mohfw.gov.in/pdf/PreventionandManagementofCOVID19FLWEnglish.pdf>
3. SOP for reallocation of residents/ PG students and nursing students as part of hospital management of COVID, MoHFW accessed from <https://www.mohfw.gov.in/pdf/COVID19SOPfordoctorsandnurses.pdf>
4. Telemedicine Practice Guidelines, MoHFW, accessed from <https://www.mohfw.gov.in/pdf/Telemedicine.pdf>
5. Revised Strategy of COVID19 testing in India (Version 3, dated 20/03/2020), Department of Health Research, ICMR, accessed from <https://www.mohfw.gov.in/pdf/ICMRrevisedtestingstrategyforCOVID.pdf>
6. Guidelines for rational use of Personal Protective Equipment, Directorate General of Health Services, MoHFW, 24<sup>th</sup> March 2019; accessed from <https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>
7. Advisory issued by Ministry of Rural Development to the State Rural Livelihood Missions on actions to be taken to address the COVID-19 outbreak , accessed from <https://www.mohfw.gov.in/pdf/advisoryMORD.pdf>
8. National Guidance to Blood Transfusion Services In India in light of COVID 19, MOHFW, accessed from <https://www.mohfw.gov.in/pdf/NBTCTGUIDANCEFORCOVID19.pdf>
9. DO letter from DDG(TB) on TB related services under NTEP during countrywide lockdown due to Covid19, Central TB Division, MoHFW; accessed from <https://tbcindia.gov.in/WriteReadData/26032020DONTPEPAdvisory.pdf>
10. Guidelines for states regarding administration of Anti TB drugs to the patient during COVID outbreak, Central TB Division, MoHFW; accessed from <https://tbcindia.gov.in/WriteReadData/765980432COVIDOutbreakLetterToStates.pdf>



**Government of India**  
**Ministry of Health & Family Welfare**

**Guidelines for Home Isolation of very mild/pre-symptomatic COVID-19 cases**

**1. Scope**

The present guidelines are in addition to guidelines on appropriate management of suspect/confirmed case of COVID-19 issued by MoHFW on 7<sup>th</sup> April, 2020. All suspected (awaiting test results) and confirmed cases of COVID-19 disease are currently being isolated and managed in a hospital setting with the intent to break the chain of transmission.

As per existing guidelines, during the containment phase the patients should be clinically assigned as very mild/mild, moderate or severe and accordingly admitted to (i) COVID Care Center, (ii) Dedicated COVID Health Center or (iii) Dedicated COVID Hospital respectively. However, very mild/pre-symptomatic patients having the requisite facility at his/her residence for self-isolation will have the option for home isolation.

**2. Eligibility for home isolation**

- i. The person should be clinically assigned as a very mild case/ pre-symptomatic case by the treating medical officer.
- ii. Such cases should have the requisite facility at their residence for self-isolation and also for quarantining the family contacts.
- iii. A care giver should be available to provide care on 24 x7 basis. A communication link between the caregiver and hospital is a prerequisite for the entire duration of home isolation.
- iv. The care giver and all close contacts of such cases should take Hydroxychloroquine prophylaxis as per protocol and as prescribed by the treating medical officer.
- v. Download Arogya Setu App on mobile (available at: <https://www.mygov.in/aarogya-setu-app/>) and it should remain active at all times (through Bluetooth and Wi-Fi)
- vi. The patient shall agree to monitor his health and regularly inform his health status to the District Surveillance Officer for further follow up by the surveillance teams.
- vii. The patient will fill in an undertaking on self-isolation (**Annexure I**) and shall follow home quarantine guidelines. Such individual shall be eligible for home isolation.
- viii. In addition to the guidelines on home-quarantine available at: <https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>, the required instructions for the care giver and the patient as in Annexure II shall be also followed.

**3. When to seek medical attention**

Patient / Care giver will keep monitoring their health. Immediate medical attention must be sought if serious signs or symptoms develop. These could include

- (i) Difficulty in breathing,
- (ii) Persistent pain/pressure in the chest,
- (iii) Mental confusion or inability to arouse,
- (iv) Developing bluish discolorations of lips/face and
- (v) As advised by treating medical officer

**4. When to discontinue home isolation**

Patients under home isolation will end home isolation if symptoms are clinically resolved and the surveillance medical officer certifies him to be free of infection after laboratory testing



**Undertaking on self-isolation**

I ..... S/W of ....., resident of ..... being diagnosed as a confirmed/suspect case of COVID-19, do hereby voluntarily undertake to maintain strict self-isolation at all times for the prescribed period. During this period I shall monitor my health and those around me and interact with the assigned surveillance team/with the call center (1075), in case I suffer from any deteriorating symptoms or any of my close family contacts develops any symptoms consistent with COVID-19.

I have been explained in detail about the precautions that I need to follow while I am under self-isolation.

I am liable to be acted on under the prescribed law for any non-adherence to self-isolation protocol.

Signature\_\_\_\_\_

Date\_\_\_\_\_

Contact Number \_\_\_\_\_

**Instructions for care-givers**

- **Mask:** The caregiver should wear a triple layer medical mask appropriately when in the same room with the ill person. Front portion of the mask should not be touched or handled during use. If the mask gets wet or dirty with secretions, it must be changed immediately. Discard the mask after use and perform hand hygiene after disposal of the mask.
- He/she should avoid touching own face, nose or mouth.
- **Hand hygiene** must be ensured following contact with ill person or his immediate environment.
- Hand hygiene should also be practiced before and after preparing food, before eating, after using the toilet, and whenever hands look dirty. Use soap and water for hand washing at least for 40 seconds. Alcohol-based hand rub can be used, if hands are not visibly soiled.
- After using soap and water, use of disposable paper towels to dry hands is desirable. If not available, use dedicated clean cloth towels and replace them when they become wet.
- **Exposure to patient:** Avoid direct contact with body fluids of the patient, particularly oral or respiratory secretions. Use disposable gloves while handling the patient. Perform hand hygiene before and after removing gloves.
- Avoid exposure to potentially contaminated items in his immediate environment (e.g. avoid sharing cigarettes, eating utensils, dishes, drinks, used towels or bed linen).
- Food must be provided to the patient in his room
- Utensils and dishes used by the patient should be cleaned with soap/detergent and water wearing gloves. The utensils and dishes may be re-used. Clean hands after taking off gloves or handling used items.
- **Use triple layer medical mask and disposable gloves** while cleaning or handling surfaces, clothing or linen used by the patient. Perform hand hygiene before and after removing gloves.
- The care giver will make sure that the patient follows the prescribed treatment.
- The care giver and all close contact will self-monitor their health with daily temperature monitoring and report promptly if they develop any symptom suggestive of COVID-19 (fever/cough/difficulty in breathing)

**Instructions for the patient**

- Patient should at all times use triple layer medical mask. Discard mask after 8 hours of use or earlier if they become wet or visibly soiled.
- Mask should be discarded only after disinfecting it with 1% Sodium Hypo-chlorite.
- Patient must stay in the identified room and away from other people in home, especially elderlies and those with co-morbid conditions like hypertension, cardiovascular disease, renal disease etc.
- Patient must take rest and drink lot of fluids to maintain adequate hydration
- Follow respiratory etiquettes all the time.
- Hands must be washed often with soap and water for at least 40 seconds or clean with alcohol based sanitizer.
- Don't share personal items with other people.
- Clean surfaces in the room that are touched often (tabletops, door knobs, handles, etc) with 1% hypochlorite solution.
- The patient must strictly follow the physician's instructions and medication advice.
- The patient will self-monitor his/her health with daily temperature monitoring and report promptly if develops any deterioration of symptom as detailed below.

# Guidelines for Home based care of 2019-nCoV Novel Corona Virus (2019-nCoV)


Any person(s) suggestive of 2019-nCoV, should be confined at home for a period of 14 days and avoid close contact with public and other members in the family.

## Guiding Principles for home care

1. Be informed about the illness.
2. Stay home, preferably isolate himself / herself in a separate & well-ventilated room. Avoid common areas frequented by other members of the family.
3. Avoid close contact with others. If inevitable, always maintain at-least two metres distance.
4. Avoid having visitors.
5. Avoid frequent touching of face
6. Avoid hand shaking and wash hands frequently with soap and water. In case of non-availability of soap and water, commercially available hand rubs can be used
7. Take plenty of fluids.
8. Follow cough etiquettes -
  - Cover mouth and nose with a tissue/ handkerchief when coughing or sneezing; In case tissue/handkerchief is not available cough/ sneeze onto your upper arm or shoulder; coughing/ sneezing directly onto hands should not be done.
  - Turn away from others when coughing or sneezing
  - Do not spit/blow nose here and there, use a water filled receptacle for collecting sputum, thereby minimizing aerosol generation.

**Monitor your health for appearance of symptoms like fever, cough and/or breathing difficulty. If you develop any of these symptoms Please do contact the nearest Government Health Facility.**

**For any further information Please contact District Surveillance Office.**



It is also important to safeguard your mental health, especially during times of physical distancing

Older people, and people with pre-existing conditions (such as heart diseases, diabetes, respiratory conditions) appear to be more susceptible to becoming severely ill with the virus.



## Information note

COVID-19 and NCDs



COVID-19

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

NCDs and mental health

[www.who.int/ncds](http://www.who.int/ncds)  
[www.who.int/mental\\_health](http://www.who.int/mental_health)

# COVID-19 and NCDs

## For people living with or affected by non-communicable diseases:

- People of all ages can be infected by the new coronavirus (COVID-19).
- The risk of becoming severely ill with the virus appears to increase if you are 60+.
- People with pre-existing non-communicable diseases (NCDs) also appear to be more vulnerable to becoming severely ill with the virus. These NCDs include:
  - Cardiovascular disease (e.g. hypertension, persons who have had, or are at risk for, a heart attack or stroke)
  - Chronic respiratory disease (e.g. COPD)
  - Diabetes
  - Cancer.

## Coronavirus disease (COVID-19) technical guidance: Patient management\*

- **Understand the patient's co-morbid condition(s) to tailor the management of critical illness and appreciate the prognosis**
- **Communicate early with patient and family**

During intensive care management of COVID-19, determine which medications should be continued and which should be stopped temporarily. Communicate proactively with patients and families and provide support and prognostic information. Understand the patient's values and preferences regarding life-sustaining interventions.

\* See [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)

## Risk factors and conditions that make people more vulnerable to becoming severely ill with COVID-19:

- Smokers are likely to be more vulnerable to COVID-19 as the act of smoking means that fingers (and possibly contaminated cigarettes) are in contact with lips which increases the possibility of transmission of virus from hand to mouth. Smokers may also already have lung disease or reduced lung capacity which would greatly increase risk of serious illness.
- Smoking products such as water pipes often involve the sharing of mouth pieces and hoses, which could facilitate the transmission of COVID-19 in communal and social settings.
- Conditions that increases oxygen needs or reduces the ability of the body to use it properly will put patients at higher risk of the consequences of bilateral viral pneumonia.

A **healthy lifestyle** will make all bodily functions work better, including immunity. Eating healthy diets, with plenty of fruit and vegetables, keeping physically active, quitting smoking, limiting or avoiding alcohol intake, and getting enough sleep are key components of a healthy lifestyle.

## Tips for people living with or affected by NCDs:

1. Continue to take your medication and follow medical advice
2. Secure a one month supply of your medication or longer if possible
3. Keep a distance of at least one metre from people with a cough, cold or flu
4. Wash your hands often with soap and water
5. Quit smoking and avoid using coping strategies involving alcohol or drugs
6. Safeguard your mental health

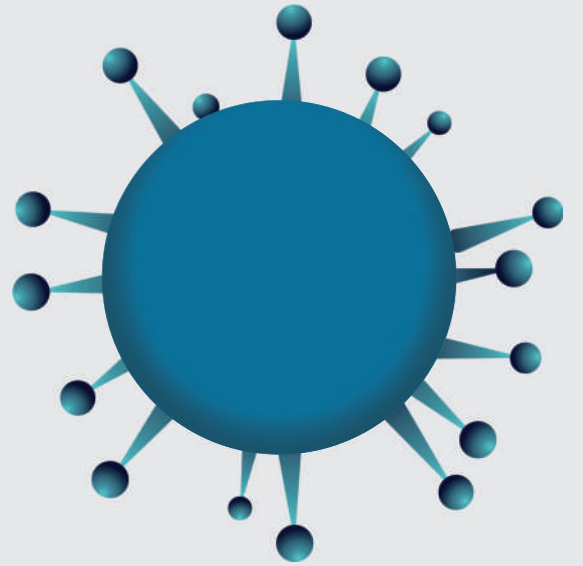


सार्वजनिक आरोग्य विभाग,  
महाराष्ट्र शासन

+CIFRC

कोविड-१९

संबंधित सामाजिक पूर्वग्रह  
(Social Stigma)





# कोविड - १९ शी संबंधित सामाजिक पूर्वग्रह (Social Stigma).

## सामाजिक पूर्वग्रह समजून घेण्यासाठी व दूर करण्यासाठी काही मार्गदर्शक तत्त्वे -



**लक्षित समुदाय/गट** - नवीन कोरोना विषाणू (कोविड-१९) संबंधित काम करणारी सरकारी संस्थाने, माध्यमे आणि स्थानिक संस्था.

### सामाजिक पूर्वग्रह म्हणजे काय?

ज्या व्यक्ती/ गट/ समूहामध्ये एखादा विशिष्ट आजार आढळतो किंवा त्याची लक्षणे दिसून येतात त्या व्यक्ती/ गट/ समूहाविषयी नकारात्मक दृष्टीकोन जोपासणे म्हणजे आरोग्य विषयक पूर्वग्रह.



याचाच अर्थ असा कि साथीच्या रोगाचा प्रादुर्भाव वाढत असताना काही विशिष्ट लोकांना वर्गीत (label) केले जाऊ शकते, त्यांच्याविषयी भेदभाव होऊ शकतो, रूढीवाद जोपासला जाऊ शकतो, त्यांना वेगळी वागणूक दिली जाऊ शकते किंवा एखाद्या रोगाशी असलेल्या दुव्यामुळे त्यांच्या सामाजिक स्थानाला हानी पोचू शकते.

रुग्णांवर, त्यांच्या कुटुंबावर, काळजी घेणाऱ्यांवर, आसपासच्या लोकांवर, मित्र आणि नातेवाईकांवर अशा गैरवर्तनाचा नकारात्मक प्रभाव पडू शकतो.



त्याचबरोबर ज्या व्यक्तींमध्ये आजाराची कुठलीही लक्षणे नाहीत परंतु त्यांची इतर लक्षणे रुग्ण व्यक्तींशी साधर्म्य साधणारी आहेत. अशा व्यक्तींविषयी सुद्धा पूर्वग्रह बाळगला जाऊ शकतो.

सद्यस्थितीत कोविड-१९ च्या प्रादुर्भावामुळे, विशिष्ट वांशिक पार्श्वभूमीच्या आधारे अनेकांना, किंबहुना विषाणूच्या संपर्कात आले आहेत अशी शंका घेऊन अनेकांना, भेदभावपूर्ण वागणूक दिली जात आहे.

### कोविड-१९ बदल इतक्या मोठ्या प्रमाणात पूर्वग्रह का?

कोविड-१९ विषयी असलेल्या पूर्वग्रहाची तीव्रता ही ३ मुख्य घटकांवर आधारित आहे:

- १) हा एक नवीन आजार आहे आणि अनेकांना त्या विषयीचे ज्ञान अद्याप पुरेसे नाही / अर्धवट आहे किंवा संपूर्ण अज्ञान आहे.
- २) ज्या गोष्टीबद्दल आपल्याला माहिती नसते त्याची भीती वाटणे स्वाभाविक आहे.
- ३) ती भीती 'इतरांशी' संबंधित करणे सोपे असते.

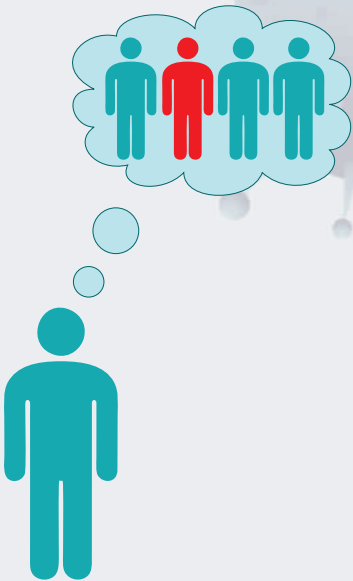
लोकांमध्ये या क्षणी आजाराविषयी विविध संभ्रम, चिंता व भीती आहे. हे स्वाभाविक आहे, पण दुर्दैवाने ह्याच गोष्टी अनेक रूढींना चालना देऊ शकतात.

### या पूर्वग्रहाचे परिणाम?

पूर्वग्रहांमुळे सामाजिक समरसता धोक्यात येऊ शकते. सामाजिक अलिप्ततेस प्रोत्साहन मिळू शकते, ज्यामुळे विषाणूचा प्रसार कमी होण्याऐवजी वाढू शकतो. यामुळे अधिक गंभीर आरोग्य समस्या पुढे येऊ शकतात आणि रोगाचा प्रादुर्भाव नियंत्रित करण्यात अडचणी येऊ शकतात.

पूर्वग्रहांमुळे -

- लोकं आजारी असूनही आजार लपवण्याचे प्रयत्न करू शकतात.
- लोकं डॉक्टरकडे जाणे, तपासणी करणे टाळू शकतात.
- आरोग्यपूर्ण वर्तनाची अंमलबजावणी करण्यापासून परावृत्त होऊ शकतात.





## संसर्गजन्य रोगांसंबंधित असलेल्या सामाजिक पूर्वग्रहाबद्दल आपण समाजाला कसे जागरूक करू शकतो:



संसर्गजन्य रोगांसंबंधित असलेली भीती आणि पूर्वग्रह यांमुळे सामाजिक प्रतिसादाला कायमच अडथळा निर्माण होत आला आहे. अशा वेळी सामाजिक जाणीव ही जमेची बाजू ठरते. कार्यरत असलेल्या विश्वसनीय आरोग्य संस्थांवर, त्यांच्याकडून पुरविल्या जाणाऱ्या सेवांवर आणि त्यांच्यामार्फत दिल्या जाणाऱ्या सल्ल्यांवर विश्वास निर्माण करणे; ज्यांना लागण झाली आहे त्यांच्या बद्दल सहानुभूती दर्शविणे, संसर्गजन्य रोगाची नीट माहिती मिळवून, ती समजून घेऊन त्या माहितीचा व्यावहारिक आणि समंजस पद्धतीने वापर करून स्वतःला आणि आपल्या प्रियजनांना सुरक्षित ठेवणे.

ह्या रोगासंबंधी मोकळेपणाने, प्रामाणिकपणे, प्रभावी आणि परिणामकारक चर्चा होऊ शकेल अशा वातावरण निर्मितीची गरज आहे.

## सामाजिक पूर्वग्रह आणि त्यांचे प्रसारण कसे टाळावे ह्या संबंधी काही टिपा :

- शब्दांचे महत्व : नवीन कोरोना विषाणू (कोविड-१९) बद्दल बोलतानाचे 'हे करा' व 'हे करू नका'
- तुमचं योगदान : सोप्या कल्पना निर्माण करा, ज्या पूर्वग्रह टाळायला मदतीच्या ठरू शकतात.
- संवाद साधण्याकरिता काही टिपा आणि संदेश

## शब्दांचे महत्व :

कोरोना संबंधित संभाषणात काही विशिष्ट शब्द आणि ठराविक भाषेचा वापर (उदा: संशयित रुग्ण, विलगीकरण) हे ऐकणाऱ्या व्यक्तीला नकारात्मक दृष्टीकोन प्रदान करू शकतात आणि परिणामी पूर्वग्रह वाढू शकतो. लोकांनी ऐकलेल्या, अनुभवलेल्या काही रूढ संकल्पनांच्या आधारे त्यांच्यावर नकारात्मक प्रभाव पडू शकतो. त्या संबंधीच्या चुकीच्या अनुभवाची जोड लोक ह्या आजाराशीही लावू शकतात, ज्यामुळे ह्या आजाराबद्दल आणखी भीती आणि तणाव पसरू शकतो. तसेच, ज्यांना ह्या आजाराची लागण झालेली आहे किंवा फक्त लक्षणे दिसत आहेत, अशा व्यक्तींविषयी लोकांची सहानुभूतीही नाहीशी होऊ शकते.

परिणामी, हे असे पूर्वग्रह जनतेला स्क्रीनिंग (तपासणी) करण्यापासून, चाचणी (टेस्टिंग) करून घेण्यापासून आणि अलग ठेवण्यापासून (quarantine) परावृत्त करू शकतात. ह्याच साठी आम्ही 'पीपल फर्स्ट' (सर्वप्रथम जनसामान्य) अशा आशयाच्या आदरपूर्ण संवादाची भावना मांडू इच्छितो, जी सामान्य लोकांना प्राधान्य देईल. आणि अशीच अपेक्षा आम्ही विविध प्रसारमाध्यमांकडूनही ठेवत आहोत, जी समाजात बातम्यांमार्फत किंवा वृत्तपत्रांतून माहिती पुरवत आहेत आणि एका मोठ्या समाजाला, व त्यांच्या जाणिवांना प्रवृत्त करत आहेत. माहितीच्या पुरवठ्या/प्रसारणातून नकारात्मकता ही खूप वेगाने पसरू शकते, ज्यामुळे रुग्ण आणि त्यांच्या कुटुंबाचे मानसिक संतुलन नैराश्यवादी होऊ शकते, आणि त्यांना एका विशिष्ट पद्धतीची तिरस्कारित वागणूक दिली जाऊ शकते. प्रसार माध्यमे आणि त्यांच्या मार्फत पोहोचविल्या जाणाऱ्या माहितीमुळे अधिक तीव्र पडसाद उमटू शकतात.

भाषेच्या आणि शब्दांच्या समावेशक वापराची काही उदाहरणे आपल्यासमोर आहेत, जी अशा (संसर्गजन्य रोगांच्या प्रादुर्भावाच्या) काळात लोकोपयोगी ठरली आहेत. (जसे, एच आय व्ही, टीबी, आणि एच१ एन १ फ्लू<sup>३</sup>)

## 'हे करावे' आणि 'हे करू नये'

नवीन कोरोना विषाणू (कोविड-१९) बद्दल बोलताना 'हे करावे' आणि 'हे करू नये' ची सूचक माहिती :

**हे करावे** : नवीन कोरोना विषाणू (कोविड-१९) आजाराबद्दल चर्चा

**हे करू नये** : या आजाराला कुठल्याही स्थळाशी, देशाशी किंवा वांशिकतेशी जोडू नका. हा "वुहान व्हायरस", "चीनी व्हायरस" किंवा "एशियन व्हायरस" नाही.

या रोगाचे अधिकृत नाव हे जाणीवपूर्वक आणि कुठलेही पूर्वग्रह टाळण्यासाठी निवडले गेले आहे - "सीओ" म्हणजे 'कोरोना', "व्हीआय" हे 'विषाणू' (virus), "डी" (disease) म्हणजे आजार, आणि १९ कारण हा आजार वर्ष २०१९ मध्ये उदयास आला.



<sup>३</sup>UN AIDS शब्दावली दिशानिर्देश : 'एड्स बळी' पासून 'एचआयव्ही ग्रस्त लोक' पर्यंत; 'एड्स विरुद्ध लढा' पासून 'एड्सला प्रतिसाद' पर्यंत.

**हे करावे** - कोविड-१९ “आजार असलेले लोक”, कोविड-१९ “आजारावर उपचार घेणारे लोक”, कोविड-१९ “आजारातून बरे होणारे लोक” किंवा कोविड-१९ मुळे “मरण पावलेले लोक” असा उल्लेख करणे.

**हे करू नये** - कोविड-१९ च्या केसेस, कोविड-१९ चे बळी असा उल्लेख करू नये.

**हे करावे** - कोविड-१९ “असू शकतील असे लोक” किंवा कोविड-१९ ची “लक्षणे दिसून येणारे लोक” असा उल्लेख करणे.

**हे करू नये** - कोविड-१९ चे संशयित रुग्ण किंवा संशयित व्यक्ती असा उल्लेख करू नये.

**हे करावे** - कोविड-१९ चा “संसर्ग होणाऱ्या व्यक्ती” किंवा कोविड-१९ ने “आजारी पडणाऱ्या व्यक्ती” असा उल्लेख करणे.

**हे करू नये** - जाणूनबुजून विषाणूचा प्रसार केल्याचा व दोषी ठरण्याचा ठपका टाळण्यासाठी कोविड-१९ पसरवणाऱ्या व्यक्ती, इतरांना बाधित करणारे लोक, विषाणू पसरवणारे लोक असा उल्लेख करू नये. गुन्हेगारी स्वरूपाचे व अमानुष शब्द वापरल्याने संसर्ग झालेल्या व्यक्तींनी गुन्हा केला आहे किंवा इतर माणसांपेक्षा त्यांच्यामध्ये माणुसकी कमी आहे असा अनर्थ निघतो.

त्याचाच परिणाम पूर्वग्रहांना खतपाणी घालणे, इतरांच्या भावना समजून न घेणे, चाचणी, उपचार व अलगीकरणाबाबत टाळाटाळ करणे यात होतो.

**हे करावे** - अतिशय अचूकतेने फक्त आणि फक्त शास्त्रीय माहिती व अधिकृत आरोग्य विषयक स्रोतांच्या सल्ल्यानुसार कोविड-१९ च्या धोक्याबद्दल बोलणे.

**हे करू नये** - अफवा पसरवू नये किंवा इतरांना पाठवू नये. “जगबुडी”, “प्लेग” यासारखे शब्द वापरून भीती व संभ्रम पसरवू नये.

**हे करावे** - प्रतिबंधात्मक उपाय व उपचार पद्धतीच्या परिणामकारकतेवर सकारात्मकतेने बोलण्यावर भर द्यावा. छोट्या छोट्या गोष्टी पाळून आपण आपले, आपल्या प्रियजनांचे व दुर्बल व्यक्तींचे रक्षण करू शकतो

**हे करू नये** - नकारात्मक वा भीतीदर्शक संदेशांचा सतत प्रसार/ विचार करू नये किंवा त्यावर वारंवार भर देऊ नये. आपल्याला एकत्रित प्रयत्नांमधून दुर्बल घटकांचं संरक्षण करायचं आहे.

**हे करावे** - उपचारपद्धती व प्रतिबंधात्मक उपायांचे महत्त्व अधोरेखित करणे. कोरोना विषाणूचा प्रसार रोखण्यासाठी केलेल्या चाचणीचे व उपचारांचे महत्त्व विशद करणे.



## तुमचं योगदान

चीन व आशियातील लोकांविषयी कोविड-१९ मुळे तयार झालेले सामाजिक पूर्वग्रह दूर करण्यास सरकार, नागरिक, प्रसारमाध्यमे, प्रभावशाली व्यक्ती व समाज यांची भूमिका महत्त्वाची आहे. आपण सर्वांनी समाजमाध्यमांवर व इतर ठिकाणी संवाद साधताना विशेष काळजी घेऊन कोविड-१९ बद्दल सकारात्मक राहण्याची गरज आहे.

## सामाजिक पूर्वग्रह दूर करण्यासाठी दिलेल्या काही कृती व उदाहरणे खालीलप्रमाणे

- **सत्य माहिती देणे** - कोविड-१९ चा संसर्ग, उपचार व प्रतिबंधात्मक उपाय याविषयी असलेल्या अपुऱ्या माहितीमुळे पूर्वग्रह वाढू शकतात. हे टाळण्यासाठी देशनिहाय, प्रदेशनिहाय पातळीवर कोविड-१९ संसर्गजन्य प्रदेश, वैयक्तिक व सामाजिक धोके, उपचार व उपचारांची ठिकाणे व माहिती याविषयी अचूक व विश्वसनीय माहितीचे संकलन व वितरण करावे. सोपी भाषा वापरावी व शक्यतो वैद्यकीय संज्ञा टाळाव्यात. समाज माध्यमांचा/ सोशल मीडियाचा या कामात चांगल्या प्रकारे उपयोग होऊ शकतो आणि तुलनेने ते कमी खर्चिक असते.<sup>३</sup>

- **समाजातील प्रभावशाली व्यक्तींना सहभागी करून घेणे** \* कोरोना बाधित रुग्णांसंबंधी असलेले गैरसमज दूर करण्यासाठी व अशा रुग्णांना कशाप्रकारे मदत करता येईल या संबंधी जनजागृती करण्यासाठी त्या समाजातील प्रभावशाली व्यक्तींना सहभागी करून घेणे फायद्याचे ठरते (उदा. धार्मिक गुरु, खेळाडू, लेखक, सिने कलावंत, समाजसेवक इत्यादी) अशा व्यक्तींकडून दिली जाणारी माहिती योग्य आणि मुद्देसूद असावी, तसेच ज्या भागात ही माहिती पोचवायची आहे त्या भागातील प्रसिद्ध व्यक्तींना ही माहिती द्यावी.

उदा. शहरातील महापौर, पालिका आयुक्त किंवा तत्सम व्यक्ती स्वतःहून काही परदेशी नागरिकांची भेट घेताना फेसबुक लाईव्ह वर दाखवणे.

- **समाजात अधिक प्रखरपणे संदेश पोचवणे:** जे लोक कोरोनाच्या बाधेतून पूर्णपणे बरे झाले आहेत किंवा असे लोक जे आपल्या कोरोना बाधित प्रियजनांच्या पाठीशी खंबीरपणाने उभे राहिले अशा लोकांचे अनुभव, त्यांची छायाचित्रे यांना जास्तीत जास्त प्रसिद्धी देण्यात यावी. जेणेकरून कोविड-१९ च्या बाधेतून पूर्णपणे बरे होता येते हा संदेश जनमानसात पोचण्यास मदत होईल. ज्यांना कदाचित अशा गैरसमजांचा/ पूर्वग्रहांचा सामना करावा लागत आहे अशा आरोग्य सेवेत कार्यरत असणाऱ्या सर्व स्तरातील व्यक्तींनाही समाजातील 'वीर' म्हणून (वीरांप्रमाणे) सन्मानित केले जावे. समाजातील असे पूर्वग्रह दूर करण्यासाठी सर्व स्तरांवरील स्वयंसेवकांचे उत्स्फूर्त योगदान ही महत्वाचे असते.



- **विविध जातीधर्मांना समावेशक असेल याची काळजी घेणे:** या संबंधित सर्व साहित्यातून, विविध स्तरांवरील लोक एकत्र येऊन कोविड-१९ चा प्रसार रोखण्यासाठी काम करत आहेत असेच दिसून आले पाहिजे. सदर साहित्याचं स्वरूप, मांडणी तसेच त्यात वापरली जाणारी चिन्हं ही कुठल्या एकाच प्रकारच्या समाजाला दर्शविणारी नसावीत तर ती तटस्थ स्वरूपाची असावीत याची काळजी / खबरदारी घ्या.

- **नैतिक पत्रकारिता / नैतिकतेला धरून पत्रकारिता :** अनेकदा प्रसारमाध्यमांकडून कोविड-१९ या आजारासाठी आणि विशेषतः त्याच्या प्रसाराराठी त्या रुग्णाला आणि त्याच्या दैनंदिन व्यवहारातील वागणुकीला जबाबदार ठरविलं जातं. त्यामुळे ज्या कोरोना बाधित रुग्णांमध्ये अनेक पूर्वग्रह / गैरसमज वाढीस लागतात. अनेक प्रसारमाध्यमं त्या त्या देशातील पहिला रुग्ण कोण असेल याचा शोध घेण्याच्या मागे लागतात. यावरची लस शोधण्यावर

आणि उपचारांवर चाललेले प्रयत्न या माहितीवर अधिकाधिक भर दिल्याने जनमानसात या रोगाविरुद्ध लढण्यासाठी आपण हतबल असल्याची भावना निर्माण होते. त्याऐवजी कोरोनाचा संसर्ग रोखण्यासाठी काळजी कशी घ्यावी, कोविड-१९ ची लक्षणे कोणती, आणि आपण वैद्यकीय मदत नक्की कधी घ्यावी यासंबंधी माहितीचा प्रसार केला जावा.

- **जोडणी करा/दुवे साधा:** पूर्वग्रहांना घेऊन समाजात अनेक उपक्रम राबवले जातात. अशाच विविध उपक्रमांमध्ये एक सामाजिक दुवा निर्माण केल्यास पूर्वग्रह रोखण्यासाठी एक चळवळ उभी राहिल. यातूनच सर्वांची काळजी घेण्यासाठी आणि सर्वांसाठी सहानुभूती असलेली सकारात्मकता निर्माण होईल.

## संवादासंबंधीच्या सूचना आणि संदेश :

चुकीच्या माहितीचा आणि अफवांचा प्रसार हा कोरोना विषाणू (कोविड-१९) पेक्षाही कितीतरी अधिक वेगाने होत आहे. त्याचे अनेक नकारात्मक परिणाम होत असल्याचं दिसून येतं, ज्यामध्ये विशेषतः कोरोनाचा उद्रेक झालेल्या भागातील लोकांबद्दल एक पूर्वग्रह तयार होऊन भेदभावाची भावना वाढू लागली आहे.

कोरोनाच्या आघातातून समाजाला आणि लोकांना बाहेर काढण्यासाठी आपल्याला दृढ ऐक्याबरोबरच या संबंधीच्या सखोल माहितीची गरज आहे.

\* २०१४ साली नायजेरिया या देशाने इबोला (Ebola) वर मात करण्यासाठी सोशल मीडिया / समाजमाध्यमांवर विशेष मोहीम राबवल्या. यामध्ये फेसबुक आणि ट्विटर च्या सहाय्याने इबोला (Ebola) बद्दल जास्तीत जास्त माहिती देणारे संदेश मोठ्या प्रमाणात प्रसारित करण्यात आले. अशाप्रकारे नायजेरियाने देशांतर्गत तसेच पश्चिमी आफ्रिकेतील ३ देशांमध्ये इबोलाचा प्रसार रोखण्यात यश मिळवले. या कृतीचा खूप मोठा फायदा असा झाला की अनेक बिगर सरकारी संस्था (NGOs), समाजातील प्रसिद्ध व्यक्ती, इंटरनेट वरून ब्लॉग लिहिणारे bloggers यांनी आपापले सोशल मीडियाचे व्यासपीठ वापरून आरोग्य विषयक माहिती लोकांपर्यंत पोचवली.

संदर्भ Fayoyin, A. 2016. Engaging social media for health communication in Africa: Approaches, results, and lessons.

Journal of Mass Communication and Journalism, 6(315).

\* सन २०१३ मध्ये अँजेलिना जोली या जगप्रसिद्ध अभिनेत्रीने जेव्हा स्वतःवर प्रोफिलॅक्टिक डबल मास्टेक्टोमी (prophylactic double mastectomy) ही स्तनांवरील शस्त्रक्रिया करून घेतली आणि त्यानंतर अचानक इंटरनेटवर स्तनांच्या कर्करोगाबद्दल आणि त्याच्या तपासणीबद्दल माहितीचा शोध घेणाऱ्या लोकांची संख्या मोठ्या प्रमाणात वाढली. जनआरोग्य माहिती प्रसारणाच्या अभ्यासकांनी याला अँजेलिना जोली इफेक्ट / अँजेलिना जोली परिणाम अशी उपमा दिली.

हा इफेक्ट किंवा परिणाम हेच दर्शवितो की एखाद्या प्रसिद्ध व्यक्तीने केलेलं समर्थन हे जनमानसात कोविड-१९ सारख्या रोगाविषयी जागरूकता निर्माण करण्यासाठी प्रभावी ठरेल. त्याचबरोबर आरोग्यसेवांकडे बघण्याचा लोकांचा दृष्टीकोन बदलण्यास आणि परिणामाने त्यांच्या कृतीत फरक पडण्यासही मदत होईल.

**गैरसमज, अफवा आणि चुकीची माहिती ह्यामुळे सामाजिक पूर्वग्रह आणि भेदभाव वाढीला लागतो आणि त्यामुळे प्रतिसादाला लागणारा वेळ वाढतो.**

- गैरसमज दूर करा पण त्याच बरोबर हे ही लक्षात घ्या की लोकांची गृहीतके जरी असत्य/ अशास्त्रीय असली तरीही त्यामागची लोक भावना आणि त्यामुळे होणारे वर्तन ह्या गोष्टी अत्यंत खऱ्या आहेत.
- प्रतिबंधनात्मक उपायांचा प्रचार करा, वेळेत चाचणी करून घेणे आणि उपचार करणे ह्यामुळे जीव वाचू शकतो.



**ह्या विषाणूचा अजून प्रसार होऊ नये आणि लोकांची काळजी कमी व्हावी ह्या करता सगळ्यांनी सामाजिक एकजूतीने काम करणे आणि जागतिक पातळीवर सहकार्य करणे फारच गरजेचे आहे.**

- कुठल्याही अनुभवांचं कथन करताना सहानुभूतीपूर्वक विचार करा, किंवा अशा अनुभवांचे दाखले द्या ज्यामुळे ह्या नव्या कोरोना विषाणू ( कोविड-१९) ने ग्रस्त असलेल्या व्यक्ती किंवा समुहाचे अनुभव आणि संघर्ष ह्यांची मानवी बाजू प्रकाशात येईल.
- पाठिंबा आणि प्रोत्साहन द्या, त्या सर्व लोकांना जे ह्या आपत्तीशी संघर्ष करण्यात आघाडीवर आहेत (आरोग्य सेवा कामगार, स्वयंसेवक, पोलीस, प्रशासनातले कर्मचारी इ.)

**भीती नव्हे, तर केवळ वस्तुस्थिती बदलची माहितीच ह्या नव्या कोरोना विषाणू ( कोविड-१९) चा प्रादुर्भाव रोखू शकेल.**

- ह्या रोगाची वस्तुस्थिती आणि रोगाबद्दलची सत्य माहिती लोकांपर्यंत पोहोचवा.
- भाकड कथा आणि ढोबळ समजुती ह्यांच्या सत्यतेला आव्हान द्या आणि त्या हाणून पाडा.
- शब्दांचा वापर फारच विचारपूर्वक करा. आपण ज्या पद्धतीने लोकांशी संवाद साधतो त्यानुसार लोकांची प्रतिक्रिया ठरते. ( 'हे करावे ' आणि 'हे करू नये' या विषयी वरील सुचना पहा).



## सार्वजनिक आरोग्य विभाग, महाराष्ट्र शासन



World Health  
Organization



unicef  
for every child



राष्ट्रीय आरोग्य अभियान  
महाराष्ट्र

राज्य आरोग्य शिक्षण व संपर्क विभाग, पुणे.

No: T-16017/3/2020-iGOT  
Government of India  
Ministry of Personnel, Public Grievances & Pensions  
D/o Personnel & Training  
(Training Division)

\*\*\*\*

Old JNU Campus, New Delhi  
Dated: 10<sup>th</sup> April, 2020

**OFFICE MEMORANDUM**

Subject: iGOT (Integrated Govt. Online Training) courses on DIKSHA platform on COVID-19 pandemic.

\*\*\*\*\*

In continuation of DoPT's O.M. of even number dated 07.04.2020 on the above subject, the following updated information is sent herewith:

- (i) Course Guide - Annexure-I.
- (ii) Elementary User Guide for Desktop/Laptop - Annexure-II.
- (iii) Elementary User Guide for Mobile - Annexure-III.

2. It is requested that wide publicity be made and more and more members of the organisations concerned be encouraged to onboard the iGOT platform and undergo online training so that the pandemic may be handled efficiently.




( Manoj Gupta )

Under Secretary to the Govt. of India

All Ministries/Departments of the Govt. of India





Chief Secretaries of all State Govts./Union Territories

 कार्मिक एवं प्रशिक्षण विभाग  
DEPARTMENT OF  
PERSONNEL & TRAINING


 iGOT  
Integrated Government Online Training

# COURSE GUIDE

## Scan – Access - Learn

 <b>ICU Care and Ventilation Management</b> <a href="https://bit.ly/2UQAKcT">https://bit.ly/2UQAKcT</a>	 <b>Clinical Management COVID-19</b> <a href="https://bit.ly/3c2lxSe">https://bit.ly/3c2lxSe</a>	 <b>Infection Prevention through PPE</b> <a href="https://bit.ly/3aXWGPe">https://bit.ly/3aXWGPe</a>
 <b>COVID-19 Training for NCC Cadets</b> <a href="https://bit.ly/3e3iYVO">https://bit.ly/3e3iYVO</a>	 <b>Basics of COVID-19</b> <a href="https://bit.ly/3aOApPT">https://bit.ly/3aOApPT</a>	 <b>Management of COVID-19 cases (SARI, ARDS &amp; Septic shock)</b> <a href="https://bit.ly/34DiwJr">https://bit.ly/34DiwJr</a>
 <b>Infection Prevention and Control</b> <a href="https://bit.ly/3aP21ly">https://bit.ly/3aP21ly</a>	 <b>Laboratory Sample Collection and Testing</b> <a href="https://bit.ly/2UQMArW">https://bit.ly/2UQMArW</a>	 <b>Quarantine and Isolation</b> <a href="https://bit.ly/2XfQlPr">https://bit.ly/2XfQlPr</a>

\*The platform is not supported on internet explorer, safari or IOS | \*\*Users can view and read course content for other roles as well  
For any query please write to: [support@i-got.freshdesk.com](mailto:support@i-got.freshdesk.com)

Follow us on   

# ELEMENTARY USER GUIDE

UNDERSTANDING HOW TO REGISTER AND START LEARNING

## STEP 1



Type **https://igot.gov.in**  
Chrome or Firefox\*

## STEP 2



Click on **View Courses**

## STEP 3



Login or Register via  
**Phone number or e-Mail**

## STEP 4



Register by **filling the form** and  
**validate with OTP** received on  
your mobile number / e-mail

## STEP 5



Select **Board** - iGOT (Health)  
**Medium** - English/ Hindi  
**Class** - Select your work area from list  
**Subject** - Optional

## STEP 6



Select **Region and Role**

## STEP 7



Select **iGOT** in organisation  
from drop down menu

## STEP 8



Select a course and  
start **Learning**

\*the platform is not supported on internet explorer, safari or IOS

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# ELEMENTARY USER GUIDE

## UNDERSTANDING HOW TO REGISTER AND START LEARNING FROM MOBILE

### STEP 1



Type <https://igot.gov.in>  
Chrome or Firefox\*

### STEP 2



Click on **View Courses**

### STEP 3



Login or Register via  
**Phone number or e-Mail**

### STEP 4



Register by **filling the form** and  
**validate with OTP** received on  
your mobile number / e-mail

### STEP 5



Select **Board** - iGot (Health)  
**Medium** - English/ Hindi  
**Class** - Select your work area from list  
**Subject** - Optional

### STEP 6



Select **Region and Role**

### STEP 7



Select **iGOT** in organisation  
from drop down menu

### STEP 8



Select a course and  
start **Learning**

\*the platform is not supported on internet explorer, safari

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**IMMEDIATE**

No: T-16017/11/2019-iGOT  
Government of India  
Ministry of Personnel, Public Grievances and Pensions  
Department of Personnel and Training  
(Training Division)  
\*\*\*\*\*

Block No. 4, Old JNU Campus, New Delhi  
Dated: 21<sup>st</sup> April, 2020

To,  
The Chief Secretaries of  
all the State/Union Territory Governments

**Subject:** Onboarding of States/Union Territories' COVID-19 Warriors to iGOT (Integrated Govt. Online Training) courses on DIKSHA platform on COVID-19 pandemic.

Dear Sir/Madam,

As all are aware, the whole world, including India, is facing a significantly higher threat from COVID-19 pandemic. India is responding to the Novel coronavirus pandemic with an unprecedented mobilisation of Human Resources - the intrepid COVID Warriors who are battling the Virus at the frontline. These brave & dedicated Doctors, healthcare workers, Technicians, paramedics, Aayush Doctors, State/UT Govt. Officers, Police and other Volunteers require enhanced capacity & updated information to keep in-step with the latest advances in techniques and global understanding of the Virus.

2. In pursuance of the decision of the Empowered Group on Augmenting Human Resources and Capacity Building set up by the Hon'ble Prime Minister under the Chairmanship of Secretary, Micro Small and Medium Enterprises, the Government of India, through its Department of Personnel and Training, has launched a tailored version of **iGOT (Integrated Govt. Online Training)** on 07/04/2020 to train all the COVID-19 Warriors of India. The learning portal (<https://igot.gov.in>) has national coverage, free access to all, 24X7 content availability from any location, any device and above all has relevant content developed by the Govt. of India which is updated regularly as the situation unfolds. The iGOT COVID version is being hosted on Ministry of Human Resource Development's DIKSHA platform.

3. The URL Link of the website is <http://igot.gov.in>. For onboarding the platform, the following information is enclosed:

- (i) Elementary User Guide for Desktop/Laptop users - Annexure-I
- (ii) Elementary User Guide for Mobile Users - Annexure-II
- (iii) Elementary User Guide for Mobile App Users - Annexure-III
- (iv) Details of Courses uploaded on iGOT DIKSHA platform so far - Annexure-IV
- (v) Instructions for content creation - Annexure-V

4. In this connection, the approach will require partners & States/UTs to:

- (i) Identify the States/UTs' COVID-19 Warriors including Doctors, Nurses, Paramedics, Hygiene Workers, Technicians, Auxiliary Nursing Midwives (ANMs), State Govt. officers/officials, Police, Volunteers etc. and enroll them to iGOT platform.
- (ii) Identify the training needs of respective frontline worriers and identify/ customise courses with focus on content in local languages, etc.

....02/-

- (iii) Create targeted outreach program by identifying the right channels and creation of localized outreach material to have maximum reach to blocks.
- (iv) Register State/UT Government and Private staff to take up the respective course.
- (v) Governance mechanism to administer the enrollment, courses launched, course completion status through state specific dashboard.

5. To execute the above, States/UTs may opt for dedicated Project Management Unit through internal staff augmentation or from professional service provider(s). The suggested PMU can have following resources to start with and their functions/activities can be as follows:

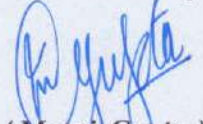
S. No.	Area	Activities
1.	Content Expert	<ul style="list-style-type: none"> <li>• Localization of existing content (available on platform)</li> <li>• Creation/Curation of any new content, if required</li> <li>• Analysis of any new content / course requirement as per local needs</li> </ul>
2.	Outreach Expert	<ul style="list-style-type: none"> <li>• Create an outreach program in discussion with State               <ul style="list-style-type: none"> <li>○ to reach out and onboard new users</li> <li>○ to create outreach material in local languages</li> </ul> </li> </ul>
3.	PMU	<ul style="list-style-type: none"> <li>• To co-ordinate with all stakeholders (including central iGOT PMU Cell)</li> <li>• and monitor all activities</li> <li>• help desk, if required</li> </ul>

6. The central iGOT PMU Cell will provide with following assistance to States/UTs:

S.No.	Area	Activities
1.	Central PMU	<ul style="list-style-type: none"> <li>• Best practice sharing among States/UTs</li> <li>• Feedback and enhancement of content / courses</li> <li>• General communication with the state COVID Warriors cell</li> <li>• SPoC regarding content, courses, platform, etc.</li> </ul>
2.	Content (in English largely)	<ul style="list-style-type: none"> <li>• All relevant content for various users like doctors, nurses, NCC volunteers, etc. - approved by Ministry of Health</li> <li>• Creation/Curation of any new content, if required</li> <li>• Publishing of new content</li> <li>• Content Guidelines</li> </ul>
3.	Outreach Support	<ul style="list-style-type: none"> <li>• Supporting materials in open format for States to adopt for branding and outreach, like               <ul style="list-style-type: none"> <li>○ User Guide</li> <li>○ Course Guide</li> <li>○ Advertisements created for print media</li> </ul> </li> </ul>
4.	Dashboards	<ul style="list-style-type: none"> <li>• State/UT-wise analytics and dashboards</li> </ul>
5.	TNA (Training Need Assessment)	<ul style="list-style-type: none"> <li>• At central level for all kinds of roles/users</li> </ul>

7. All the State/UT Govts are requested that wide publicity be made and more and more COVID-19 Warriors be encouraged to onboard the iGOT platform and undergo online training course (s) relevant to them so that the pandemic may be handled efficiently.

Yours faithfully,



( Manoj Gupta )

Under Secretary (Training)

E-mail ID : [manoj.gupta74@nic.in](mailto:manoj.gupta74@nic.in)

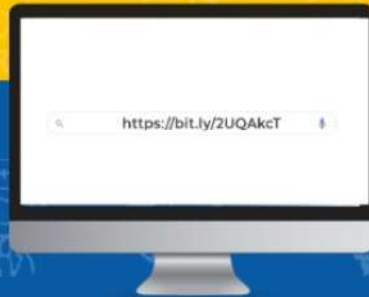
Copy to:

1. Shri Arun Panda, Secretary, MSME - Chairman, Empowered Group on Augmenting Human Resources and Capacity Building.
2. Shri Nipun Vinayak, Joint Secretary, M/o Health & Family Welfare.
3. Shri Supriyo Ghosh, Director, M/o Micro, Small & Medium Enterprises
4. Ms. Kavita (Deputy Secretary, M/o Health & Family Welfare)
5. Nodal Officers (Training), State/UT Govts.

# ELEMENTARY USER GUIDE

UNDERSTANDING HOW TO REGISTER AND START LEARNING

## STEP 1



Click on the **Course Link** shared with you

## STEP 2



Click on **Course Card**

## STEP 3



Click on **Join Training**

## STEP 4



Login or Register via **Phone number or e-Mail**

## STEP 5



Register by **filling the form** and **validate with OTP** received on your mobile number or e-mail id

## STEP 6



**Select Board** - iGot (Health)  
**Medium** - English/ Hindi  
**Class** - Your Role  
**Subject** - Optional

## STEP 7



Select **Location**

## STEP 8



Start **Learning**

\*the platform is not supported on internet explorer, safari, IOS & Mobile web browser

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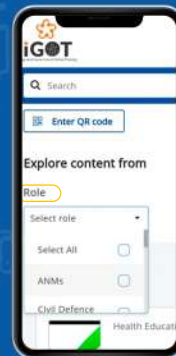
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### STEP 5



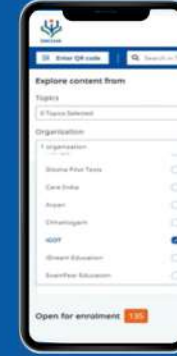
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**Medium** - English/ Hindi  
**Class** - Select your work area from list  
**Subject** - Optional

### STEP 6



Select **Region and Role**

### STEP 7



Select **iGOT** in organisation from drop down menu

### STEP 8



Select a course and start **Learning**

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# ELEMENTARY USER GUIDE

UNDERSTANDING HOW TO REGISTER AND START LEARNING FROM MOBILE APP

## STEP 1



Click on <https://bit.ly/dikshaigot> to install **DIKSHA Mobile App**



## STEP 2



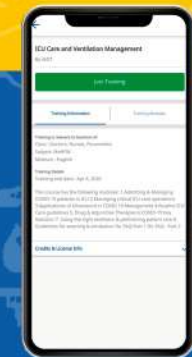
Click on **Course Link** shared with you

## STEP 3



Select **Launch Course**

## STEP 4



Click on **Join Training**

## STEP 5



**Login or Register** via Phone Number/eMail

## STEP 6



Register by filling the form and **validate with OTP** received on your mobile number/eMail

## STEP 7



**Select Board** - iGot (Health)  
**Medium** - English/ Hindi  
**Class** - Your Role  
**Subject** - Optional

## STEP 8



Click on **Start course** and start **Learning**

\*the platform is not supported on internet explorer, safari, IOS & Mobile web browser  
For any query please write to:  
[support@i-got.freshdesk.com](mailto:support@i-got.freshdesk.com)



# COURSE GUIDE

## Scan – Access - Learn



**ICU Care and Ventilation Management**

<https://bit.ly/2UQAkcT>



**Clinical Management COVID-19**

<https://bit.ly/3c2lxSe>



**Infection Prevention through PPE**

<https://bit.ly/3aXWGPe>



**COVID-19 Training for NCC Cadets**

<https://bit.ly/3e3jYVO>



**Basics of COVID-19**

<https://bit.ly/3aOAOPT>



**Management of COVID-19 cases (SARI ARDS & Septic shock)**

<https://bit.ly/34IDiJr>



**Infection Prevention and Control**

<https://bit.ly/3aP21ly>



**Laboratory Sample Collection and Testing**

<https://bit.ly/2UQMAtW>



**Quarantine and Isolation**

<https://bit.ly/2XfQiPr>



**Infection Prevention through PPE- Bengali**

<https://bit.ly/2VzSzCD>



**Basics of COVID-19 (Malayalam Course)**

<https://bit.ly/34IIKWT>



**Psychological care of patients with COVID-19**

<https://bit.ly/2wQQrhu>

\*The platform is not supported on internet explorer, safari or IOS | \*\*Users can view and read course content for other roles as well

For any query please write to: [support@i-got.freshdesk.com](mailto:support@i-got.freshdesk.com)





कार्मिक एवं प्रशिक्षण विभाग  
DEPARTMENT OF  
**PERSONNEL & TRAINING**

सत्यमेव जयते



**iGOT**  
Integrated Government Online Training

# Content Creation Guidelines for iGOT

# 1. Guidelines for Content Creation on i-GOT

## I TYPE OF ASSET

- A. Video
- B. Slide Show
- C. Animation
- D. Interactive

## II GUIDELINES: Please mark an X if the parameters will be met; NA if not applicable

<b>Hygiene factors</b>	<b>X</b>
Content does not have any factual errors	
Content is free from technical glitches	
Audio/Video is clear and in sync	
Content is not derogatory	
Content does not violate any IP rights or licencing agreement usage restrictions	
<b>Technical Aspects</b>	
Video content or animation should be between 1-7 minutes long	
Slide show should not exceed more than 15 frames/slides	
Content can easily load on a mobile phone	
<b>Production aspects (for videos recorded on phones)</b>	
Video should be recorded in landscape mode	
Video should be recorded using the back camera	
Subjects should not be lit from behind	
Content does not have distracting elements – like loud background music, too much animation etc.	
<b>Usability Aspects</b>	
Content lends itself well to dubbing or subtitling	
Appropriate instructions for content use are built into the content	

## 2. Technical Compliance for i-GOT

<b><i>Format compliance</i></b>	
Video (MP4/ WebM)	
Slideshow (ECML)	
Interactive (ECLM/ HTML zip/H5P)	
Document (PDF/ EPub)	
<b><i>File size</i></b>	
Less than 50 MB	



**RESOURCE MATERIAL FOR CAPACITY BUILDING OF HEALTHCARE PROFESSIONALS FOR COVID-19 CONTAINMENT**

S.No	Role	Category of Health-care Professional	Resource Material for Capacity Building	Videos available	Topics Covered
1	Field Surveillance (Young Personnel preferred)	ANM, ASHA, AWW AYUSH Students NCC Cadets NSS Volunteers NYKS Volunteers IRCS Volunteers CPSE Workers Ambulance Drivers Gram Panchayats / Urban Local Bodies Employees/ Rozgar Sevaks RWA All officers generally deployed as micro observers during general elections, including teachers	<ol style="list-style-type: none"> <li><b>FACILITATOR GUIDE for Training of ANM, ASHA, AWW</b> <a href="https://www.mohfw.gov.in/pdf/FacilitatorGuideCOVID19_27%20March.pdf">https://www.mohfw.gov.in/pdf/FacilitatorGuideCOVID19_27%20March.pdf</a></li> <li><b>SLIDES for Training of ANM, ASHA, AWW</b> <a href="https://www.mohfw.gov.in/pdf/2COVID19PPT_25MarchPPTwithAnimation.pdf">https://www.mohfw.gov.in/pdf/2COVID19PPT_25MarchPPTwithAnimation.pdf</a></li> <li><b>DIGITAL POCKET BOOK for ANM, ASHA, AWW</b> <a href="https://www.mohfw.gov.in/pdf/3Pocketbookof5_Covid19_27March.pdf">https://www.mohfw.gov.in/pdf/3Pocketbookof5_Covid19_27March.pdf</a></li> <li><b>STANDARD OPERATING PROCEDURE for Transporting a Suspect/Confirmed case of COVID-19</b> <a href="https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf">https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf</a></li> <li><b>GUIDELINES for Home Quarantine</b> <a href="https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf">https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf</a></li> <li><b>Manual on Homemade Protective Cover for Face and Mouth(03.04.2020)</b> <a href="https://www.mohfw.gov.in/pdf/Advisory&amp;ManualonuseofHomemadeProtectiveCoverforFace&amp;Mouth.pdf">https://www.mohfw.gov.in/pdf/Advisory&amp;ManualonuseofHomemadeProtectiveCoverforFace&amp;Mouth.pdf</a></li> </ol>	<ol style="list-style-type: none"> <li><b>Surveillance of COVID19 management (AIIMS)</b> <a href="https://drive.google.com/drive/folders/1HOi0ao-sgR9hWKYe0Q-Be5S4E8sfjqFb">https://drive.google.com/drive/folders/1HOi0ao-sgR9hWKYe0Q-Be5S4E8sfjqFb</a></li> <li><b>Video on Covid-19 awareness for community level workers</b> <a href="https://www.youtube.com/watch?v=UIQIZBO2iIA&amp;feature=youtu.be">https://www.youtube.com/watch?v=UIQIZBO2iIA&amp;feature=youtu.be</a></li> <li><b>VIDEO TUTORIAL (Hindi) on Infection Control, Personal Protection &amp; Environment Cleaning against COVID</b> <a href="https://drive.google.com/file/d/17oCqHqPM4-b23YLW6tVQtUe_dRUh6VmP/view">https://drive.google.com/file/d/17oCqHqPM4-b23YLW6tVQtUe_dRUh6VmP/view</a></li> <li><b>VIDEO DEMONSTRATION (English) of Hand Washing by AIIMS</b> <a href="https://youtu.be/htl6ZUQ-b3Y">https://youtu.be/htl6ZUQ-b3Y</a></li> <li><b>VIDEO DEMONSTRATION (Hindi) of Hand Washing by AIIMS</b> <a href="https://youtu.be/8Dt1BTGXn5I">https://youtu.be/8Dt1BTGXn5I</a></li> <li><b>Lockdown to knockdown COVID-19</b> <a href="https://www.mohfw.gov.in/video/video1.html">https://www.mohfw.gov.in/video/video1.html</a></li> <li><b>Know what is the meaning of Lockdown for them.</b> <a href="https://www.youtube.com/watch?v=maBw7HmrU8c&amp;feature=youtu.be">https://www.youtube.com/watch?v=maBw7HmrU8c&amp;feature=youtu.be</a></li> <li><b>Connecting with little ones</b></li> </ol>	<ol style="list-style-type: none"> <li>Role of frontline workers.</li> <li>Information about Handwashing, Cough hygiene, Social distancing .</li> <li>Personal safety measures to be taken in the field.</li> <li>Supportive public health services.</li> <li>Community surveillance.</li> <li>How to deal with stigma and discrimination.</li> <li>Transporting a suspected case of COVID-19</li> <li>Management on board in an ambulance.</li> <li>Disinfection of ambulance.</li> <li>Instructions for contacts being home quarantined.</li> <li>Environmental sanitation .</li> </ol>

			<p>7. <b>HEALTH ADVISORY for Elderly Population of India during COVID19 Pandemic</b>  <a href="https://www.mohfw.gov.in/pdf/AdvisoryforElderlyPopulation.pdf">https://www.mohfw.gov.in/pdf/AdvisoryforElderlyPopulation.pdf</a></p> <p>8. <b>GUIDELINES for Disinfection of Public Places including Offices</b>  <a href="https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf">https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf</a></p> <p>9. <b>GUIDELINES for General Public for using Masks</b>  <a href="https://www.mohfw.gov.in/pdf/Useofmaskbypublic.pdf">https://www.mohfw.gov.in/pdf/Useofmaskbypublic.pdf</a></p>	<p>during the COVID19 stay-in' (ENGLISH)  <a href="https://www.youtube.com/watch?v=OYD9bogtJIU&amp;feature=youtu.be">https://www.youtube.com/watch?v=OYD9bogtJIU&amp;feature=youtu.be</a></p> <p>9. <b>Connecting with little ones during the COVID19 stay-in' (HINDI)</b>  <a href="https://www.youtube.com/watch?v=GPwn_e9iuv&amp;feature=youtu.be">https://www.youtube.com/watch?v=GPwn_e9iuv&amp;feature=youtu.be</a></p> <p>10. <b>Precautions to be taken - AMITABH BACHAN . ENGLISH</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>11. <b>Precautions to be taken - AMITABH BACHAN HINDI</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>12. <b>Cover your mouth HINDI</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>13. <b>Cover your mouth ENGLISH</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>14. <b>Hand-wash ENGLISH</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>15. <b>Things to know about home quarantine ENGLISH</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>16. <b>Do you need to wear the mask ENGLISH</b>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p>	
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				<p>gUMpJP5VhgZgXruuusRpJS</p> <p>17. <a href="#">When to seek treatment ENGLISH/ HINDI</a>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJS</a></p> <p>18. <a href="#">Basic precautions against COVID19 Trisha ENGLISH</a>  <a href="https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJ">https://drive.google.com/drive/folders/1wvEmLyv3w3gUMpJP5VhgZgXruuusRpJ</a></p>	
2	Field Supervision (Experienced Personnel preferred)	<p>PHC doctors</p> <p>Ayush doctors</p> <p>Dental doctors</p> <p>Physiotherapists</p> <p>Ex- Servicemen</p> <p>Veterinary doctors</p> <p>All officers generally deployed as micro observers during general elections, including teachers</p>	<p>1. <a href="#">FACILITATOR GUIDE for Training of ANM, ASHA, AWW</a>  <a href="https://www.mohfw.gov.in/pdf/FacilitatorGuideCOVID19_27%20March.pdf">https://www.mohfw.gov.in/pdf/FacilitatorGuideCOVID19_27%20March.pdf</a></p> <p>2. <a href="#">SLIDES for Training of ANM, ASHA, AWW</a>  <a href="https://www.mohfw.gov.in/pdf/2COVID19PPT_25MarchPPTwithAnimation.pdf">https://www.mohfw.gov.in/pdf/2COVID19PPT_25MarchPPTwithAnimation.pdf</a></p> <p>3. <a href="#">DIGITAL POCKET BOOK for ANM, ASHA, AWW</a>  <a href="https://www.mohfw.gov.in/pdf/3Pocketbookof5_Covid19_27March.pdf">https://www.mohfw.gov.in/pdf/3Pocketbookof5_Covid19_27March.pdf</a></p> <p>4. <a href="#">HOW TO USE the Training Toolkit for ANM, ASHA, AWW</a>  <a href="https://www.mohfw.gov.in/pdf/4FLWToolkitHowtousethetoolkit.pdf">https://www.mohfw.gov.in/pdf/4FLWToolkitHowtousethetoolkit.pdf</a></p> <p>5. <a href="#">STANDARD OPERATING PROCEDURE for Transporting a Suspect/Confirmed case of COVID-19</a>  <a href="https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf">https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf</a></p>	<p>1. lockdown to knockdown COVID-19  <a href="https://www.mohfw.gov.in/video/video1.html">https://www.mohfw.gov.in/video/video1.html</a></p> <p>2. <a href="#">VIDEO TUTORIAL (Hindi) on Infection Control, Personal Protection &amp; Environment Cleaning against COVID</a>  <a href="https://drive.google.com/file/d/17oCqHqPM4-b23YLW6tVQtUe_dRUh6VmP/view">https://drive.google.com/file/d/17oCqHqPM4-b23YLW6tVQtUe_dRUh6VmP/view</a></p> <p>3. <a href="#">VIDEO DEMONSTRATION (English) of Hand Washing by AIIMS</a>  <a href="https://youtu.be/htl6ZUQ-b3Y">https://youtu.be/htl6ZUQ-b3Y</a></p> <p>4. <a href="#">VIDEO DEMONSTRATION (Hindi) of Hand Washing by AIIMS</a>  <a href="https://youtu.be/8Dt1BTGXn5I">https://youtu.be/8Dt1BTGXn5I</a></p>	

			<p>6. <a href="https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf">GUIDELINES for Home Quarantine</a> https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf</p> <p>7. <a href="https://www.mohfw.gov.in/pdf/AdvisoryforElderlyPopulation.pdf">HEALTH ADVISORY for Elderly Population of India during COVID19 Pandemic</a> https://www.mohfw.gov.in/pdf/AdvisoryforElderlyPopulation.pdf</p> <p>8. <a href="https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf">GUIDELINES for Disinfection of Public Places including Offices</a> https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf</p> <p>9. <a href="https://www.mohfw.gov.in/pdf/Useofmasksbypublic.pdf">GUIDELINES for General Public for using Masks</a> https://www.mohfw.gov.in/pdf/Useofmasksbypublic.pdf</p> <p>10. <a href="https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf">GUIDELINES for COVID Waste Disposal by CPCB (revised 25th March)</a> https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf</p>		
3	Sample Collection, Packaging and Transportation	Lab Technicians  B Sc/M Sc Microbiology Students	<p>1. <a href="https://www.mohfw.gov.in/pdf/Advisory&amp;StrategyforUseofRapidAntibodyBasedBloodTest.pdf">Advisory to start rapid antibody based blood test for COVID-19 (04.02.2020)</a> https://www.mohfw.gov.in/pdf/Advisory&amp;StrategyforUseofRapidAntibodyBasedBloodTest.pdf</p> <p>2. <a href="https://www.mohfw.gov.in/pdf/5Sample%20collection_packaging%20%202019-nCoV.pdf">GUIDELINES for Specimen Collection, Packaging and Transport for SARS-CoV-2</a> https://www.mohfw.gov.in/pdf/5Sample%20collection_packaging%20%202019-nCoV.pdf</p> <p>3. <a href="#">TESTING STRATEGY for</a></p>	<p>1. <a href="https://youtu.be/BTLGGV3_Xnl?t=1771">WEBINAR 1 - Infection Control Practices for COVID-19 by AIIMS New Delhi</a> <a href="https://youtu.be/BTLGGV3_Xnl?t=1771">https://youtu.be/BTLGGV3_Xnl?t=1771</a></p> <p>2. <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf">Physicians Webinars on COVID-19 (02.04.2020)</a> https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf</p> <p>3. <a href="https://youtu.be/mdrK">VIDEO DEMONSTRATION of PPE Donning &amp; Removal by AIIMS</a> <a href="https://youtu.be/mdrK">https://youtu.be/mdrK</a></p>	<p>1. STRATEGY FOR USE OF RAPID ANTIBODY BASED BLOOD TEST.</p> <p>2. Specimen Collection, Packaging and Transport of sample.</p> <p>3. Testing strategy for COVID-19.</p> <p>4. Infection prevention</p>



			<p>COVID-19 by Indian Council of Medical Research (revised 20 March)</p> <p><a href="https://icmr.nic.in/sites/default/files/upload_documents/2020-03-20_covid19_test_v3.pdf">https://icmr.nic.in/sites/default/files/upload_documents/2020-03-20_covid19_test_v3.pdf</a></p> <p>4. <a href="#">GUIDELINES for Rapid Antibody Kits for SARS-CoV-2 (28th March)</a>  <a href="https://icmr.nic.in/sites/default/files/upload_documents/Guidance_on_RapidKits_COVID19_28032020_V1.pdf">https://icmr.nic.in/sites/default/files/upload_documents/Guidance_on_RapidKits_COVID19_28032020_V1.pdf</a></p> <p>5. <a href="#">GUIDELINES for COVID Waste Disposal by CPCB (revised 25th March)</a>  <a href="https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf">https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf</a></p> <p>6. <a href="#">GUIDELINES for COVID-19 Testing in Private Laboratories in India</a>  <a href="https://www.mohfw.gov.in/pdf/NotificationofICMguidelinesforCOVID19testinginprivatelaboratoriesinIndia.pdf">https://www.mohfw.gov.in/pdf/NotificationofICMguidelinesforCOVID19testinginprivatelaboratoriesinIndia.pdf</a></p>	<p><a href="#">zhHD88</a></p> <p>4. <a href="#">VIDEO DEMONSTRATION of PPE Donning &amp; Removal by IDSP</a>  <a href="https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_aUH_o/view?usp=sharing">https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_aUH_o/view?usp=sharing</a></p>	<p>and control for COVID-19.</p> <p>5. PPE Donning and removing.</p> <p>6. Waste Disposal management.</p>
4	Clinical Management in COVID Treatment Facilities	<p>1. <a href="#">GUIDELINES for Clinical Management of COVID-19 (revised 31st March)</a>  <a href="https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf">https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf</a></p> <p>2. <a href="#">GUIDELINES on Rational Use of PPE</a>  <a href="https://www.mohfw.gov.in/pdf/GuidelinesonRationalUseofPersonalProtectiveEquipment.pdf">https://www.mohfw.gov.in/pdf/GuidelinesonRationalUseofPersonalProtectiveEquipment.pdf</a></p> <p>3. <a href="#">WEBINAR for Physicians</a></p>	<p>1. <a href="#">Physician WEBINAR 1</a>  <a href="https://www.youtube.com/watch?v=BTLGGV3_XnI&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=2&amp;t=0s">https://www.youtube.com/watch?v=BTLGGV3_XnI&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=2&amp;t=0s</a></p> <p>2. <a href="#">Physician WEBINAR 2</a>  <a href="https://www.youtube.com/watch?v=8bcLvmqVlNg&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=3&amp;t=0s">https://www.youtube.com/watch?v=8bcLvmqVlNg&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=3&amp;t=0s</a></p> <p>3. <a href="#">Physician WEBINAR 3</a>  <a href="https://www.youtube.com/watch?v=mXEAqRaqafY&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=4&amp;t=0s">https://www.youtube.com/watch?v=mXEAqRaqafY&amp;list=PLRlCeUHqjvr6d_YG1D14NRRsD4hFl_Tzd&amp;index=4&amp;t=0s</a></p> <p>4. <a href="#">Physician WEBINAR 4</a>  <a href="https://www.youtube.com/watch">https://www.youtube.com/watch</a></p>	<p>1. Case definitions</p> <p>2. Clinical features</p> <p>3. Immediate implementation of IPC measures</p> <p>4. Laboratory diagnosis</p> <p>5. Early supporting therapy and monitoring.</p> <p>6. Management of hypoxemic respiratory failure and ARDS .</p> <p>7. Management of septic shock</p> <p>8. measures of</p>	

			<p>on COVID-19  <b>ENGLISH(02.04.2020)</b>  <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf">https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf</a></p> <p>4. <b>WEBINARS for NURSES FOR TRAINING IN CARE OF COVID-19 PATIENTS</b>  <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforNursingofficers2.pdf">https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforNursingofficers2.pdf</a></p>	<p>?v=y8gYvRcPdhQ&amp;list=PLRlCeUHQjvr6d_YG1D14NRRsD4hFI_Tzd&amp;index=7&amp;t=0s</p> <p>5. <b>WEBINAR 1 for Nurses</b>  <a href="https://www.youtube.com/watch?v=-LiueyrHEIY&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=3&amp;t=0s">https://www.youtube.com/watch?v=-LiueyrHEIY&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=3&amp;t=0s</a></p> <p>6. <b>WEBINAR 2 for Nurses</b>  <a href="https://www.youtube.com/watch?v=ZMhQmholi5g&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=5&amp;t=0s">https://www.youtube.com/watch?v=ZMhQmholi5g&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=5&amp;t=0s</a></p> <p>7. <b>WEBINAR 3 for Nurses</b>  <a href="https://www.youtube.com/watch?v=wmCwATSH5CQ&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=2&amp;t=0s">https://www.youtube.com/watch?v=wmCwATSH5CQ&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=2&amp;t=0s</a></p> <p>8. <b>WEBINAR 4 for Nurses</b>  <a href="https://www.youtube.com/watch?v=rU6cOJq2wkQ&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=4&amp;t=0s">https://www.youtube.com/watch?v=rU6cOJq2wkQ&amp;list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK&amp;index=4&amp;t=0s</a></p>	Prevention of complications
4.1	At isolation facility	<p>Allopathic Doctors</p> <p>Doctors drawn from Army, Paramilitary and Railways</p> <p>Ayush Doctors</p> <p>Medical Interns &amp; Final yr MBBS Students</p> <p>Nursing Students (M SC/ B Sc final year)</p>	<p>1. <b>GUIDELINES for Setting Up Isolation Facility/Ward</b>  <a href="https://ncdc.gov.in/WriteReadData/l892s/42417646181584529159.pdf">https://ncdc.gov.in/WriteReadData/l892s/42417646181584529159.pdf</a></p> <p>2. <b>GUIDELINES for Clinical Management of COVID-19 (revised 31st March)</b>  <a href="https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf">https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf</a></p> <p>3. <b>WEBINAR SCHEDULE for Nursing Officers caring for COVID by AIIMS (02.04.2020)</b>  <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforNursingofficers2.pdf">https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforNursingofficers2.pdf</a></p> <p>4. <b>GUIDELINES for COVID Waste Disposal by CPCB (revised 25th March)</b>  <a href="https://ncdc.gov.in/WriteReadData/l892">https://ncdc.gov.in/WriteReadData/l892</a></p>	<p>1. <b>VIDEO PLAYLIST of Telemedicine Sessions for Physicians by AIIMS for COVID</b>  <a href="https://www.youtube.com/playlist?list=PLRlCeUHQjvr6d_YG1D14NRRsD4hFI_Tzd">https://www.youtube.com/playlist?list=PLRlCeUHQjvr6d_YG1D14NRRsD4hFI_Tzd</a></p> <p>2. <b>VIDEO PLAYLIST of Telemedicine Sessions for Nurses by AIIMS for COVID (02.04.2020)</b>  <a href="https://www.youtube.com/playlist?list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK">https://www.youtube.com/playlist?list=PLRlCeUHQjvr6D6gUSLeex9f5pBuf6fTSK</a></p> <p>3. <b>VIDEO DEMONSTRATION of PPE Donning &amp; Removal by IDSP</b>  <a href="https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing">https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing</a></p> <p>4. <b>VIDEO DEMONSTRATION of PPE Donning &amp; Removal by AIIMS</b>  <a href="https://youtu.be/mdrK_zhHD88">https://youtu.be/mdrK_zhHD88</a></p>	<p>1. Quarantine and isolation facilities.</p> <p>2. Wearing and removing Personal Protective Equipment (PPE)</p> <p>3. Transport of Infectious Patients.</p> <p>4. Epidemiology, Clinical features and diagnosis</p> <p>5. Infection control practices .</p> <p>6. Management of COVID-19 .</p> <p>7. Management of Severe COVID-19: ARDS and septic shock.</p> <p>8. Management of critically ill patients in ICU.</p> <p>9. Ventilation</p>

			<p><a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf">s/63948609501585568987.pdf</a></p> <p>5. <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf">PHYSICIAN Webinars on COVID-19 (02.04.2020)</a>  <a href="https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf">https://www.mohfw.gov.in/pdf/RevisedCOVIDWebinarforPhysicianofficers2.pdf</a></p>		strategy.
4.2	Intensive care	<p>Anaesthetist/Respiratory Physician/ Medical Specialist 2/3 yr PG students (MD/ DNB/Diploma)in above mentioned subjects</p> <p>GNM Nursing Officers Nursing Faculty Final year BSc/MSc Nursing Students</p>	<p>1. <a href="https://ncdc.gov.in/WriteReadData/l892s/96997299691580715786.pdf">GUIDELINES on Clinical Management of Severe Acute Respiratory Illness (SARI) in Suspect/Confirmed COVID cases</a>  <a href="https://ncdc.gov.in/WriteReadData/l892s/96997299691580715786.pdf">https://ncdc.gov.in/WriteReadData/l892s/96997299691580715786.pdf</a></p> <p>2. <a href="https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf">GUIDELINES for COVID Waste Disposal by CPCB (revised 25th March)</a>  <a href="https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf">https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf</a></p>	<p>1. COVID-19 Webinar (ICU Care and ventilation Strategy) by AIIMS, New Delhi  <a href="https://www.youtube.com/watch?v=mXEAqRaqaFY">https://www.youtube.com/watch?v=mXEAqRaqaFY</a></p> <p>2. VIDEO DEMONSTRATION of PPE Donning &amp; Removal by IDSP  <a href="https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing">https://drive.google.com/file/d/1TdaBLvD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing</a></p> <p>3. VIDEO DEMONSTRATION of PPE Donning &amp; Removal by AIIMS  <a href="https://youtu.be/mdrK_zhHD88">https://youtu.be/mdrK_zhHD88</a></p>	<p>1. Infection control practices .</p> <p>2. Management of COVID-19 .</p> <p>3. Management of Severe COVID-19: ARDS and septic shock.</p> <p>4. Management of critically ill patients in ICU.</p> <p>5. Ventilation strategy.</p> <p>6. Waste Disposal .</p> <p>7. PPE Donning &amp; Removal.</p>

4.3	Infection prevention and Control	All above listed doctors and nurses	<ol style="list-style-type: none"> <li>1. <a href="https://www.mohfw.gov.in/pdf/National%20Guidelines%20for%20IPC%20in%20HCF%20-%20final%281%29.pdf">GUIDELINES for Infection Prevention And Control In Healthcare Facilities</a> https://www.mohfw.gov.in/pdf/National%20Guidelines%20for%20IPC%20in%20HCF%20-%20final%281%29.pdf</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="https://youtu.be/BTLGGV3_Xnl?t=1771">WEBINAR 1 - Infection Control Practices for COVID-19 by AIIMS New Delhi</a> https://youtu.be/BTLGGV3_Xnl?t=1771</li> </ol>	<ol style="list-style-type: none"> <li>1. Infection Prevention And Control In Healthcare Facilities</li> </ol>
5	Medical care/ nursing care in non-Covid areas.	<p>All doctors/ nurses in service and above 60 or with co-morbidities</p> <p>All retired personnel volunteering to work</p>	<ol style="list-style-type: none"> <li>1. <a href="https://www.mohfw.gov.in/pdf/Guidelinebook1mb.pdf">GUIDELINES for the Use of IEC posters for General Health Facilities and Designated Hospitals</a> https://www.mohfw.gov.in/pdf/Guidelinebook1mb.pdf</li> <li>2. <a href="https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf">GUIDELINES for COVID Waste Disposal by CPCB (revised 25th March)</a> https://ncdc.gov.in/WriteReadData/l892s/63948609501585568987.pdf</li> <li>3. <a href="https://www.mohfw.gov.in/pdf/GuidelinesforDialysisofCovid19Patients.pdf">Guidelines for Dialysis of COVID – 19 patients.</a> https://www.mohfw.gov.in/pdf/GuidelinesforDialysisofCovid19Patients.pdf</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="https://drive.google.com/file/d/1TdaBLVD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing">VIDEO DEMONSTRATION of PPE Donning &amp; Removal</a> https://drive.google.com/file/d/1TdaBLVD-73oiN6xuVwbcUgpKt6_auH_o/view?usp=sharing</li> </ol>	<ol style="list-style-type: none"> <li>1. Use of Information Materials for General Health Facilities and Designated Hospitals.</li> <li>2. Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients.</li> <li>3. Dialysis with reference to COVID-19 Infection</li> </ol>
6.	Psycho –Social Care	Psycho- Social Teams of psychiatrists / psychologists and Psycho-social workers Community volunteers.	<ol style="list-style-type: none"> <li>1. <a href="https://www.mohfw.gov.in/pdf/MindingourmindduringCoronaelectedat.pdf">Minding our minds -</a> https://www.mohfw.gov.in/pdf/MindingourmindduringCoronaelectedat.pdf</li> <li>2. <b>PSYCHOSOCIAL</b></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="https://www.youtube.com/watch?v=uHB3WJsLI8s&amp;feature=youtu.be">Practical tips to take care of your mental health during the stay in (31.03.2020)</a> https://www.youtube.com/watch?v=uHB3WJsLI8s&amp;feature=youtu.be</li> </ol>	<ol style="list-style-type: none"> <li>1. mental health during lockdown.</li> <li>2. mental health of children.</li> <li>3. mental health of elderly</li> <li>4. mental health of migrants.</li> </ol>

			<p><b>ISSUES AMONG MIGRANTS DURING COVID-19</b></p> <p><a href="https://www.mohfw.gov.in/pdf/RevisedPsychosocialissuesofmigrantsCOVID19.pdf">https://www.mohfw.gov.in/pdf/RevisedPsychosocialissuesofmigrantsCOVID19.pdf</a></p> <p>3. Taking care of mental health of children during COVID - 19</p> <p><a href="https://www.mohfw.gov.in/pdf/mentalhealthchildren.pdf">https://www.mohfw.gov.in/pdf/mentalhealthchildren.pdf</a></p> <p>4. Taking care of the mental health of elderly during COVID - 19.</p> <p><a href="https://www.mohfw.gov.in/pdf/mentalhealthelderly.pdf">https://www.mohfw.gov.in/pdf/mentalhealthelderly.pdf</a></p>	<p>2. Various health experts on how to manage mental health and well-being during the #COVID19 outbreak</p> <p><a href="https://www.youtube.com/watch?v=iuKhtSehp24&amp;feature=youtu.be">https://www.youtube.com/watch?v=iuKhtSehp24&amp;feature=youtu.be</a></p> <p>3. Connecting with little ones during the COVID19 stay-in' ENGLISH</p> <p><a href="https://www.youtube.com/watch?v=OYD9bogtJIU&amp;feature=youtu.be">https://www.youtube.com/watch?v=OYD9bogtJIU&amp;feature=youtu.be</a></p> <p>4. Identifying and addressing sources of anxiety and stress during the lockdown</p> <p><a href="https://www.mohfw.gov.in/video/video4.html">https://www.mohfw.gov.in/video/video4.html</a></p>	
7.	Management				
	ICS	Serving / Retired armed forces officers Serving or retired CPSE Officers NDMA/SDMA/ NDRF officers NGO-Consultancy Groups	<p>1. <b>Training module for Incident response system: Basic and Intermediate</b></p> <p><a href="https://nidm.gov.in/PDF/modules/irs-1.pdf">https://nidm.gov.in/PDF/modules/irs-1.pdf</a></p>		<p>1. Principles &amp; Features of IRS .</p> <p>2. Organisation &amp; Staffing .</p> <p>3. Incident Facilities.</p> <p>4. Incident Resources &amp; Resource Management .</p> <p>5. Organising for Incident or Event.</p> <p>6. Incident &amp; Event Planning.</p>
	Quarantine facility management	All officers generally deployed as micro observers during general elections, including teachers	<p>1. <b>Containment Plan for Large Outbreaks (04.04.2020)</b></p> <p><a href="https://www.mohfw.gov.in/pdf/3ContainmentPlanforLargeOutbreaksofCOVID19Final.pdf">https://www.mohfw.gov.in/pdf/3ContainmentPlanforLargeOutbreaksofCOVID19Final.pdf</a></p> <p>2. <b>GUIDELINES for Quarantine facilities COVID-19</b></p>		<p>1. Containment Plan for Large Outbreaks.</p> <p>2. setting up and management of Quarantine facilities COVID-19</p>

			<a href="https://ncdc.gov.in/WriteReadData/l892s/90542653311584546120.pdf">https://ncdc.gov.in/WriteReadData/l892s/90542653311584546120.pdf</a>		
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महाराष्ट्र शासन

आजच,

एमईडी-१०२०/ प्र.क्र. ८३/ २० / शिक्षण-२

वैद्यकीय शिक्षण व औषधीद्रव्ये विभाग,

“मंत्रालय” गो.ते.रुग्णालय संकुल,

९वा मजला, लोकमान्य टिळक मार्ग,

मुंबई-४०० ००१

दिनांक- ०८.०४.२०२०

प्रति,

- १) आयुक्त, अन्न व औषध प्रशासन, मुंबई.
- २) व्यवस्थापकीय संचालक, हाफकिन जीवऔषध निर्माण महामंडळ, मुंबई.
- ३) संचालक, हाफकिन प्रशिक्षण व संशोधन संस्था, मुंबई.
- ४) संचालक, वैद्यकीय शिक्षण व संशोधन संचालनालय, मुंबई.
- ५) संचालक, आयुष संचालनालय, मुंबई.
- ६) कुलसचिव, महाराष्ट्र आरोग्य विज्ञान विद्यापीठ, नाशिक.
- ७) प्राध्यापक-संचालक, महाराष्ट्र मानसिक आरोग्य संस्था, पुणे.

**विषय** : iGOT (Integrated Govt. Online Training) courses on DIKSHA platform on COVID-१९ Pandemic नुसार अधिकारी/कर्मचारी/विद्यार्थी यांना प्रशिक्षण देणेबाबत...

महोदय,

केंद्र शासनाच्या आरोग्य व कुटुंब कल्याण मंत्रालयाद्वारे कोविड-१९आजाराचा प्रारंभ रोखण्याच्या अनुषंगाने [www.mohfw.gov.in](http://www.mohfw.gov.in) या वेबसाईटवर “Updated List of Training Resources for COVID-१९ Management” या मथळ्याखाली Capacity Building for Health Care Professional या संदर्भात माहिती उपलब्ध करून देण्यात आली आहे. तसेच केंद्र शासनाच्या Ministry of Personnel, Public Grievance & Pensions अंतर्गत Department of Personnel & Training यांच्या दिनांक ०७.०४.२०२० रोजीच्या कार्यालयीन जापनाव्ये iGOT (Integrated Govt. Online Training) courses on Diksha platform on COVID-१९ Pandemic याद्वारे समाजातील विविध वर्गासाठी प्रशिक्षण कार्यक्रम उपलब्ध करून दिला आहे (प्रत संलग्न). या आधारे आपल्या कार्यालयाच्या अधिपत्याखालील सर्व अधिकारी/ कर्मचारी/ विद्यार्थी, तसेच सर्व डॉक्टर्स/ पॅरामेडिकल कर्मचारी यांना प्रशिक्षण देण्यात यावे, असे आपणास कळविण्याचे मला निर्देश आहेत. तसेच प्रशिक्षण पूर्ण केलेल्या प्रशिक्षार्थींच्या संख्येबाबतचा संवर्गनिहाय साप्ताहिक अहवाल दर शुक्रवारी शासनास [surendra.chankar@nic.in](mailto:surendra.chankar@nic.in) या ई-मेल आयडीवर न चुकता पाठविण्यात यावा.

आपला,



(अजित सासुलकर)

अवर सचिव

प्रत,

१. प्रधान सचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय, मुंबई.
२. सर्व सहसचिव/ उपसचिव, वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय, मुंबई.
३. निवडनस्ती