

**Summer Training at
National Health Mission, Rajasthan**

- **Reference outline for covid-19 hospital set-up**
 - **Lockdown ease preparedness plans**

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ABBREVIATIONS

ASHA-Accredited Social Health Activist

SARI- Severe Acute Respiratory Infection

WHO-World Health Organization

CCC-COVID Care Centre

DCHC-Dedicated COVID Healthcare Centre

DCH- Dedicated COVID Hospital

CHC-Community Health Centre

AIIMS-All India Institute of Medical Science

MOHFW-Ministry of Health and Family Welfare

AYUSH-Ayurveda Yoga & Naturopathy Unani Siddha and Homeopathy

IPC-Infection Prevention and Control

HCW-Health Care Worker

NIOSH-National Institute for Occupational Safety and Health

BMW- Bio Medical Waste Management

ISCCM-Indian Society of Critical Care Medicine

IPCT-Integrated Primary Care Team

SNCU-Special Newborn Care Unit

CBMWTF- Common Biomedical Waste Treatment and disposal Facility

CPCB-Central Pollution Control Board

SPCB-State Pollution Control Board

PCC-Pollution Control Centre

About the Organization



The National Rural Health Mission (NRHM), now under National Health Mission is an initiative undertaken by the government of India to address the health needs of under-served rural areas. Launched on 12 April 2005 by then Indian prime minister the NRHM was initially tasked with addressing the health needs of 18 states that had been identified as having weak public health indicators.

The Union Cabinet headed vide its decision dated 1 May 2013, has approved the launch of National Urban Health Mission (NUHM) as a Sub-mission of an overarching National Health Mission (NHM), with National Rural Health Mission (NRHM) being the other Sub-mission of National Health Mission.

NRHM-Health System Strengthening:

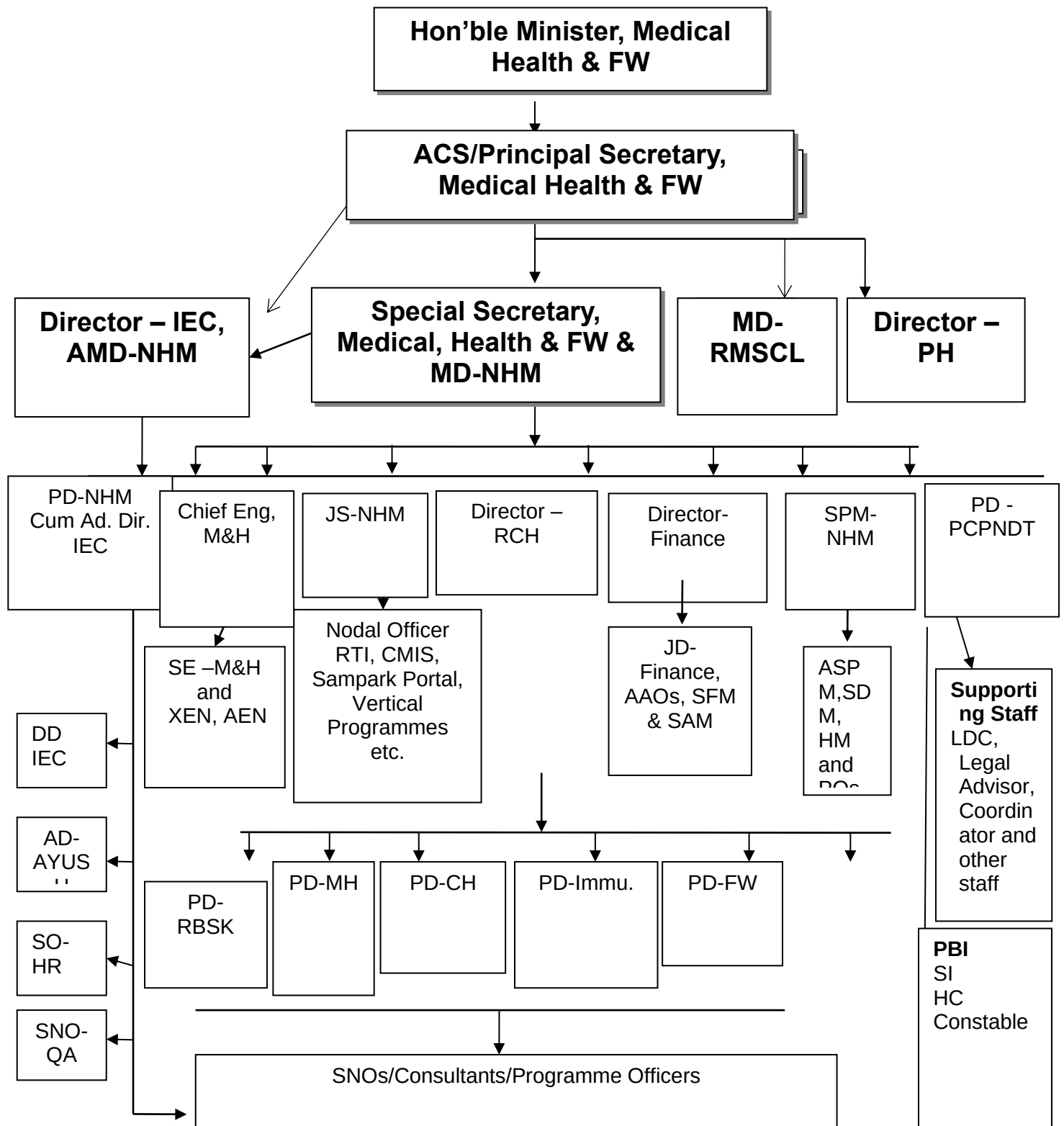
- Reproductive, maternal, newborn, child health and adolescent (RMNCH+A) services.
 - Maternal health.
 - Access to safe abortion services.
 - Prevention and management of reproductive tract infection (RTI) and sexually transmitted infections (STI).
 - Gender based violence.
 - Newborn and child health.
 - Universal immunization.
 - Child health screening and early intervention services.
 - Adolescent health.
- Family planning.
- Addressing the decline sex ratio.
- Cross cutting areas.



NUHM-Health System Strengthening:

- Flexible pool for Control of Communicable diseases.
- Flexible pool for control of Non- Communicable diseases

Organizational Structure of NHM



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PROJECT-1

- **Reference outline for covid-19 hospital set-up**

COVID-19 Case Definitions

Suspect Case

A patient with acute respiratory illness (fever and at least one sign/ symptom of respiratory disease (e.g., cough, shortness of breath) **AND** a history of travel to of residence in a country/area or territory reporting local transmission (See NCDC website for updated list) of COVID-19 disease during the 14 days prior to symptom onset;

OR

A patient / Health care worker with any acute respiratory illness **AND** having been in contact with a confirmed COVID-19 case in the last 14 days prior to onset of symptoms;

OR

A patient with severe acute respiratory infection (fever and at least one sign/symptom of respiratory disease (e.g., cough, shortness breath) **AND** requiring hospitalization **AND** with no other etiology that fully explains the clinical presentation;

OR

A case for which testing for COVID-19 is inconclusive

Laboratory Confirmed case

A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

INTRODUCTION

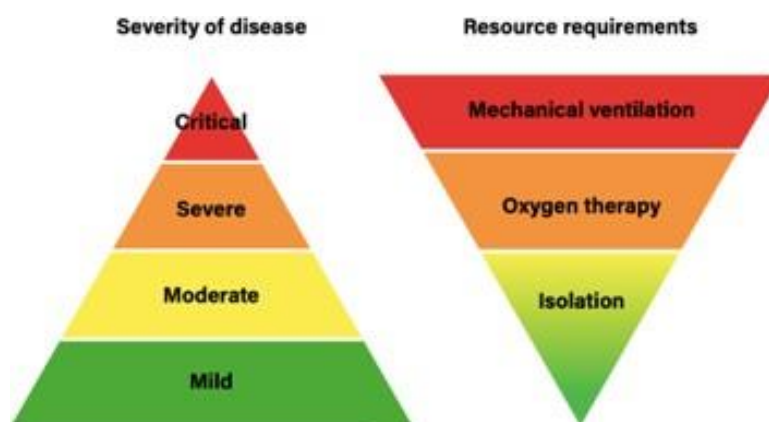
COVID-19 is highly infectious disease hence it is necessary isolate all suspect and confirm cases of COVID19. WHO has declared the COVID-19 epidemic affecting more than 210 countries as a Pandemic. Due to the inflow of persons from affected countries, Rajasthan state has strengthened the surveillance and control measures against the disease.

As the pandemic is progressing, there is an urgent need to be fully prepared to provide the best health care to the patients.

It would be important to put in place mechanisms for triaging and clinical decisions making for identification of the appropriate dedicated COVID-19 facility for providing care to COVID-19 patient.

The diagram below shall help in understanding the concept of the spectrum of the disease and corresponding preparedness and allocation of precious resources. Though the critical and severe area (red and orange color) of the pyramid on the left is less, the corresponding resource requirements are huge as shown on the pyramid on the right.

Severity of disease and corresponding resource requirements



Reference: SARI treatment Centre. Practical manual to set up and manage a SARI treatment Centre and a SARI screening facility in health care facilities, WHO March 2020

OBJECTIVE OF THE DOCUMENT

1. To orient all the hierarchical structures for COVID treatment - COVID Care Centre (CCC), Dedicated COVID Healthcare Centre (DCHC) & Dedicated COVID Hospital (DCH).
2. To orient all how the other (Non COVID) patients will be treated

GUIDLINE PRINCIPLES

All the selected facilities must be dedicated for COVID management. No general (suspected or confirmed COVID 19) patients shall be treated there.

Three types of COVID 19 dedicated facilities i.e. COVID Care Centre (CCC), Dedicated COVID Health Center (DCHC), and Dedicated COVID Hospitals (DCH) are notified all three types of COVID dedicated facilities will have separate ear marked areas of suspect, negatively tested cases and confirmed cases should not be allowed to mixed under any circumstances.

All suspect cases (irrespective of severity of their disease) will be tested for COVID 19 the management of these cases will depend on their (1) clinical status/case definition as per guidelines issued by government of India or state government from time to time. And (2) result of COVID 19 testing.

COVID CARE CENTRE (CCC)

1. The COVID Care Centre shall offer care only for cases that have been clinically assigned as the mild or very mild cases or COVID suspect cases.
2. The COVID Care Centers are makeshift facilities these may be setup in hostels, hostels, schools, lodges etc. both public and private. If need be existing quarantine facilities could also be converted into COVID Care Centers. Functional hospitals like CHC's etc. which may be handling regular, non-regular cases can also be designated as COVID Care Centers as last resort, when no cases go up substantially.
3. This is important as essential non COVID medical services like those for pregnant women, new born, other co-morbid conditions etc. are to be maintained.
4. Wherever a COVID Care Center is designated for admitting both the confirmed and the suspected cases , these facilities must have separate area for suspect, negatively tested cases and confirmed cases with preferably separate entry and exit. Suspect and confirmed cases must not be allowed to mix under any circumstances.
5. As far as possible, wherever suspect cases are admitted in COVID 19 Care Centre, preferably individual rooms with attached toilet facility should be assigned for such cases, as far as possible. When such facility is not possible, they may be kept in halls or wards maintaining at least two meter distance between beds. All the patients must use triple layer surgical masks and be counseled for hand washing and/or use of sanitizer, respiratory etiquettes. They must not be allowed to share utensils, mobile phones, laptops etc.
6. Every dedicated COVID Care Centre must also have a dedicated Basic Life Support Ambulance (BLSA) equipped with sufficient oxygen support on 24*7 basis, for ensuring safe transport of a case to dedicated higher facilities if the symptoms progress from mild to moderate or severe.
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 have been shared with the States. Their work can be guided by an Allopathic doctor.

DEDICATED COVID HEALTH CENTRE (DCHC)

1. The Dedicated COVID Health Centre is hospital that shall offer care for all cases that have been clinically assigned as moderate.
2. These should either be a full hospital or a separate block in a hospital with preferably separate entry\exit/zoning.
3. Private hospitals may also be designated as COVID Dedicated Health Centers.
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.
5. These hospitals would have beds with assured Oxygen support.
6. Every Dedicated COVID Health Centre must necessarily be mapped to one or more Dedicated COVID Hospitals.

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.

DEDICATED COVID HOSPITAL (DCH)

1. The Dedicated COVID Hospitals are hospitals that shall offer comprehensive care primarily for those who have been clinically assigned as severe.
2. The Dedicated COVID Hospitals should either be a full hospital or a separate block in a hospital with preferably separate entry\exit.
3. Private hospitals may also be designated as COVID Dedicated Hospitals.
4. These hospitals would have fully equipped ICUs, Ventilators and beds with assured Oxygen support.
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.
6. The Dedicated COVID Hospitals would also be referral centers for the Dedicated COVID Health Centers and the COVID Care Centers.

MANAGEMENT CONSIDERATIONS OF DEDICATED COVID HOSPITALS

1. Principles of infection prevention and control strategies associated with health care with suspected nCoV, to prevent or limit infection transmission in health-care settings include the following:
 - a. Early recognition and source control
 - b. Application of Standard Precautions for all patients
 - c. Implementation of empiric additional precautions (droplet and contact and whenever applicable airborne precautions) for suspected cases
 - d. Administrative controls
 - e. Environmental and engineering controls
- a. Early recognition and source control**
 - Clinical triage including early recognition and immediate placement of patients in separate area from other patients (source control) is an essential measure for rapid identification and appropriate isolation and care of patients with suspected nCoV infection.
 - To facilitate early identification of suspect cases, healthcare facilities should:
 - Encourage staff to have a high level of clinical suspicion
 - Institute screening questionnaire and
 - Post signage in public areas reminding symptomatic patients to alert staff
 - Promotion of respiratory hygiene is an important preventative measure
 - Suspected nCoV patients should be placed in an area separate from other patients, and additional IPC (droplet and contact) precautions promptly implemented
- b. Application of Standard Precautions for all patients**
 - Standard Precautions include hand and respiratory hygiene; use of Personal protective equipment (PPE) depending on risk; prevention of needle-stick or sharps injury; safe waste management; environmental cleaning and sterilization of patient-care equipment and linen.
 - Ensure the following respiratory hygiene measures:
 - i. Offer a medical mask for suspected nCoV infection for those who can tolerate it

- ii. Cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others
 - iii. Perform hand hygiene after contact with respiratory secretions
- Personal protective equipment (PPE)-
 - i. Rational, correct, and consistent use of available PPE and appropriate hand hygiene also helps to reduce the spread of the pathogens
 - ii. PPE effectiveness depends on adequate and regular supplies, adequate staff training, proper hand hygiene and specifically appropriate human behavior
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly
- Thorough cleaning of environmental surfaces with water and detergent and applying commonly used hospital level disinfectants (such as sodium hypochlorite) is an effective and sufficient procedure
- Manage laundry, food service utensils and medical waste in accordance with safe routine procedures

c. Implementation of additional precautions for suspected nCoV infections

- Contact and Droplet precautions for suspected nCoV infection:
 - i. In addition to Standard Precautions, all individuals, including family members, visitors and HCWs should apply Contact and Droplet precautions
 - ii. Place patients in adequately ventilated single rooms. For naturally ventilated general ward rooms this is considered to be 160 L/second/patient
 - iii. When single rooms are not available, place cohort patients suspected of nCoV infection together
 - iv. Place patient beds at least 1m apart
 - v. Where possible, staff to exclusively care for cases to reduce the risk of spreading transmission due to inadvertent infection control breaches
 - vi. Use a medical mask
 - vii. Use eye/facial protection (i.e. goggles or a face shield)
 - viii. Use a clean, non-sterile, long-sleeved fluid resistant gown
 - ix. Use gloves
 - x. 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%)
 - xi. Refrain from touching eyes, nose or mouth with potentially contaminated hands
 - xii. 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
 - xiii. Ensure that HCWs who are transporting patients wear appropriate PPE as described in this section and perform hand hygiene
 - xiv. Notify the receiving area of necessary precautions as soon as possible before the patient's arrival
 - xv. Routinely clean and disinfect patient-contact surfaces
 - xvi. Limit the number of HCWs, family members and visitors in contact with a patient with suspected nCoV infection
 - xvii. Maintain a record of all persons entering the patient's room including all staff and visitors

- Airborne precautions for aerosol-generating procedures for suspected nCoV infection:
 - i. Some aerosol generating procedures have been associated with increased risk of transmission of such as tracheal intubation, non- invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation and bronchoscopy
 - ii. Ensure that HCWs performing aerosol-generating procedures:
 - Use a particulate respirator at least as protective as a NIOSH- certified N95, EU FFP2 or equivalent
 - While 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
 - Eye protection (i.e. goggles or a face shield)
 - Clean, non-sterile, long-sleeved gown and gloves
 - If gowns are not fluid resistant, use a waterproof apron for procedures with expected high fluid volumes that might penetrate the gown
 - 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 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

d. Administrative controls

- Administrative controls and policies that apply to prevention and control of transmission of nCoV infections include establishment of sustainable infection prevention and control infrastructure and activities
- Staff training
- Education of patients' care givers
- Policies on early recognition of acute respiratory infection potentially due to nCoV, access to prompt laboratory testing for identification of the etiologic agent; prevention of overcrowding especially in the emergency department
- Provision of dedicated waiting areas for symptomatic patients and appropriate placement of hospitalized patients promoting an adequate patient-to-staff ratio; provision and use of regular supplies
- IPC policies and procedures for all facets of healthcare provisions
- Emphasis on surveillance of acute respiratory infection potentially due to nCoV among staff and the importance of seeking medical care; and monitoring of staff compliance, along with mechanisms for improvement as needed

e. Environmental and engineering controls

- These controls address ensuring adequate environmental ventilation in all areas within a health-care facility, as well as adequate environmental cleaning
- Spatial separation of at least 1-meter distance should be maintained between each suspect patient and others
- Both controls can help reduce the spread of many pathogens during health care.

2. Duration of contact and droplet precautions for nCoV infection

- a. Standard precautions should always be applied at all times. Additional contact and droplet precautions should continue until the patient is asymptomatic

- b. More comprehensive information on the nCoV infection mode of transmission is required to define duration of additional precautions.
3. Collection and handling of laboratory specimens from patients with suspected nCoV
- a. All specimens collected for laboratory investigations should be regarded as potentially infectious, and staff who collect, or transport clinical specimens should adhere rigorously to standard precautions to minimize the possibility of exposure
 - i. Ensure that HCWs who collect specimens use appropriate PPE (eye protection, medical masks, long-sleeved gown, and gloves)
 - ii. 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
 - iii. Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures
 - iv. Place specimens for transport in leak-proof specimen bags (secondary container) that have a separate sealable pocket for the specimen (i.e. a plastic biohazard specimen bag), with the patient's label on the specimen container (primary container), and a clearly written laboratory request form
 - v. Ensure that health-care facility laboratories adhere to appropriate biosafety practices and transport requirements according to the type of organism being handled
 - vi. Deliver all specimens by hand whenever possible. DO NOT use pneumatic- tube systems to transport specimens.
 - vii. Document patient's full name, date of birth of suspected nCoV of potential concern clearly on the accompanying laboratory request form. Notify the laboratory as soon as possible that the specimen is being transported.
4. Sample collection, storage and transportation
- a. Collection and handling of laboratory specimens from patients with suspected 2019 nCoV- Acute Respiratory Disease
 - b. All specimens collected for laboratory investigations should be regarded as potentially infectious, and persons who collect, or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure to pathogens
 - c. Ensure that staff who collect specimens use appropriate PPE (eye protection, medical mask, long-sleeved gown, gloves)
 - d. 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
 - e. Ensure that all personnel who transport specimens are trained in safe handling practices and spill management procedures
5. Samples to be collected
- a. Nasopharyngeal swab / Nasal Swabs – 2
 - b. Throat swab
 - c. Before collecting the samples, it requires to be ensured that neck is in extended position
 - d. 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 Viral Transport Medium, VTM and transported to the designated lab at 4 degree Celsius as soon as possible (same day)

- e. 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)
 - f. 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
 - g. 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
 - h. 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
 - i. Document patient's full name, age / date of birth of suspected 2019-nCoV case of potential concern clearly on the accompanying laboratory request form
 - j. Notify the laboratory as soon as possible that the specimen is being transported
6. Bio Medical Waste Management from suspected case of nCoV
- a. Refer to BMW conventional management.
 - b. All articles like swab, PPEs are to be discarded in yellow bag
 - c. All sharps like needles should be discarded in white puncture proof containers
7. Laundry
- a. All soiled clothing bedding and linen should be gathered without creating much motion/fluffing
 - b. Do not shake sheets when removing them from the bed
 - c. Always perform hand hygiene after handling soiled laundry items
 - d. Soiled linen should be disinfected in freshly prepared 1% bleach for a minimum of 20 minutes and then transported to laundry in tightly sealed and labeled plastic bag
8. Monitor health of staff providing care to cases
- a. 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
 - b. If they develop any symptoms then standard protocol laid down for management of suspect case of 2019-nCoV acute respiratory disease shall be followed
9. Hospital Disinfection (Environmental)
- a. 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 solutions
 - b. The contact period of the chemical with the surface should be min. of 20 minutes
 - c. 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
 - d. 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
- e. 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
 - f. 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
 - g. 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
 - h. Clean and disinfect mattress impermeable covers
 - i. 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

10. Liquid Spill Management

- a. Promptly clean and decontaminate spills of blood and other potentially infectious materials
- b. Wear protective gloves
- c. 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
- d. Cover spills of infected or potentially infected material on the floor with paper towel/ blotting paper/newspaper. Pour 0.5% freshly prepared sodium hypochlorite
- e. Leave for 20 minutes for contact
- f. Place all soiled absorbent material and contaminated swabs in a yellow linen & container
- g. Then clean the area with gauze or mop with water and detergent with gloves.

RIGHTS, ROLES AND RESPONSIBILITIES OF HEALTH WORKERS, INCLUDING OCCUPATIONAL SAFETY AND HEALTH

Health workers are at the front line of any outbreak response and as such are exposed to hazards that put them at risk of infection with an outbreak pathogen (in this case COVID-19). Hazards include pathogen exposure, long working hours, psychological distress, fatigue, occupational burnout, stigma, and physical and psychological violence. This document highlights the rights and responsibilities of health workers, including specific measures needed to protect occupational safety and health.

1. Health worker rights include that employers and managers in health facilities:

- Assume overall responsibility to ensure that all necessary preventive and protective measures are taken to minimize occupational safety and health risks¹;
- Provide information, instruction and training on occupational safety and health, including:
 - Refresher training on infection prevention and control (IPC); and
 - Use, putting on, taking off and disposal of personal protective equipment (PPE);
- Provide adequate IPC and PPE supplies (masks, gloves, goggles, gowns, hand sanitizer, soap and water, cleaning supplies) in sufficient quantity to healthcare or other staff caring for suspected or confirmed COVID-19 patients, such that workers do not incur expenses for occupational safety and health requirements;

- Familiarize personnel with technical updates on COVID-19 and provide appropriate tools to assess, triage, test and treat patients and to share infection prevention and control information with patients and the public;
- As needed, provide with appropriate security measures for personal safety;
- Provide a blame-free environment for workers to report on incidents, such as exposures to blood or bodily fluids from the respiratory system or to cases of violence, and to adopt measures for immediate follow-up, including support to victims;
- Advise workers on self-assessment, symptom reporting and staying home when ill;
- Maintain appropriate working hours with breaks;
- Consult with health workers on occupational safety and health aspects of their work and notify the labor inspectorate of cases of occupational diseases;
- Not be required to return to a work situation where there is continuing or serious danger to life or health, until the employer has taken any necessary remedial action;
- Allow workers to exercise the right to remove themselves from a work situation that they have reasonable justification to believe presents an imminent and serious danger to their life or health. When a health worker exercises this right, they shall be protected from any undue consequences;
- Honor the right to compensation, rehabilitation and curative services if infected with COVID-19 following exposure in the workplace. This would be considered occupational exposure and resulting illness would be considered an occupational disease,
- Provide access to mental health and counseling resources; and
- Enable co-operation between management and workers and/or their representatives.

2. Health workers should

- Follow established occupational safety and health procedures, avoid exposing others to health and safety risks and participate in employer-provided occupational safety and health training;
- Use provided protocols to assess, triage and treat patients;
- treat patients with respect, compassion and dignity;
- maintain patient confidentiality;
- swiftly follow established public health reporting procedures of suspect and confirmed cases;
- provide or reinforce accurate infection prevention and control and public health information, including to concerned people who have neither symptoms nor risk;
- put on, use, take off and dispose of personal protective equipment properly;
- self-monitor for signs of illness and self-isolate or report illness to managers, if it occurs;
- advise management if they are experiencing signs of undue stress or mental health challenges that require support interventions; and
- report to their immediate supervisor any situation which they have reasonable justification to believe presents an imminent and serious danger to life or health.

DEPARTMENTAL RESPONSIBILITIES OF HCW AS PER THEIR OPERATIONAL FUNCTIONING WITHIN THE HOSPITAL



Setting	Personnel Required	Inventory/Activity/ Skills to be tested
1. Outpatients facilities/ Initial Triage		
Consultation Room	Healthcare workers (Doctors and Nurses)	Physical examination of patients with respiratory symptoms. Inventory PPEs & Medicines, hand washing and sanitizer facility.
	Healthcare workers (Doctors and Nurses)	Physical examination of patients without respiratory symptoms but based on self-declaration and /or history
	Cleaners	After and between consultations with patients with respiratory symptoms; Disinfectants.
2. Emergency /Inpatient facilities/Isolation Rooms and Duty Stations		
	Healthcare workers (Doctors and Nurses)	• PPE • Drugs & Disposable • Oxygen Apparatus • Suction Machine • Hand washing and Hand sanitizer facility
	Cleaners	Entering the room of COVID-19 patients with proper PPE
Laboratory	Lab Technician	Collection of Respiratory samples
Administrative Areas	All staff, including healthcare workers	Administrative tasks that do not involve contact with COVID -19 patients but work on logistics and supply and record maintenance. Hand washing and hand sanitizer facility.

3. ICU Facilities

ICUs	Respiratory specialists Anesthesiologist • ICU Nurses • OT Technician	• PPEs • Knowledge and skill as per treatment protocols • Oxygen supply • Emergency medicines • Monitors • Defibrillators • Ventilators
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4. Ambulance or transfer vehicle (For shifting to Tertiary Care Centre)

	Healthcare workers	Transporting suspected COVID-19 patients to the referral healthcare facility.
	Driver with Paramedical workers	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment is separated from the main compartment. Assisting with embarkation /disembarkation of patient with suspected COVID-19 disease.
	Cleaners	Cleaning and disinfection after and between transport of patients with suspected COVID-19 disease to the referral healthcare facility

5.Details of Tertiary Care Centre (Contact No. of Nodal Person and Emergency No.) are available

Assessment of Healthcare workers

Doctors, Nurses, Technicians should undergo knowledge assessment along with skill assessment and if needed the requisite training should be provided to fill the gaps. A Microbiologist should be posted for supervising the samples collection from the patients in a proper way and ensuring the transportation of sample to designated laboratories for testing under appropriate condition including maintenance of cold chain for this purpose.

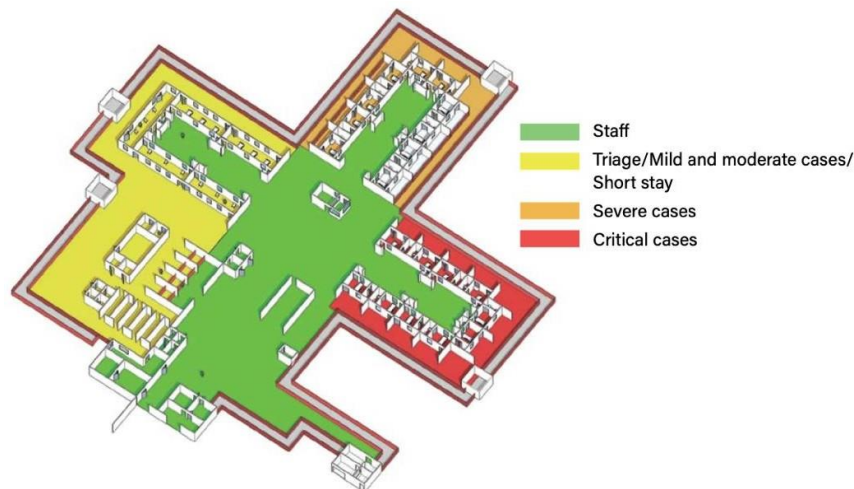
Public Health Specialist should be engaged to advise about the reduction of infection in the medical care facility. They will also supervise the handing over of discharged patients to State Surveillance teams for monitoring and tracking these patients till the requisite period is over. They will also supervise proper biomedical waste disposal of the healthcare facility.

INFRASTRUCTURAL MANAGEMENT

The hospital can be divided into zones as shown below for efficient patient management and infection control.

Try to have a Floor plan by identifying all utility areas, corridors, stairs, etc and mark the same in the floor plan.

The diagram below shows the different zones categorizations for a COVID Hospital



Reference: SARI treatment Centre. Practical manual to set up and manage a SARI treatment Centre and a SARI screening facility in health care facilities, WHO March 2020.

I. MANPOWER OPERATIONAL DISTRIBUTION

List out the HR available in the Hospital with their Name and Designation under different cadres. Keep their contact details ready. Identify the

1. Categorize required human resources into various categories. (Doctors, Pharmacists, Security, Nurses, Laundry, Housekeeping, Biomedical engineering, Pharmacist, Lab, ICU technicians, X-ray technicians).

Physician patient ratio 1:12 (ICU) , Nurse patient ratio 1: 3 for ventilated patients , for HDU nurse to patient ratio 1:6, and for ward patients nurse ratio 1: 10 Mobilize human resource and equipment from all private institutions in the third phase or earlier based on the requirement. (only emergency cases in private institutions).

2. List out all possible human resources in each district or zone.(From other private medical colleges, from various nursing colleges, nursing schools, voluntary workers, NGOs, specialty organizations (ISCCM, Physician associations, Pediatric organizations).

3. Group each category of workforce into three groups; group in action (duty group), one group quarantined (Standby), and one in reserve depending upon the surge capacity of the institution. These groups can be rotated every 14 days. Similarly nonclinical and Para clinical staff can be engaged in activities like training, triage, communications, data management, logistics etc. (For practical purpose it is proposed to have two groups one on

duty/shift as planned and the second group as reserve so that in case of sickness or absenteeism, we will be able to fill the gap).

4. Plan to monitor staff absenteeism and sickness every shift and pull from the reserve group.

5. Plan minimum needs of the staff to ensure operational sufficiency and to keep staff stability. (Food, stay, transport, psychological support, medical care if he/she becomes sick, family support, child care). The designated staff (documented appropriately) looking after Human Resource in each clinical area should coordinate this.

6. Plan shift rotation for self-care

7. Prepare a job card for everyone (to whom to report and what to do)

8. Training as per job card.

II. ISOLATION WARD CONVENTIONAL MANAGEMENT

1. Isolation (patient placement)

- a. Any possible case should be managed in **negative pressure** single room if available. If this is not possible, then a single room with attached toilet facilities should be used. Room doors should be kept closed.
- b. The nature of the area adjoining the side room should be taken in to account to minimize the risk of inadvertent exposure (such as high footfall areas, vulnerable and high-risk patient groups).
- c. If in a critical care unit, the patient should be nursed in a negative-pressure single or side room where available, or, if not available, a neutral-pressure side room with the door closed.
- d. If there is no attached toilet, a dedicated commode (which should be cleaned as per local cleaning schedule) should be used with arrangements in place for the safe removal of the bedpan to an appropriate disposal point.
- e. Avoid storing any extraneous equipment in the patient's room
- f. Display signage to control entry into the isolation room

2. Anterooms and putting on and removing PPE

Anterooms (otherwise known as ‘lobbies’) also have the potential to become contaminated and should be regularly decontaminated as described in environmental decontamination.

- a. It is strongly advised that staff progress through ‘dirty’ to ‘clean’ areas within the anteroom as they remove their PPE and wash hands after they leave the patient room. To this effect, movements within the anteroom should be carefully monitored and any unnecessary equipment should not be kept in this space.
- b. In the event that no anteroom or lobby exists for the single room used for COVID-19 patients, then local infection (prevention and) control teams will need to consider alternative ways of accommodating these recommendations to suit local circumstances.

3. Notices about infection risks

- a. Written information must be placed on the isolation room door indicating the need for isolation, including the infection prevention and control precautions which must be adhered to prior to entering the room.
- b. Patient confidentiality must be maintained.

4. Entry records

- a. Only essential staff should enter the isolation room.

- b. A record should be kept of all staff in contact with a possible case, and this record should be accessible to occupational health should the need arise.

5. Visitors

- a. Visitors should be restricted to essential visitors only, such as parents of a pediatric patient or an affected patient's main care taker.
- b. Visitors should be permitted only after completion of a local risk assessment which includes safeguarding criteria as well as the infection risks.
- c. The risk assessment must assess the risk of onward infection from the visitor to healthcare staff, or from the patient to the visitors. The risk assessment should include whether it is feasible for the visitor to learn correct usage of PPE (donning and doffing under supervision), and should determine whether a visitor, even if asymptomatic, may themselves be a potential infection risk when entering or exiting the unit. It must be clear, documented and reviewed.
- d. If correct use of PPE cannot be established, then the visitor must not be allowed to enter the patient area.

6. Recommendations regarding ventilator support are provided in the critical care section

- a. All respiratory equipment must be protected with a high efficiency filter (such as BS EN 13328-1). This filter must be disposed of after use.
- b. Disposable respiratory equipment should be used wherever possible.
- c. Re-usable equipment must, as a minimum, be decontaminated in accordance with the manufacturer's instructions
- d. Closed suctioning system must be used
- e. Ventilator circuits should not be broken unless necessary
- f. Ventilators must be placed on standby when carrying out bagging
- g. PPE must be worn
- h. Water humidification should be avoided, and a heat and moisture exchanger should be used

7. Hand hygiene

- a. This is essential before and after all patient contact, removal of protective clothing and decontamination of the environment.
- b. Use soap and water to wash hands or an alcohol hand rub if hands are visibly clean.
- c. Rings (other than a plain smooth band), wrist watches and wrist jewelry must not be worn by staff.

8. Equipment

- a. Re-useable equipment should be avoided if possible; if used, it should be decontaminated according to the manufacturer's instructions before removal from the room.
- b. Use dedicated equipment in the isolation room. Avoid storing any extraneous equipment in the patient's room
- c. Dispose of single use equipment as per clinical waste policy inside room
- d. Ventilators should be protected with high efficiency filter, such as BS EN 13328-1.
- e. Closed system suction should be used
- f. Disposable crockery and cutlery may be used in the patient's room as far as possible

to minimize the numbers of items which need to be decontaminated.

9. Environmental decontamination

- a. Cleaning and decontamination should only be performed by staff trained in the use of the appropriate PPE; in some instances, this may need to be trained clinical staff rather than domestic staff.
- b. After cleaning with neutral detergent, a chlorine-based disinfectant should be used, in the form of a solution at a minimum strength of 1,000 ppm available chlorine. If an alternative disinfectant is used within the organization, the local IPCT should be consulted on this to ensure that this is effective against enveloped viruses.
- c. The main patient isolation room should be cleaned at least once a day, and following aerosol generating procedures or other potential contamination.
- d. There should be more frequent cleaning of commonly used hand-touched surfaces and of anteroom or lobby areas (at least twice per day).
- e. To ensure appropriate use of PPE and that an adequate level of cleaning, it is strongly recommended that cleaning of the isolation area is undertaken separately to the cleaning of other clinical areas.
- f. Dedicated or disposable equipment (such as mop heads, cloths) must be used for environmental decontamination.
- g. Reusable equipment (such as mop handles, buckets) must be decontaminated after use with a chlorine-based disinfectant as described above.
- h. Communal cleaning trolleys should not enter the room.

10. Specimens

- a. All specimens and request forms should be marked with a biohazard label.
- b. The specimen should be double-bagged. The specimen should be placed in the first bag in the isolation room by a staff member wearing recommended PPE.

11. Mobile healthcare equipment

The following advice applies to devices that cannot be left in the isolation room, such as portable X-ray machines, ultrasound machines:

- a. Use of mobile healthcare equipment should be restricted to essential functions as far as possible to minimize the range of equipment taken into and later removed from the room
- b. The operator of the device, if not routinely looking after the patient, must be trained and supervised in infection prevention and control procedures, including the use of PPE
- c. The operator should wear PPE as described above when in the isolation room
- d. Any equipment taken in to the room and which must be subsequently removed, must be disinfected prior to leaving the anteroom
- e. Any additional items such as a digital detector, ultrasound probes or a cassette will also need to be disinfected, regardless of whether there has been direct contact with the patient or not. This is due to the risk of environmental contamination of the equipment within the isolation room.

12. Transfers to other departments

- a. Where possible, all procedures and investigations should be carried out in the single room with a minimal number of staff present.
- b. Only if clinical need dictates, and in consultation with the infection control team,

should patients be transferred to other departments.

The following procedures then apply:

- i. The trolley used to transport the patient from the isolation room, should be disinfected as far as possible (see environmental decontamination immediately before leaving the room by an individual wearing protective clothing and PPE as described previously.
- ii. The department must be informed in advance of the patient's arrival.
- iii. Any extraneous equipment to be removed safely from the investigation or treatment room.
- iv. The patient must be taken straight to and from the investigation or treatment room and must not wait in a communal area.
- v. The patient should wear a surgical mask if this can be tolerated - this will prevent large respiratory droplets being expelled into the environment by the wearer.
- vi. The treatment or procedure room, trolley or chair and all equipment should be decontaminated after use, as per the cleaning instructions above.
- vii. To enable appropriate decontamination after any procedure, patients should be scheduled at the end of a list, as far as possible.
- viii. After the procedure, access to such spaces should be restricted and environmental decontamination implemented.
- ix. During patient transfers, a process to ensure that no individuals not wearing PPE come within 2 meters of the patient should be followed. Anyone in the vicinity of the patient (for example carrying out procedures, transferring the patient or standing within 2m of the patient) must wear the PPE previously described.

13. Transfer to other hospital

- a. Transfer of cases to another hospital should be avoided unless it is necessary for medical care.
- b. If transfer is essential, the receiving hospital and the ambulance staff must be advised in advance of the special circumstances of the transfer, so that appropriate infection control measures can be taken

SETTING UP OF ISOLATION/FACILITY WARD

An isolation facility aims to control the airflow in the room so that the number of airborne infectious particles is reduced to a level that ensures cross-infection of other people within a healthcare facility is highly unlikely.

- At State level, a minimum of **50** bed isolation ward should be established.
- At District level, a minimum of **10** bed isolation ward should be established. Post signages on the door indicating that the space is an isolation area.

Remove all non-essential furniture and ensure that the remaining furniture is easy to clean, and does not conceal or retain dirt or moisture within or around it.

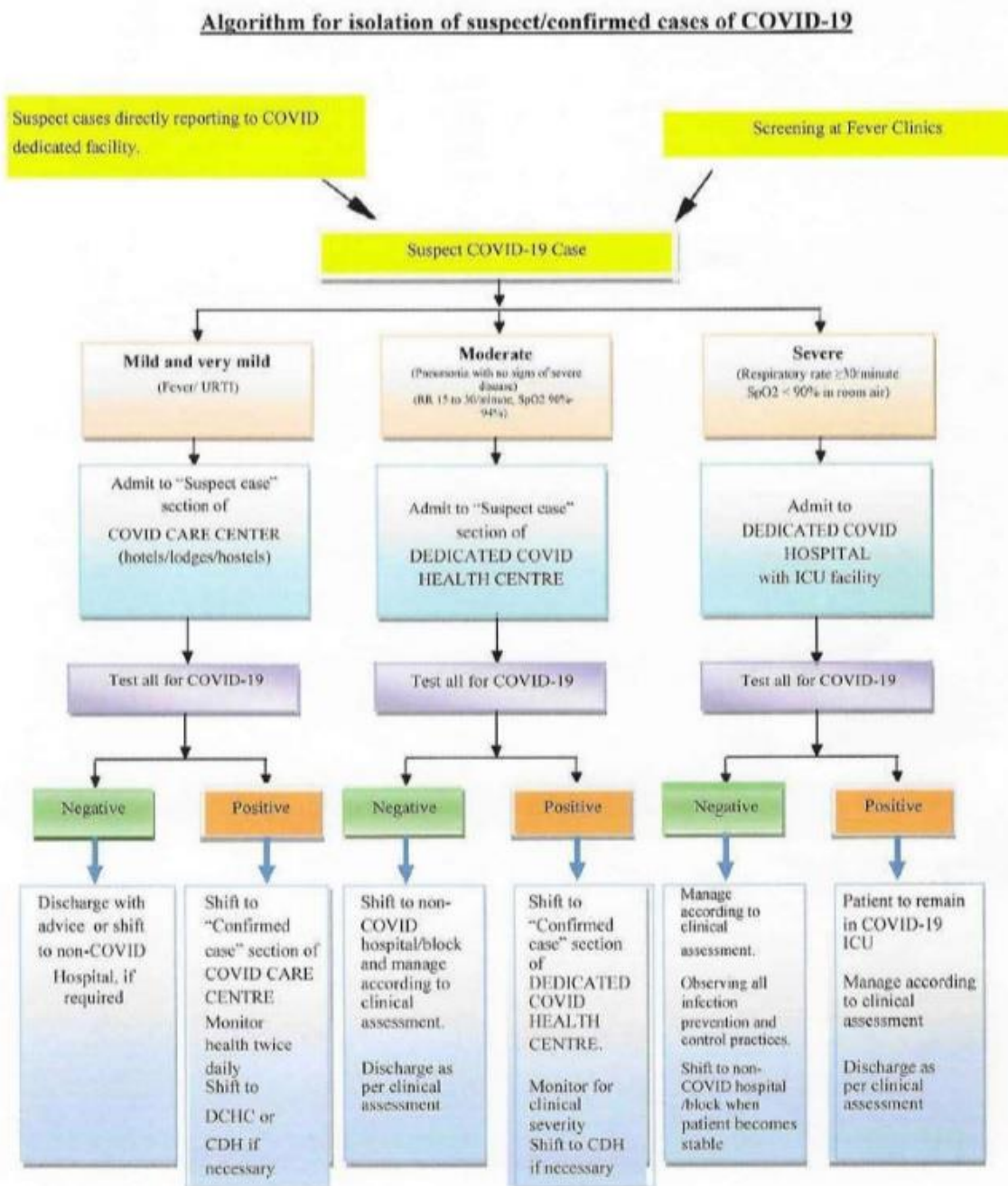
COVID-19 patients should be housed in single rooms.

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 patient care areas is required.

Preferably the isolation ward should have a separate entry/exit and should not be co-located with

post-surgical wards/dialysis unit/SNCU/labour room etc.



III. CONVENTIONAL MANAGEMENT IN QUARANTINE CENTRES

1. For the purpose of implementing quarantine, a contact is defined as a person:
 - i. Providing direct care without proper personal protective equipment (PPE) for COVID-19 patients;
 - ii. Staying in the same close environment of a COVID-19 patient (including workplace, classroom, household, gatherings);

- iii. Traveling together in close proximity (within 1 meter) 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.

2. Arrangements at Quarantine Centre:

- i. Those in quarantine be placed in adequately ventilated, spacious single rooms, with attached toilet (hand hygiene and toilet facilities). If single rooms are not available, beds should be placed at least 1 meter apart;
- ii. Suitable environmental infection controls, such as adequate air ventilation, filtration systems and waste management protocols;
- iii. Maintenance of social distancing (more than 1 meter) of the persons quarantined;
- iv. Accommodation with an appropriate level of comfort, including:
 - a. Food, water and hygiene provisions;
 - b. Protection for baggage and other possessions;
 - c. Appropriate medical treatment for existing conditions;
 - d. Communication in a language that they can understand explaining: their rights; provisions that will be made available to them; how long they will need to stay; what will happen if they get sick; contact information of their local embassy or consular support;
 - e. Assistance for quarantined travelers, isolated or subject to medical examinations or other procedures for public health purposes;
 - f. Assistance with communication with family members outside the quarantine facility;
 - g. If possible, access to the internet, news and entertainment;
 - h. Psychosocial support; and
 - i. Special considerations for older individuals and individuals with co-morbid conditions, due to their increased risk for severe COVID-19 disease.
- 3. Possible quarantine settings are hotels, dormitories, other facilities catering to groups, or the home of the contact. Regardless of the setting, an assessment must ensure that the appropriate conditions for safe and effective quarantine are being met.
- 4. When home quarantine is chosen, the person should occupy a well-ventilated single room, or if a single room is not possible, maintain a distance of at least 1 meter from other household members, minimizing the use of shared spaces and cutlery and ensuring that shared spaces (kitchen, bathroom) are well ventilated.
- 5. Infection prevention and control measures in Quarantine centers

The following infection prevention and control measures should be used to ensure a safe environment for quarantined persons.

- i. Early recognition and control
 - a. Any person in quarantine who develops febrile illness or respiratory symptoms, at any point during the quarantine period, should be treated and managed as a suspect COVID-19 case;
 - b. Apply standard precautions for all persons quarantined and quarantine personnel:
 - Perform hand hygiene frequently, particularly after contact with respiratory secretions, before eating and after using the toilet. Hand hygiene includes either cleaning hands with soap and water or with an alcohol-based hand rub. Alcohol-based hand rubs are

- preferred if hands are not visibly soiled; wash hands with soap and water when they are visibly soiled;
 - Ensure that all persons quarantined are practicing respiratory hygiene, and are aware of the importance of covering their nose and mouth with a flexed elbow or paper tissue when coughing or sneezing and disposing immediately of the tissue and performing hand hygiene;
 - Refrain from touching mouth and nose;
 - c. A medical mask is not required for persons with no symptoms. There is no evidence that wearing a mask of any type protects people who are not sick.
- ii. Administrative controls
Administrative controls and policies for IPC within quarantine facilities include, but may not be limited to:
 - a. establishing sustainable IPC infrastructures (design of facility) and activities;
 - b. educating persons quarantined and quarantine personnel about IPC;
 - c. all personnel working in the quarantine facility need to have training on standard precautions before the quarantine measures are implemented.
 - d. The same advice on standard precautions should be given to all quarantined persons on arrival.
 - e. Both personnel and quarantined persons should understand the importance of promptly seeking medical care if they develop symptoms;
 - f. Developing policies on the early recognition and referral of a suspect COVID-19 case.
- iii. Environmental controls:
 - a. Environmental cleaning and disinfection procedures must be followed consistently and correctly.
 - b. Cleaning personnel need to be educated and protected from COVID-19 infection and ensure that environmental surfaces are regularly and thoroughly cleaned throughout the quarantine period:
 - Clean and disinfect frequently touched surfaces such as bedside tables, bedframes, and other bedroom furniture daily with regular household disinfectant containing a diluted bleach solution (1-part bleach to 99 parts water). For surfaces that do not tolerate bleach, 70% ethanol can be used;
 - Clean and disinfect bathroom and toilet surfaces at least once daily with regular household disinfectant containing a diluted bleach solution (1-part bleach to 99 parts water);
 - Clean clothes, bedclothes, bath and hand towels, etc., using regular laundry soap and water or machine wash at 60–90 °C with common laundry detergent and dry thoroughly;
 - Hospitals should consider measures to ensure that waste is disposed of in a sanitary landfill, and not in an unmonitored open area;
 - Cleaning personnel should wear disposable gloves when cleaning or handling surfaces, clothing or linen soiled with body fluids, and should

- perform hand hygiene before and after removing gloves.
6. Minimum requirements for health monitoring of quarantined persons during the quarantine period
 - i. Daily follow-up of persons quarantined should be conducted within the quarantine facility for the duration of the quarantine and should include daily body temperature and symptom screening.
 - ii. Groups of persons at higher risk of infection and severe disease may require additional surveillance for chronic conditions or specific medical treatments.
 - iii. Consideration should be given to the resources, personnel and rest period of staff at quarantine facilities. This is particularly important in the context of an ongoing outbreak, during which limited public health resources may be better prioritized towards health care facilities and case-detection activities.
 - iv. Laboratory testing of a respiratory sample from quarantined persons, irrespective of symptoms, is advised at the end of the quarantine period.
 7. Introducing quarantine measures early in an outbreak may delay the introduction of the disease to an area and/or may delay the peak of an epidemic in an area where local transmission is ongoing. However, if not implemented properly, quarantine may also create additional sources of contamination and dissemination of the disease
 8. Containment strategy includes the rapid identification of laboratory-confirmed cases, and their isolation and management in either a medical facility or at home.
 9. For contacts of laboratory-confirmed cases, it is recommended that such persons be quarantined for 14 days from the last time they were exposed to a COVID-19 patient.

IV. PLANNING AND MANAGEMENT OF HOSPITAL INFECTION CONTROL

The Hospital Infection Control Committee has an active role in the planning, implementation and execution of the COVID Hospital plan. Infection control should be given the utmost priority in the whole planning and implementation. Transmission based precautions are to be applied in the settings. Training for all medical and non-medical staff should be provided on COVID as well as on infection control.

2. Personal protective equipment (PPE) is specialized clothing or equipment, worn by an employee for protection against infectious materials
3. All of the PPE listed here prevent contact with the infectious agent, or body fluid that may contain the infectious agent, by creating a barrier between the worker and the infectious material
4. Components of PPEs – glove, gown/apron, mask, respirators, goggles, face shields and shoes
5. Gloves protect the hands, gowns or aprons protect the skin and/or clothing, masks and respirators protect the mouth and nose, goggles protect the eyes, and face shields protect the entire face and shoes to protect feet. The respirator has been designed to protect the respiratory tract from airborne transmission of infectious agents
6. Gloves protect you against contact with infectious materials. However, once contaminated, gloves can become a means for spreading infectious materials to yourself, other patients or environmental surfaces. Therefore, the way gloves are used can influence the risk of disease transmission
7. **Do's and Don'ts of Glove Use**

- a. Work from “clean to dirty”: It refers to touching clean body sites or surfaces before you touch dirty or heavily contaminated areas
- b. Limit opportunities for “touch contamination” - protect yourself, others, and the environment
 - i. Don't touch your face or adjust PPE with contaminated gloves
 - ii. Don't touch environmental surfaces except as necessary during patient care
- c. Change gloves during use if torn and when heavily soiled (even during use on the same patient) after use on each patient.
- d. Discard in appropriate receptacle
 - i. Never wash or reuse disposable glove

8. Sequence for Donning PPE

(Gown → mask/respirator → goggles → gloves)

1. The gown should be donned first
2. The mask or respirator should be put on next and properly adjusted to fit; remember to fit check the respirator
3. The goggles or face shield should be donned next
4. The gloves are donned last

7.1 How to don a Gown

- a. Select appropriate type and size
- b. Opening is in the back
- c. Secure at neck and waist
- d. If gown is too small, use two gowns
- e. Gown #1 ties in front
- f. Gown #2 ties in back



7.2 How to don a Mask

- a. Place over nose, mouth and chin
- b. Fit flexible nose piece over nose bridge
- c. Secure on head with ties or elastic
- d. Adjust to fit



7.3 How to don a Particulate Respirator

- a. Select a fit tested respirator
- b. Place over nose, mouth and chin
- c. Fit flexible nose piece over nose bridge
- d. Secure on head with elastic
- e. Adjust to fit
- f. Perform a fit check –
 - i. Inhale – respirator should collapse
 - ii. Exhale – check for leakage around face

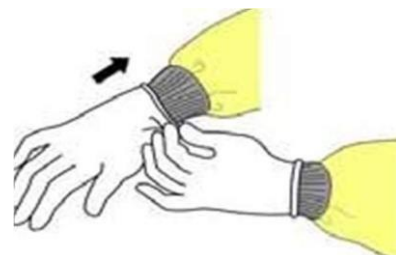


7.4 How to don Eye and Face Protection

- a. Position goggles over eyes and secure to the head using the ear pieces or headband
- b. Position face shield over face and secure on brow with headband
- c. Adjust to fit comfortably

7.5 How to don Gloves

- a. Don gloves last
- b. Select correct type and size
- c. Insert hands into gloves
- d. Extend gloves over isolation gown cuffs



8 Sequence for Removing PPE

1. Gloves
2. Face shield or goggles
3. Gown
4. Mask or respirator

9 Where to remove PPE

- a. At doorway, before leaving patient room
- b. Remove respirator outside room, after door has been closed*
- c. Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based hand rub

10 Doffing/ Removing PPE

10.1 How to Remove gloves

- a. Using one gloved hand, grasp the outside of the opposite glove near the wrist
- b. Pull and peel the glove away from the hand
- c. The glove should now be turned inside-out, with the contaminated side now on the inside
- d. Hold the removed glove in the opposite gloved hand
- e. Slide ungloved finger under the wrist of the remaining glove
- f. Peel off from inside, creating a bag for both gloves
- g. Discard



10.2 Remove goggles or face shield

- a. Using ungloved hands, grasp the “clean” ear or head pieces and lift away from face
- b. If goggle or face shield are reusable, place them in a designated receptacle for subsequent reprocessing
- c. Otherwise, discard them in the waste receptacle



10.3 Removing isolation gown

- a. Unfasten ties
- b. Peel gown away from neck and shoulder
- c. Turn contaminated outside toward the inside
- d. Fold or roll into a bundle
- e. Discard



10.4 Removing a mask

- a. Untie the bottom and then top
- b. Remove from face
- c. Discard



10.5 Removing a particulate respirator

- a. Lift the bottom elastic over your head first
- b. Then lift off the top elastic
- c. Discard

11. Hand Hygiene

- a. Perform hand hygiene immediately after removing PPE.
- b. If hands become visibly contaminated during PPE removal, wash hands before continuing to remove PPE
- c. Wash hands with soap and water or use an alcohol-based hand rub
- d. Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based

HOW TO PUT ON AND TAKE OFF Personal Protective Equipment (PPE)

How to put on PPE (when all PPE items are needed)



Step 1

- Identify hazards & manage risk. Gather the necessary PPE.
- Plan where to put on & take off PPE.
- Do you have a buddy? Mirror?
- Do you know how you will deal with waste?



Step 2

- Put on a gown.



Step 3a

- Put on face shield.

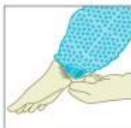
OR



Step 3b

- Put on medical mask and eye protection (e.g. eye visor/goggles)

Note: If performing an aerosol-generating procedure (e.g. aspiration of respiratory tract, intubation, resuscitation, bronchoscopy, autopsy), a particulate respirator (e.g. US NIOSH-certified N95, EU FFP2, or equivalent respirator) should be used in combination with a face shield or an eye protection. Do user seal check if using a particulate respirator.



Step 4

- Put on gloves (over cuff).

How to take off PPE



Step 1

- Avoid contamination of self, others & the environment
- Remove the most heavily contaminated items first

Remove gloves & gown

- Peel off gown & gloves and roll inside, out
- Dispose gloves and gown safely



Step 2

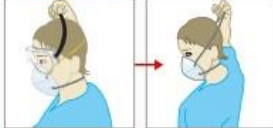
- Perform hand hygiene



Step 3a

If wearing face shield:

- Remove face shield from behind
- Dispose of face shield safely



Step 3b

If wearing eye protection and mask:

- Remove goggles from behind
- Put goggles in a separate container for reprocessing
- Remove mask from behind and dispose of safely



Step 4

- Perform hand hygiene

V. CONVENTIONAL MANAGEMENT OF LABORATORY

After doing the overall planning as stated above the COVID Care Centers, COVID FIRST LINE TREATMENT CENTER and COVID HOSPITALS will be ready.

1. **Scope:** To be used by the Government health authorities/ hospitals/ clinicians/ laboratories planning to collect appropriate clinical samples as indicated for diagnosis of COVID 19.
2. **Purpose:** This document describes the information for collection, packaging and transport of clinical specimens Laboratory for diagnosis of COVID 19.
3. **Responsibilities:**
 - a. The clinician should decide necessity for collection of clinical specimens for laboratory testing of 2019-nCoV only after following the case definition as given by the health authorities, Government of India.
 - b. Appropriate clinical samples need to be collected by Pulmonologist trained in specimen collection in presence of a Microbiologist.
 - c. By following all biosafety precautions and using personal protective equipment (PPEs), clinical samples need to be sent to the designated laboratory by following

standard triple packaging.

4. **Selection of patient:** Any person who presents with COVID 19 symptoms and any one of the following i.e. a history of travel from COVID affected countries in 14 days prior to symptoms onset; disease in healthcare worker working in an environment of COVID 19 patients; unusual or unexpected clinical course, especially sudden deterioration despite appropriate treatment; should be urgently investigated.
5. **Specimen labeling and processing:**
 - a. Personal protective equipment (apron, hand gloves, face shield, N95 Masks etc.) need to be used and all biosafety precautions should be followed so as to protect individuals and the environment.
 - b. Proper labeling (name/age/gender/specimen ID) need to be done on specimen container and other details of sender (name/address/phone number) on the outer container by mentioning “To be tested for COVID-19”.
6. **Samples to be collected**
 - a. Nasopharyngeal swab / Nasal Swabs – 2
 - b. Throat Swab
 - c. Before collecting the samples, it requires to be ensured that neck is in extended position.
 - d. 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).
 - e. 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 Viral Transport Medium, VTM and stored and transported to the designated lab at 4 degree Celsius as soon as possible (same day).
 - f. 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.
 - g. Place specimens for transport in leak-proof specimen bags /Ziploc pouch (secondary container) with the patient’s label on the specimen container (primary container), and a clearly written laboratory request form.
 - h. Ensure that health-care facility laboratories adhere to appropriate biosafety practices and transport requirements according to the type of organism being handled.
 - i. Document patient’s full name, age / date of birth of suspected 2019-nCoV case of potential concern clearly on the accompanying laboratory request form.
 - j. Notify the laboratory as soon as possible that the specimen is being transported.
7. **Checklist of items for preparedness for sample collection from suspected new coronavirus outbreak cases -**

It is recommended that sample collection from suspected new corona virus outbreak cases should be carried out in a dedicated isolated room with independent air handling facility through use of exhaust fans and appropriate HEPA filters.

- A. Guidelines for sample collection and transportation
- B. Hand sanitizer
- C. Round the clock running water and soap
- D. PPE (Personal Protective Equipment) Kits containing at least:

- a) Head cover
- b) N-95 Respirator or equivalent
- c) Eye goggles/Face shield
- d) Full sleeved outer impermeable gown / overalls
- e) Gloves
- f) Shoe Covers
- g) Patient Performa for 2019-nCoV testing
- h) Viral Transport Medium Vial
- i) Sterile individually packed swabs with flocked nylon/Dacron/polyester tips with synthetic shaft with break point
- j) Permanent markers
- k) Tongue depressors
 - i. Triple layer packaging materials including: Paraffin tape or equivalent for sealing individual VTM vials
 - ii. Cotton or absorbent material
 - iii. Clear zip lock bags
 - iv. Ice packs
 - v. Vaccine carriers
 - vi. Thermocol boxes
 - vii. Biohazard labels
- m) Refrigerators
- n) Deep freezers, if samples are to be stored beyond 48 hrs.
- o) Facilities for disposal of bio-medical waste as per latest bio medical waste management rules
- p) Colored bins with colored disposal bio-medical waste bags, available at the anteroom for bio medical hazard
 - i. Puncture proof container
 - ii. Sodium hypochlorite
 - iii. SPILL KIT containing at least:
 - iv. PPE KIT
 - v. Warning labels – Biohazard, “DO NOT ENTER” sign
 - vi. Marker/Chalk
 - vii. 1% freshly prepared sodium hypochlorite
 - viii. Cotton/Tissue paper rolls/Blotting paper/Absorbent material
 - ix. Tongs /Forceps and Dust pan
 - x. BMW Bags
 - xi. Mops and floor disinfectants

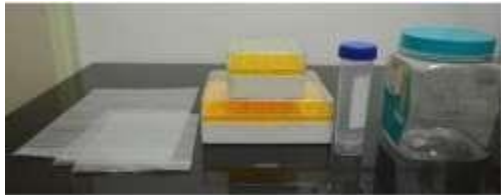
8. Specimen collection details (Adapted from the WHO guidelines on 2019-nCoV):

Specimen type	Collection materials	Transport to laboratory	Storage till testing	Comments

Nasopharyngeal and oropharyngeal swab	Dacron or polyester floccated swabs*	4 °C	≤5 days: 4 °C >5 days: -70 °C	The nasopharyngeal and oropharyngeal swabs should be placed in the same tube to increase the viral load
Broncho alveolar lavage	sterile container*	4 °C	≤48 hours: 4 °C >48 hours: -70 °C	There may be some dilution of pathogen, but still a worthwhile specimen
Tracheal aspirate, nasopharyngeal aspirate or nasal Wash	sterile container*	4 °C	≤48 hours: 4 °C >48 hours: -70 °C	Not applicable
Sputum	sterile container	4 °C	≤48 hours: 4 °C >48 hours: -70 °C	Ensure the material is from the lower respiratory tract
Tissue from biopsy or autopsy including from lung	sterile container with saline	4 °C	≤24 hours: 4 °C >24 hours: -70 °C	Autopsy sample collection preferably to be avoided
Serum (2 samples – acute and convalescent)	Serum separator tubes (adults: collect 3-5 ml whole blood)	4 °C	≤5 days: 4 °C >5 days: -70 °C	Collect paired samples: acute – first week of illness convalescent – 2 to 3 weeks later

*For transport of samples for viral detection, use VTM (viral transport medium) containing antifungal and antibiotic supplements. Avoid repeated freezing and thawing of specimens.

9. Requirements for Clinical Samples Collection, Packaging and Transport

1. Sample vials and Virus Transport Medium (VTM) 	2. Adsorbent material (cotton, tissue paper), paraffin, scissor, cello tape 	3. A leak-proof secondary container (e.g., Ziploc pouch, cryobox, 50 ml centrifuge tube, plastic container) 
4. Hard-frozen Gel Packs 	5. A suitable outer container (e.g., thermocol box, ice-box, card-board box) (minimum dimensions: 10 x 10 x 10 cm) 	

10. Procedure for Specimen Packaging and Transport

1. Use PPE while handling specimen 	2. Seal the neck of the sample vials using parafilm 	3. Cover the sample vials using absorbent material 	4. Arrange primary container (vial) in secondary container 
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5. Placing the centrifuge tube inside a zip-lock pouch 	6. Placing the zip-lock pouch inside a sturdy plastic container and seal the neck of the container 	Note: Sample vials can also be placed inside a zip-lock pouch, covered in absorbent material and secured by heat-sealing or rubber bands. Then, the zip-lock pouch should be placed inside another plastic pouch and secured	7. Using a thermocol box as an outer container and placing the secondary container within it, surrounded by hard-frozen gel packs 
Using a hard cardboard box as an outer container and placing the secondary container and the gel packs 	8. Placing the completed Specimen Referral Form (available on www.niv.co.in) and request letter inside a leak-proof, zip-lock pouch 	9. Securing the zip-lock pouch with the Specimen Referral Form on the outer container 	10. Attaching the labels: Senders' address, contact number; Consignee's address /contact number; Biological substance- Category B; 'UN 3373'; Orientation label, Handle with care 

11. Documents to accompany:

- Packaging list/Performa Invoice
- Air way bill (for air transport) (to be prepared by sender or shipper)
- Value equivalence document (for road/rail/sea transport)

[Note: A vaccine-carrier/ice-box can also be used as an outer container. The minimum dimensions of the outer container should be 10 x 10 x 10 cm (length x width x height)]

VI. CONVENTIONAL MANAGEMENT OF BMW

Protocol is based on Bio-medical waste management rules for BMW from patients in Corona Virus Ward/OPD. Only pre-treatment and segregation will be done in the hospital and the final disposal will be done by common biomedical waste treatment and disposal facility (CBMWTF).

- Biomedical waste devices, articles generated during diagnosis, treatment, management,

immunization from patients with nCoV and HCW working in such ward/OPD should be managed in accordance with safe routine procedures and rules.

I. Yellow Category

- 1. Human Anatomical Waste:** Human tissues, biopsies are to be disposed of in yellow colored non-chlorinated plastic bags.
- 2. Soiled Waste:** Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components are disposed of in yellow bag.
- 3. Cytotoxic drug vials** shall not be handed over to unauthorized person. Expired cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature $>1200^{\circ}\text{C}$. Leftover cytotoxic drugs and items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc. to common biomedical waste treatment facility for incineration at $>1200^{\circ}\text{C}$ in yellow bag or container with cytotoxic label.
- 4. Chemical Waste:** Chemicals used in production of biological and used or discarded solid disinfectants, residual or discarded chemical solid waste and chemical sludge are discarded in yellow colored non-chlorinated plastic bags or containers and disposed of by incineration by CBMWTF.
- 5. Liquid waste** generated due to use of chemicals in production of biological use or discarded disinfectants, patients samples infected secretions, aspirated body fluids liquid from laboratory, ward, OT and disinfecting activities etc. should be collected separately and made safe by disinfection by chemical treatment using 1-2% sodium hypochlorite solution for a contact period of 30 min and directed to effluent treatment system or then discharged into drains/sewers. The combined discharge should conform to the discharge norms given in schedule III, as per BMWM (Principal) rules, 2016.
- 6. Discarded items:** Linen, Mattresses, beddings contaminated with blood or body fluid Non-chlorinated (lime/alcoholic: 5 % Lysol for 30 minutes, 5% Phenol for 30 min) or 1- 2% sodium hypochlorite chemical disinfection followed by shredding and customized to fit in non-chlorinated yellow bag for incineration.
- 7. Microbiology, biotechnology waste:** Microbiology, biotechnology waste i.e. laboratory cultures, stocks or specimens of micro-organisms, live or attenuated vaccines, humans and animals cell culture used in research, residual toxins culture plates dishes have to be pre-treated on site by autoclaving in an autoclave safe plastic bag/container there after sent for final disposal in its respective color category to CBMWTF. The discarded blood bags are to be counted, sealed, weighed and all the records to be made and then packed in autoclave safe plastic bags or containers to be autoclaved on site and then sent in yellow bag to CBMWTF for incineration.

II. Red category

- 1. Contaminated Waste (Recyclable):** Wastes generated from disposable items such as tubing, drains, oxygen mask, bottles, intravenous tubes and sets (with needles cut), catheters, urine bags, and gloves are nicked, wherever applicable and put in red bag. The needles are cut with the needle destroyer/needle cutter preferably. The cut/mutilated syringe is disposed finally in red colored non chlorinated plastic bags or containers.

III. Translucent (White) Category

- 1. Waste sharps including Metals:** Needles, needles from needle tip cutter or burner, scalpels, blades or any other contaminated sharp object that may cause puncture and cuts. The needles are cut with the needle destroyer/needle cutter preferably. This

includes both used, discarded and contaminated metal sharps. These are stored in tamper proof, leak proof and puncture proof containers for sharps storage. Collect and send for final disposal when 3/4 full. These are sent to central common waste site in tamper proof, leak proof and puncture proof containers for final disposal to CBMWTF.

IV. Blue category:

- 1. Glass and metallic implants:** The blood sample glass vials or broken or discarded and contaminated glass like slides etc. have to be disinfected (1-2% sodium hypochlorite for 30 minutes at least) to be packed in puncture proof and leak proof boxes or containers with blue colored marking and then sent to common central waste site for final disposal to CBMWTF. The uninfected glass like medicine bottles or ampoules which are not infected are put in puncture proof and leak proof boxes or containers with blue colored marking. The metallic implants are pre-treated in the same manner and are to be packed in separate puncture proof and leak proof boxes or containers with blue colored marking.
- 2. Articles: bins, bags, trolleys**
 - 1. Bags**
 - a. The bags used for storing and transporting biomedical waste shall be in compliance with the Bureau of Indian Standards. Till the Standards are published, the carry bags shall be as per the Plastic Waste Management Rules, 2016.
 - b. Yellow, Blue, Red and translucent bags/bins/containers are marked with Biohazard symbol, hospital logo and with barcoding to be supplied by CBMWTF.
 - 2. Bins**
 - a. **Containment of waste:** An optimum number of easy to use, standard, uniform, covered, foot operated bins of colors i.e., yellow, red bins of appropriate size would be placed at identified places in all clinical areas.
 - b. **Disinfection of Bins:** Chemical disinfection of the waste bins using hypochlorite solution (1-2%) should be done frequently at a separate washing facility in the hospital, daily preferably, at least once a week.
- 3. Segregation, package and then transport and storage to common waste site**
 - a. All the biomedical waste is labeled as waste type, site of generation, date of generation before transportation from the generation site.
 - b. Waste is stored in the areas of generation at an identified safe area, for an interim period after which it is transported to CBMWTF for final treatment and final disposal.
 - c. During this period, it is the responsibility of the administration, sanitation and security staff to ensure the safety and prevention of pilferage and recycling of the waste.
 - d. No untreated bio-medical waste shall be kept stored beyond a period of 48 hours.
- 4. Collection**
 - a. It is done twice daily or more frequently from wards/laboratories.
 - b. Label is filled up by staff on duty and given to waste collectors
 - c. Each patient care area has been provided with the waste receipt (log) book to record the quantity /number of yellow, blue, red, white (translucent) bags handed over to HCW.
 - d. All the staff are required to duly fill in the waste book color code wise mentioning the number and size of bags handed over and sign the slip for further record and also to fill BMW register daily color category wise.

5. Transportation

- a. Hospital waste is transported in securely tied bags from the site of generation to central waste storage site through designated route, on dedicated, color coded, covered and leak proof wheel barrows/Trolleys.
- b. At the waste treatment premises verification of the number/size of the bags is done for each trolley by the sanitation staff for recording and quantification and barcoding before disposal.
- c. The central waste storage site is cleaned daily.
- d. Chemical disinfection of the trolleys using hypochlorite solution is being done at the waste storage site, should be cleaned and disinfected daily.

6. Transportation to CBMWTF

- a. The operator of CBMWTF shall transport the bio-medical waste from the premises of an occupier to any off-site bio-medical waste treatment facility only in the vehicles having label as per BMW (Principal) rules, 2016.
 - b. The vehicles used for transportation of biomedical waste shall comply with the conditions stipulated by the SPCB in addition to the requirement contained in the Motor Vehicles Act, 1988 (59 of 1988), or the rules made there under for transportation of such infectious waste.
 - c. Global positioning system has been added by the CBMWTF.
7. Barcode label will have to be made available on every bag or container as per CPCB guidelines
8. For disinfection of BMW articles freshly prepared 1-2% Sodium hypochlorite is recommended
9. 1% Sodium hypochlorite is 1:100 dilution (525-615 ppm of available chlorine)
10. Hospital supply of sodium hypochlorite is 10% or 4% (please see label and manufacturer's instructions)
11. All lab waste, patient's samples, blood bags, toxins, live vaccines, cultures (liquid/solid), devices used to transfer cultures need pre-treatment.

Color-coded bags & Color Category wise Treatment

Category	Type of Waste	Type of Bag or Container to be used*	Treatment and Disposal options
	Human anatomical Waste:	Yellow colored non-chlorinated plastic bags	Incineration by CBMWTF
	Human anatomical Waste:		
	Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton Swabs		Incineration by CBMWTF

Yellow	Expired or discarded medicines- antibiotics, cytotoxic drugs	Yellow colored non-chlorinated plastic bags or containers with cytotoxic labels	Expired cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature >1200 °C. Leftover cytotoxic drugs and items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc to common biomedical waste treatment facility for incineration at >1200 °C.
	Chemical Waste: solid discarded chemicals	Yellow colored non-chlorinated plastic bags or Containers	Disposed of by incineration by CBMWTF
	Chemical Liquid Waste: Liquid waste generated due to use of chemicals and used or discarded Disinfectants	Separate collection system leading to effluent treatment plant (ETP) system	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in BMW rules, 2016
	Discarded linen: contaminated with blood or body fluid.	Non-chlorinated yellow plastic bags or suitable packing material	Non-chlorinated (alcoholic: 5% lysol, 5% phenol) chemical disinfection followed by incineration.
	Routine mask and Gown		Incineration
	Microbiology, Biotechnology and other clinical laboratory waste, PVC Blood bags	Autoclave safe plastic bags or containers	Autoclave or Pre-treat to disinfect.** Treated waste to be sent to CBMWTF for incineration.
Red	Contaminated Waste (Recyclable) Plastics tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles and fixed needle syringes) and vacutainers with their needles cut)	Red-colored non chlorinated plastic bags or containers	Treated waste to be sent to CBMWTF who would after sterilization and shredding send such waste to registered or authorized recyclers or for energy recovery

	and gloves		
White (Translucent)	Waste Sharps	Puncture proof, Leak proof, tamper proof containers	Disinfection/Autoclaving or dry heat sterilization/ sent to CBMWTF and who will ensure final disposal to iron foundries (having consent to operate from the SPCB/PCC)
Blue	Glass: medicine glass vials or broken or discarded and contaminated glass	Puncture proof and leak proof boxes or containers with blue colored Marking	Autoclaving/Microwaving/hydroclaving by CBMWTF and then recycling. Contaminated glass slides require pre- treatment (disinfection by sodium hypochlorite)
	Metal implants/metal guns	Puncture proof and leak proof boxes or containers with blue colored marking	

VII. CONVENTIONAL MANAGEMENT OF HOSPITAL PHARMACY

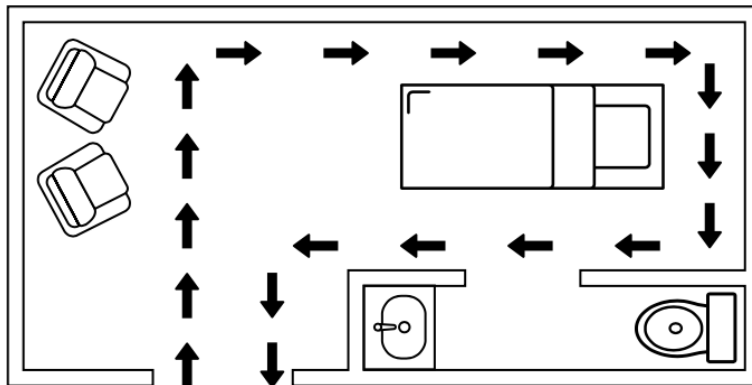
1. Identify the nodal person for the pharmacy. Ensure training for all staff in the pharmacy is provided.
2. Find volunteers from Rajasthan Pharmacist associations if needed.
3. Prepare essential medication lists for each center.
4. Procurement, acquisition, storage, stock and stockpile monitoring. Identify multiple vendors in advance.
5. Plan to estimate periodic consumption (daily /weekly) of medicines.
6. Plan for estimating future requirements as per past consumption.
7. Update inventory daily.
8. Plan for inventory feedback with the procurement system.
9. Decide each role by job card.
10. Staff screening for sickness.
11. Staff training on infection control practices /PPE usage.

VIII. CONVENTIONAL MANAGEMENT OF HOUSEKEEPING

1. Calculate and identify manpower required for all shifts x 24 hour x 7 days in each centre.
2. Disinfection SOP.

3. Training on SOP.
4. PPE use and infection control practice training.
5. Daily screening of staff for sickness.
6. Plan for procurement, acquisition, storage, stock and stockpile monitoring of disinfectants. Identify multiple vendors in advance.
7. Estimating the daily consumption of disinfectants.
8. Plan for updating daily inventory.
9. Plan for estimating future requirements based on consumption and inventory check.
10. Decide each role by Job card

Example of a cleaning strategy for environmental surfaces, moving in a systematic manner around the patient care area.



Courtesy: WHO

IX. CONVENTIONAL MANAGEMENT OF LOGISTICS

1. Arrange a centralized procurement system for each district for procurement, transport, warehousing, stock monitoring, tracking and reporting of essential equipment
2. Prepare list of essential equipment's, consumables and medications in consultation with end users for each district(Includes ventilator with inbuilt compressors, NIV with hood (NOT mask), monitors, syringe pumps, infusion pumps, blood gas machines) AND list out consumables, list of pre-defined essential medications required for each district.
3. Plan how to get feedback from the end user's consumption and inventory and plan procurement so that there won't be any interruption.

X. CONVENTIONAL MANAGEMENT OF SECURITY SERVICES

1. Identify potential people from Ex military services
2. Identifying possible major security problems and training how to tackle it.
3. Infection control practices AND PPE usage training.
4. Train how to restrict traffic to restricted areas.
5. Plan how to control the mob.
6. Plan how to connect with Governmental organizations like police, ambulance services, fire etc. whenever needed.

PROTOCOL FOR CLUSTER SCREENING

A. Cluster Containment:

Definition

1. A cluster is defined as ‘an unusual aggregation of health events that are grouped together in time and space and that are reported to a health agency’ (Source CDC). Clusters of human cases are formed when there is local transmission. The local transmission is defined as a laboratory confirmed case of COVID-19:
 - a. Who has not travelled from an area reporting confirmed cases of COVID-19 or
 - b. Who had no exposure to a person travelling from COVID-19 affected area or other
 - c. known exposure to an infected person
 - d. There could be single or multiple foci of local transmission. \There may or may not be an epidemiological link to a travel related case

B. Cluster containment strategy

- a. The main objective is to contain the disease within the geographical location with early identification and break the chain of transmission and spread to new areas. This includes geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, home quarantine of contacts, social mobilization to follow preventive public health measures

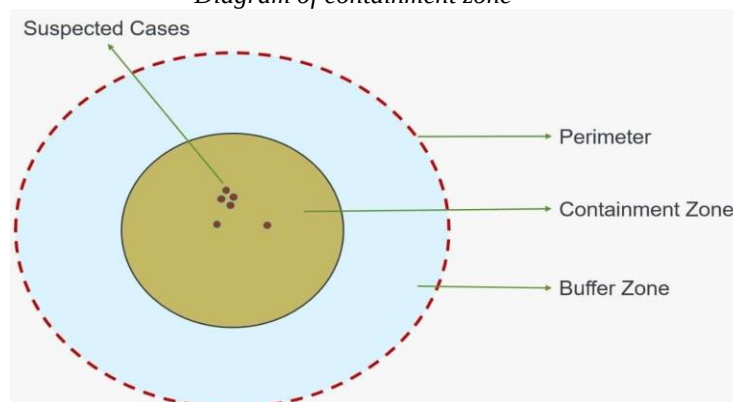
C. Containment Zone

1. The containment zone will be defined based on:
 - b. The index case / cluster, which will be the designated epicenter
 - c. The listing and mapping of contacts.
 - d. Geographical distribution of cases and contacts around the epicenter.
 - e. Administrative boundaries within urban cities /town/ rural area.
2. Based on the geographical occurrence of the positive case containment zone is defined as follows:
 - a. Buffer Zone: Area around the containment zone, where new cases are most likely to appear.
 - b. Perimeter: Perimeter of the containment zone will be decided by the district administration based on criteria defined. Clear entry and exit points will be established.
 - c. The RRT will do listing of cases, contacts and their mapping. This will help in deciding the perimeter for action. The decision of the geographic limit and extent of perimeter control will be that of the state government

S. No	Scenario	Containment Zone Characteristics
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1	A small cluster in closed environment such as residential schools, military barracks, hostels or a hospital.	Containment zone will be determined by mapping of the persons in such institutions including cases and contacts. A buffer zone of additional 5 Km radius* will be identified.
2	Single cluster in a residential colony	Administrative boundary of the residential colony and a buffer zone of additional 5 Km radius
3	Multiple clusters in communities (residential colony, schools, offices, hospitals etc.) with in an administrative Jurisdiction	Administrative boundary of the urban district and a buffer zone of neighboring urban districts.
4	Multiple clusters spatially separated in different parts administrative districts of a city	Administrative boundary of city/ town and congruent population in the peri urban areas as the buffer zone
5	Cluster in a rural setting	3 Km radius of containment zone and additional 7 kms radius of buffer zone.

Diagram of containment zone



D. Surveillance in containment zone

1. Contact listing

- The RRTs will list the contacts of the suspect / laboratory confirmed case of COVID. The District Surveillance Officer along with the RRT will map the contacts to determine the potential spread of the disease. If the residential address of the contact is beyond that district, the district IDSP will inform the concerned District IDSP/State IDSP.

2. Mapping of the containment and buffer zones

- The containment and buffer zones will be mapped to identify the health facilities (both government and private) and health workforce available (primary healthcare workers, Anganwadi workers and doctors in PHCs/CHCs/District hospitals).

3. Active Surveillance

- a. The residential areas will be divided into sectors for the ASHAs/Anganwadi workers/ANMs each covering 50 households (30 households in difficult areas). Additional workforce would be mobilized from neighboring districts (except buffer zone) to cover all the households in the containment zone. This workforce will have supervisory officers (PHC/CHC doctors) in the ratio of 1:4.
- b. The field workers will be performing active house to house surveillance daily in the containment zone from 8:00 AM to 2:00 PM. They will line list the family members and those having symptoms. The field worker will provide a mask to the suspect case and to the care giver identified by the family. The patient will be isolated at home till such time he/she is examined by the supervisory officer. They will also follow up contacts identified by the RRTs within the sector allocated to them.

4. Passive surveillance

- a. All health facilities in the containment zone will be listed as a part of mapping exercise. All such facilities both in government and private sector (including clinics) shall report clinically suspect cases of COVID-19 on real time basis (including 'Nil' reports) to the control room at the district level.

E. Contact Tracing

1. The contacts of the laboratory confirmed case/ suspect case of COVID-19 will be line- listed and tracked and kept under surveillance at home for 28 days (by the designated field worker).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. If the residential address of the contact is beyond the allotted sector, the district IDSP will inform the concerned Supervisory officer/concerned District IDSP/State IDSP.
2. The surveillance activities to be followed in the buffer zone are as follows:
 - a. Review of ILI/SARI cases reported in the last 14 days by the district health Official to identify any missed case of COVID-19 in the community.
 - b. Enhanced passive surveillance for ILI and SARI cases in the buffer zone through the existing Integrated Disease Surveillance Programme.
 - c. In case of any identified case of ILI/SARI, sample should be collected and sent to the designated laboratories for testing COVID-19.

F. Perimeter control

1. 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. It will also limit unchecked influx of population into the containment zone. The authorities at these entry points will be required to inform the incoming travelers about precautions to be taken and will also provide such travelers with an information pamphlet and mask.
2. All vehicular movement, movement of public transport and personnel movement will be restricted. All roads including rural roads connecting the containment zone will be guarded by police.
3. 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. All vehicle moving out of the perimeter control will be decontaminated with sodium hypochlorite (1%) solution.

G. Control room in the containment zone

1. A control room shall be set up inside the containment 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.

DEAD BODY MANAGEMENT

The main driver of transmission of COVID-19 is through droplets. There is unlikely to be an increased risk of COVID infection from a dead body to health workers or family members who follow standard precautions while handling body. Only the lungs of dead COVID patients, if handled during an autopsy, can be infectious.

1. Standard Precautions to be followed by health care workers while handling dead bodies of COVID 19 patients.

Standard infection prevention control practices should be followed at all times. These include:

1. Hand hygiene.
2. Use of personal protective equipment (e.g., water resistant apron, gloves, masks, eyewear).
3. Safe handling of sharps.
4. Disinfect bag housing dead body; instruments and devices used on the patient.
5. Disinfect linen. Clean and disinfect environmental surfaces.

2. Training in infection and prevention control practices

All staff identified to handle dead bodies in the isolation area, mortuary, ambulance and those workers in the crematorium / burial ground should be trained in the infection prevention control practices.

3. Removal of the body from the isolation room or area

- The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (water resistant apron, goggles, N95 mask, gloves).
- All tubes, drains and catheters on the dead body should be removed.
- Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed with impermeable material.
- Apply caution while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharps container.
- Plug Oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be

decontaminated with 1% hypochlorite. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.

- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in bio- hazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.
- All medical waste must be handled and disposed of in accordance with Bio- medical waste management rules.
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.
- Provide counseling to the family members and respect their sentiments.

4. Environmental cleaning and disinfection

All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.) should be wiped with 1% Sodium Hypochlorite solution; allow a contact time of 30 minutes, and then allowed to air dry.

5. Handling of dead body in Mortuary

- Mortuary staff handling COVID dead body should observe standard precautions.
- Dead bodies should be stored in cold chambers maintained at approximately 4°C.
- The mortuary must be kept clean. Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Hypochlorite solution.
- After removing the body, the chamber door, handles and floor should be cleaned with sodium hypochlorite 1% solution.

6. Embalming

- Embalming of dead body should not be allowed.

7. Autopsies on COVID-19 dead bodies

Autopsies should be avoided. If autopsy is to be performed for special reasons, the following infection prevention control practices should be adopted:

- The Team should be well trained in infection prevention control practices.
- The number of forensic experts and support staff in the autopsy room should be limited.
- The Team should use full complement of PPE (coveralls, head cover, shoe cover, N 95 mask, goggles / face shield).
- Round ended scissors should be used
- PM40 or any other heavy duty blades with blunted points to be used to reduce prick injuries
- Only one body cavity at a time should be dissected
- Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand
- Negative pressure to be maintained in mortuary. An oscillator saw with suction extraction of the bone aerosol into a removable chamber should be used for sawing skull, otherwise a hand saw with a chain-mail glove may be used
- Needles should not be re-sheathed after fluid sampling – needles and syringes should be placed in a sharps bucket.
- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue.

- After the procedure, body should be disinfected with 1% Sodium Hypochlorite and placed in a body bag, the exterior of which will again be decontaminated with 1% Sodium Hypochlorite solution.
- The body thereafter can be handed over to the relatives.
- Autopsy table to be disinfected as per standard protocol.

8. Transportation

- The body, secured in a body bag, exterior of which is decontaminated poses no additional risk to the staff transporting the dead body.
- The personnel handling the body may follow standard precautions (surgical mask, gloves).
- The vehicle, after the transfer of the body to cremation/ burial staff, will be decontaminated with 1% Sodium Hypochlorite.

9. At the crematorium/ Burial Ground

- The Crematorium/ burial Ground staff should be sensitized that COVID 19 does not pose additional risk.
- The staff will practice standard precautions of hand hygiene, use of masks and gloves.
- Viewing of the dead body by unzipping the face end of the body bag (by the staff using standard precautions) may be allowed, for the relatives to see the body for one last time.
- Religious rituals such as reading from religious scripts, sprinkling holy water and any other last rites that does not require touching of the body can be allowed.
- Bathing, kissing, hugging, etc. of the dead body should not be allowed.
- The funeral/ burial staff and family members should perform hand hygiene after cremation/ burial.
- The ash does not pose any risk and can be collected to perform the last rites.
- Large gathering at the crematorium/ burial ground should be avoided as a social distancing measure as it is possible that close family contacts may be symptomatic and/ or shedding the virus.

PROTOCOL FOR PREGNANT WOMEN

1. 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, anesthetic 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.

2. Specific Obstetric Management Considerations

A. 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

➤ 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.

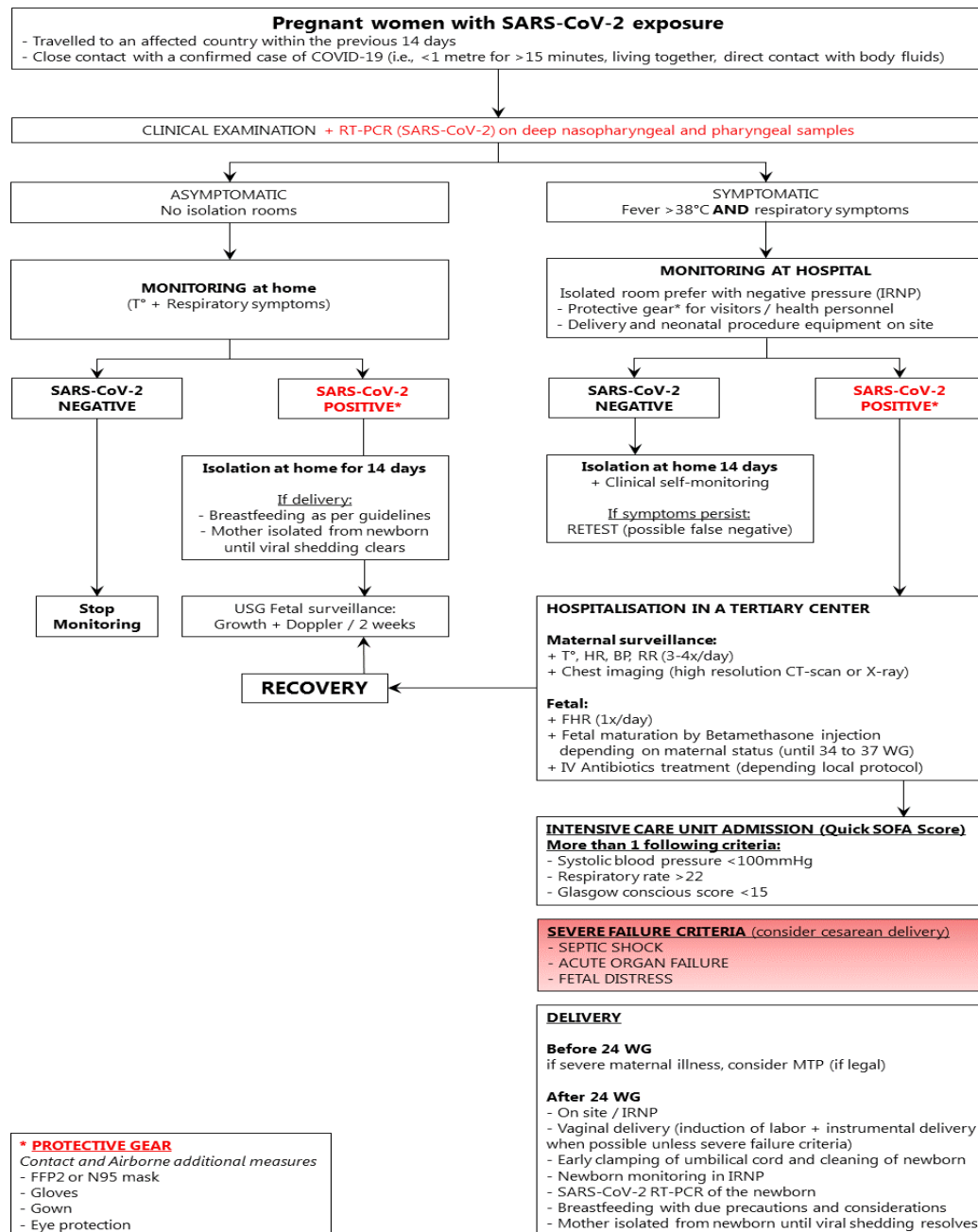
➤ Do's and Don'ts for Obstetric care providers in COVID-19 Pandemic

- 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.

Management of COVID-19 in Pregnancy



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.*

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 cardiotocography(CTG).
- Hourly oxygen saturation during labour.

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 favor 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 anesthesia is contraindicated in the presence of coronaviruses. Epidural analgesia should therefore be recommended in labour to women with suspected/confirmed COVID- 19 to minimize 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 individualized 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.

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.

Postnatal Management

It is unknown whether new-born 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 ≥ 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 hygiene¹ 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.

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.

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.

General Advice for Obstetric/Emergency Gynecology 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.

MANAGEMENT FOR DIALYSIS OF COVID 19 PATIENTS

COVID-19, a disease caused by a novel corona virus (SARS CoV-2), is currently a pandemic, which produces high morbidity in the elderly and in patients with associated comorbidities. Chronic kidney disease stage-5 (CKD-5) patients on dialysis [maintenance hemodialysis (MHD) or continuous ambulatory peritoneal dialysis (CAPD)] are also vulnerable group because of their existing comorbidities, repeated unavoidable exposure to hospital environment and immunosuppressed state due to CKD-5. These patients are therefore not only more prone to acquire infection but also develop severe diseases as compared to general population.

Patients on regular dialysis should adhere to prescribed schedule and not miss their

dialysis sessions to avoid any emergency dialysis.

There will be three situations of patients who require dialysis; patients already on maintenance dialysis, patients requiring dialysis due to acute kidney injury (AKI) and patient's critically ill requiring continuous renal replacement therapy (CRRT).

General Guidelines for Administration

1. State/UT should identify and earmark at-least one hemodialysis facility with adequate number of dialysis machines, trained staff, reverse osmosis (RO) water system and other support equipment as preparatory fixed-point dialysis unit in case of rise of Covid-19 epidemic.
2. Health departments may issue directives to the district administrations allowing easy movements of these patients (with one attendant) to dialysis facility. Patients who do not have private vehicles, government run transport system should be organized for facilitating transport of these patients. Patients should use their hospital papers as pass to commute to the dialysis unit.
3. District administration should ensure that service providers for the dialysis consumables, both for MHD and CAPD should be allowed to deliver the material to the hospital or home as the case may be.

General Guidance for Dialysis Unit

1. Adequate medical supplies such as dialysate, dialyzers and tubing, catheters, fistula needles, disinfectant and medicines etc. must be ensured in adequate quantity
2. A sign board should be posted prominently in the local understandable language as well as Hindi and English asking patients to report any fever, coughing or breathing problem in dialysis unit and waiting area. The information including images for education can be obtained on the International Society of Nephrology website <https://www.theisn.org/covid-19>
3. All hemodialysis units should educate their personnel in hemodialysis units; including nephrologists, nurses, technicians, other staff and all patients undergoing MHD along with their care givers about COVID 19
4. All universal precautions must be strictly followed.
5. All staff should strictly follow hand hygiene (seven steps) with soap and water for 20 second before handling any patient and in between two patients. If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. If hands are visibly soiled or dirty, they should be first washed with soap and water and then an alcoholic hand rub used. Avoid touching your eyes, nose, and mouth with unwashed hands.
6. Medical and support staff treating infected patients should be monitored for COVID infection at the dialysis facility and should take necessary action if found infected.
7. Dialysis units should organize healthcare workers shift duties in a way that work of dialysis unit is not affected.
8. All hemodialysis units should be aware of the testing, triage and notification policy recommended by the Union Ministry of health and Family welfare and those by State/ UT Health Departments as well as District health authorities.
9. The dialysis unit staff should be trained for donning and doffing of Personal Protective Equipment (PPE) to be used for dialysis of COVID-19 positive patients.
10. All staff should be trained for cough etiquette, hand hygiene and proper use and disposal of mask, gown and eye glasses and the need to protect themselves.
11. All patients on dialysis, suspected of COVID – 19 should be tested with RT – PCR test as per Government of India protocol.
12. Patients with suspected or positive COVID-19 should be referred to COVID-19 care team as per local guidelines.

GUIDELINES FOR HEMODIALYSIS

I. For Patients

a. Before Arrival to Dialysis Unit

1. All units should instruct their patients to recognize early symptoms of COVID-19 (recent onset fever, Sore throat, Cough, recent Shortness of breath/dyspnea, without major inter-dialytic weight gain, rhinorrhea, myalgia/body ache, fatigue and Diarrhea) and contact dialysis staff before coming to dialysis center. The unit needs to make necessary arrangement for their arrival in the screening area.
2. Patients, who are stable on MHD may be encouraged to come to the unit alone without any attendant

b. Screening Area

1. We recommend that dialysis unit should have a designated screening area, where patients can be screened for COVID-19 before allowing them to enter inside dialysis area. Where this is not possible, patients may wait away from the dialysis unit until they receive specific instructions from the unit staff.
2. The screening area should have adequate space to implement social distancing between patients and accompanying persons while waiting for dialysis staff. In screening area, every patient should be asked about:
 - Symptoms suspected of COVID-19 as above.
 - History of contact with a diagnosed case of COVID 19
 - History of contact with person who has had recent travel to foreign country or from high COVID-19 prevalence area within our country as notified by the Central and State/ UT governments respectively.
3. Patients with symptoms of a respiratory infection should put on a facemask before entering screening area and keep it on until they leave the dialysis unit. Dialysis unit staff should make sure an adequate stock of masks is available in screening area to provide to the patients and accompanying person if necessary.
4. There should be display of adequate IEC material (posters etc.) about COVID – 19 in the screening area.

c. Inside Dialysis Unit

1. Suspected or positive COVID-19 patients should properly wear disposable three-layer surgical mask throughout dialysis duration.
2. Patients should wash hands with soap and water for at least 20 seconds, using proper method of hand washing. If soap and water are not readily available, a hand sanitizer containing at least 60% alcohol can be used.
3. Patients should follow cough etiquettes, like coughing or sneezing using the inside of the elbow or using tissue paper.
4. Patients should throw used tissues in the trash. The unit should ensure the availability of plastic lined trash cans appropriately labeled for disposing of used tissues. The trash cans should be foot operated ideally to prevent hand contact with infective material.
5. There should be display of adequate IEC material (posters etc.) about COVID – 19 in the dialysis area.

II. For Dialysis Staff

a. Screening Area

1. The unit staff should make sure an adequate stock of masks and sanitizers are available in screening area to provide to the patients and accompanying person if necessary.

b. During Dialysis

1. It should be ensured that a patient or staff in a unit does not become the source of an outbreak.
2. Each dialysis chair/bed should have disposable tissues and waste disposal bins to ensure adherence to hand and respiratory hygiene, and cough etiquette and appropriate alcohol-based hand sanitizer within reach of patients and staff.
3. Dialysis personnel, attendants and caregivers should also wear a three-layer surgical facemask while they are inside dialysis unit.
4. Ideally all patients with suspected or positive COVID-19 are dialyzed in isolation. The isolation ideally be in a separate room with a closed door, but may not be possible in all units. The next most suitable option is the use of a separate shift, preferably the last of the day for dialyzing all such patients. This offers the advantage of avoiding long waiting periods or the need for extensive additional disinfection in between shifts. The next suitable option is to physically separate areas for proven positive and suspected cases. Where this is also not possible, we suggest that the positive or suspected patient may be dialyzed at a row end within the unit ensuring a separation from all other patients by at least 2 meters.
5. Staff caring for suspected or proved cases should not look after other patients during the same shift.
6. Dialysis staff should use of all personal protective equipment (PPE) for proven or strongly suspected patients of COVID-19. Isolation gowns should be worn over or instead of the cover gown (i.e., laboratory coat, gown, or apron with incorporate sleeves) that is normally worn by hemodialysis personnel. If there are shortages of gowns, they should be prioritized for initiating and terminating dialysis treatment, manipulating access needles or catheters, helping the patient into and out of the station, and cleaning and disinfection of patient care equipment and the dialysis station. Sleeved plastic aprons may be used in addition to and not in place of the PPE recommended above.
7. Separating equipment's like stethoscopes, thermometers, Oxygen saturation probes and blood pressure cuffs between patients with appropriate cleaning and disinfection should be done in between shifts.
8. Stethoscope diaphragms and tubing should be cleaned with an alcohol-based disinfectant including hand rubs in between patients. As most NIBP sphygmomanometer cuffs are now made of rexine they should also be cleaned by alcohol or preferably hypochlorite-based (1% Sodium Hypochlorite) solutions however the individual manufacturer's manuals should be referred to.
9. Staff using PPE should be careful of the following issues:
 - While using PPE, they will not be able to use wash room so prepare accordingly
 - After wearing eye shield, moisture appears after some time and visibility may become an issue. Therefore, machine preparation can be done in non-infected area before shifting to near the patient
 - If dialysis is to be done bed-side in the hospital, portable RO should be properly disinfected with hypochlorite (1% Sodium Hypochlorite) solution between use of two patients.

MANAGEMENT OF NON-COVID PATIENTS CURRENTLY ADMITTED IN THE HOSPITAL.

- All the emergencies shall be handled as it is being done now, if the patients are coming to the

existing facilities because people know the address and for convenience they should be attended to, if we refer these to some other Hospitals, the time lost to travel to other hospital will be detrimental to the life of the patient.

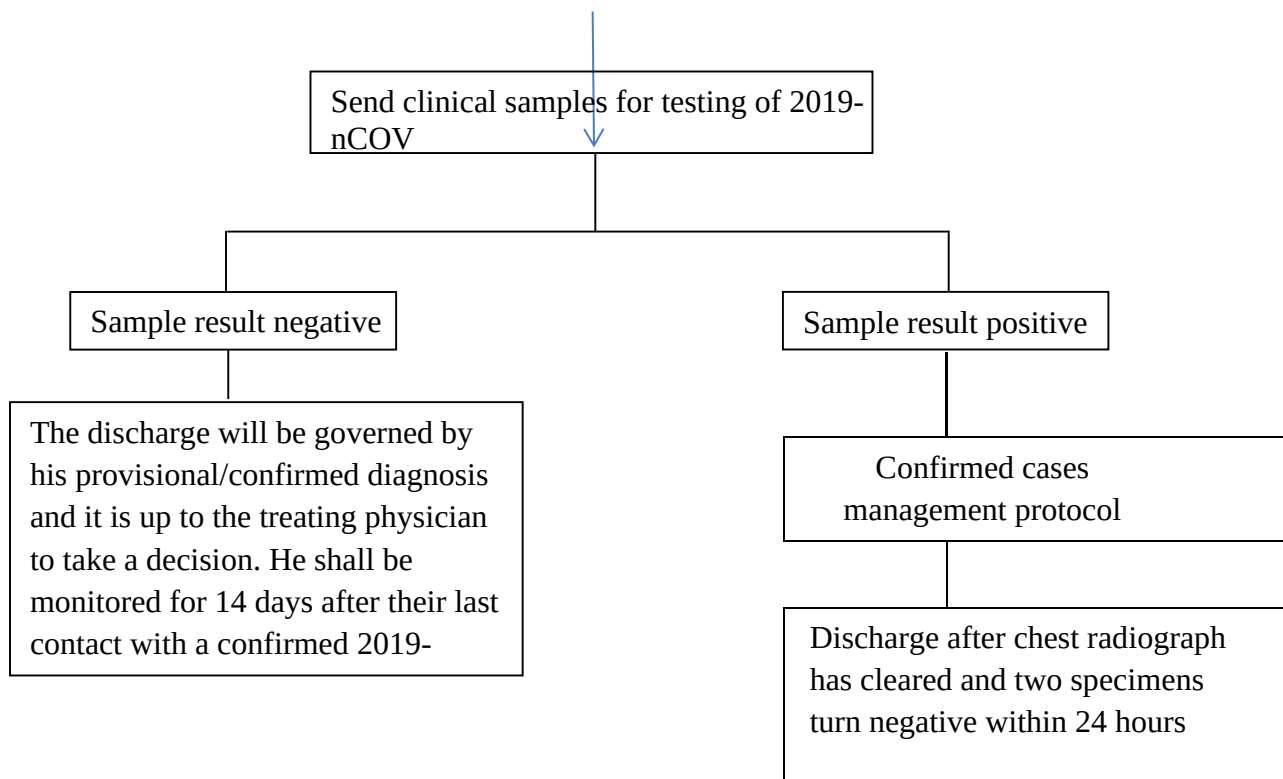
- All super specialty Hospitals will continue to function as they have been functioning during the normal time. They should also provide services to the emergency cases.
- All COVID positive patients such as delivery etc. to be done as per the protocol. We have been conducting HIV positives deliveries. Similar kind of precautions may be taken.
- Other than emergencies the other general OP and IP will get shifted to one level down Hospitals i.e. General Hospitals under Directorate of Health Services. If the human resource in MCH is not involved in COVID care such Human Resource should be deployed to the General Hospitals so as to ensure that proper health care is provided to other general patients. The General Hospitals are linked to Taluka Hospitals, CHCs and FHC and PHC at the grass root level. These health institutions shall cater to the general population with other ailments than COVID infection.
- Those districts without medical Colleges, where the tertiary care facilities are provided by District Hospitals or General Hospitals and while converting District Hospital to COVID Hospital the specialties and super specialties will function in the General Hospital. The Human Resource available in the other hospital and if they are not involved in COVID treatment they may be pooled and redeployed to the General Hospital to run the Specialty and Super specialty services.
- Surgery, Medicine, Orthopedics, ENT, OMFS, Psychiatry, Respiratory Medicine, and Cardiology can be relocated to the government general hospitals in the district with relocation of essential specialists on a turn basis, if required.
- Nephrology and patients on dialysis can be relocated to major hospitals under government and private sector where facilities for dialysis are available. (Temporary shifting of equipment also may be considered if there are no technical issues)
- The specialists Doctors not directly involved in the COVID care may get shifted to the General Hospitals to continue tertiary care to the emergency patients.

DISCHARGE POLICY FOR COVID 19 CASE

Clinical samples of any suspect/probable case* of nCOV will be sent for laboratory confirmation to designated laboratories. The case will be kept in isolation at health facility till the time of receipt of laboratory results and given symptomatic treatment as per existing guidelines. If the laboratory results for nCOV are negative, the discharge of such patients will be governed by his provisional/confirmed diagnosis and it is up to the treating physician to take a decision. The case shall still be monitored for 14 days after their last contact with a confirmed 2019-nCoV case. In case the laboratory results are positive for nCOV, the case shall be managed as per the confirmed case

Suspect Case

management protocol. The case shall be discharged only after evidence of chest radiographic clearance and viral clearance in respiratory samples after two specimens test negative for nCOV within a period.



PLANNING AND MANAGEMENT OF CONCURRENT EMERGENCIES

- Decide what emergencies are going to cater in the hospital during a pandemic and list them.
- Decide what workforce needed to cover the concurrent emergencies
- Plan how to cater all these emergencies
- Plan how to avoid mixing up of pandemic management with concurrent emergencies.
- Medico legal, trauma cases, Road traffic accident cases and post-mortem examinations can be conducted at levels where facilities are available.
- Staff surveillance mechanism
- Plan manpower to handle concurrent emergencies.

- Credentialing, privileging and training of extra manpower
- Job sheet for each category of workforce.

INSURANCE SCHEME FOR HEALTH CARE WORKERS FIGHTING COVID

- Under 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 and accidental death on account of COVID 19 related duty. The Scheme has been sanctioned and premium paid to the insurance company.
- 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
- The insurance is free for the beneficiaries and the premium has been paid by the government for these beneficiaries.

ADVISORY FOR ELDERLY PEOPLE OF INDIA DURING COVID 19

Globally, COVID-19 has impacted several lives and is steadily increasing its reach. While Indian Government has taken stringent actions to contain the spread of COVID-19, including nation-wide lockdown, it is also critical for each one of us to follow the protocols and take necessary measures and precautions to break the chain of transmission of the disease.

Elderly people are at a higher risk of COVID-19 infection due to their decreased immunity and body reserves, as well as multiple associated co-morbidities like diabetes, hypertension, chronic kidney disease and chronic obstructive pulmonary disease. Also, course of disease tends to be more severe in case of elderlies resulting in higher mortality.

However, COVID-19 transmission among elderly population can be reduced by taking following measures:

DO'S

1. Stay at home. Avoid meeting visitors at home. If meeting is essential, maintain a distance of one meter.
2. Wash your hands and face at regular intervals with soap and water.
3. Sneeze and cough either into your elbow or into tissue paper / handkerchief . After coughing or sneezing dispose of the tissue paper/ wash your handkerchief.
4. Ensure proper nutrition through home cooked fresh hot meals, hydrate frequently and take fresh juices to boost immunity.
5. Exercise and meditate.
6. Take your daily prescribed medicines regularly.
7. Talk to your family members (not staying with you), relatives, friends via call or video conferencing, take help from family members if needed
8. Postpone your elective surgeries (if any) like cataract surgery or total knee replacement
9. Clean the frequently touched surfaces with disinfectant regularly
10. Monitor your health. If you develop fever, cough and/or breathing difficulty immediately contact nearest health care facility and follow the medical advice rendered

DON'Ts

1. Do not cough or sneeze into your bare hands or without covering your face.

2. Don't go near your contacts if you are suffering from fever and cough.
3. Don't touch your eyes, face, nose and tongue.
4. Don't go near affected/ sick people .
5. Don't self-medicate.
6. Don't shake hands or hug your friends and near ones.
7. Do not go to hospital for routine checkup or follow up. As far as possible make tele-consultation with your healthcare provider.
8. Don't go to crowded places like parks, markets and religious places.
9. Don't go out unless it is absolutely essential.

ADVISORY ON HOMEMADE PROTECTIVE COVER USE FOR FACE AND MOUTH

- We are aware that social distancing and personal hygiene are keys to prevent COVID 19 infections. Certain countries have claimed benefits of homemade face cover for the general public. Such homemade face cover is a good method for maintaining personal hygiene. Such usage certainly will help in maintaining overall hygienic health conditions.
- Therefore, it is suggested that such people who are not suffering from medical conditions or having breathing difficulties may use the handmade reusable face cover, particularly when they step out of their house. This will help in protecting the community at large.
- This face cover is not recommended for either health workers or those working with or in contact with COVID 19 patients or are patients themselves as these categories of people are required to wear specified protective gear.
- It is advised that two sets of such face covers be made so that one can be washed while the other is used. Hand washing would still remain essential criteria and hand should be washed before wearing the face cover. Such face covers should also not be thrown anywhere but kept safely, washed properly with soap and hot water and dried properly before they are used.
- These face covers could be made out of clean cloth available at home, which needs to be thoroughly cleaned and washed before a face cover is stitched/made. The face cover should be prepared in such a manner that it can cover the mouth and nose completely and can be tied over the face easily.
- There must not be a sharing of face covers and a face cover must be used by only one individual. So, in a family of several members, each member should have a separate face cover.

CONCLUSION

The COVID-19 pandemic is now a major global health emergency. As it continues to spread in several countries, the epidemic has begun in India. The trajectory that the epidemic may take is not entirely clear; hence we need to do the best of our preparations to deal with the COVID 19 cases and Preparation for the worst should be put in place at war footing. We have provided insights for the preparedness of the health-care settings for the state. HCWs who are at the frontlines in the fight against infectious disease are the most vulnerable. This document deals with various ways of protecting them and ensuring that their lives and welfare are not compromised in the battle against this dreadful disease.

Project-2

- **Lockdown ease strategies,**
Preparedness Plans

INTRODUCTION

The world is currently witnessing the worst public health crisis in recent history, with COVID-19 pandemic affecting 4,014,500 people, and resulting in 276,253 deaths around the world and in India ,COVID-19 affecting 59,765 and 1,986 deaths (as of May 9th 2020) (World-O-Meter, 2020). With no pharmaceutical treatments available in India and many countries have implemented strict social distancing measures and introduced lockdowns to control COVID-19. These measures have been necessary in substantially reducing the epidemic growth and transmissibility of the virus (Leung et al., 2020; Prem et al., 2020) and have saved thousands of lives (ECDC, 2020). However, they come at a high economic and social economic cost and disrupting the functioning of society and people's daily life

For the second time in less than 15 years, the world economy is facing a huge negative shock. While the current COVID-19 crisis directly threatens the health of the population and can kill indiscriminately, the 2008 financial crisis had significant adverse health consequences due to prolonged economic hardship in the form of the most severe economic recession since WWII (Case and Deaton 2020). Restarting the economic system quickly once the epidemic has subsided is therefore a crucial task.

Several Asian countries have been successfully curbing their COVID-19 pandemics through a combination of large-scale testing, contact tracing, isolation and quarantine, in parallel with moderate (e.g., South Korea) or strong (e.g., China) social-distancing measures. These have relied on a rapid up scaling of testing capacity and a parallel mobilization of thousands of health workers recruited to perform contact tracing. Many European countries, as well as the USA, have in contrast been overtaken by the speed of the establishment and spread of the causative virus and have failed to anticipate the supply and logistics of large-scale testing and personal protective equipment. Since no vaccine will be available for several months or even more than a year, the control of this pandemic can be achieved only by a major social reorganization. Therefore, these latter countries were left with no choice but to adopt aggressive social-distancing measures to curb the pandemic below their health systems' capacity, with variable success. A paradox is that the somewhat delayed control of these pandemics through social distancing may have left these countries with a comparatively greater fraction of an immune population than that in countries in which the pandemic was quickly contained, which could play in their favor in the prevention of resurgences.

Presently, governments worldwide are struggling to contain the Covid-19 epidemic. Most countries, such as Italy, China, USA, Germany and France, have adopted severe social distancing policies, which amount to a total lock-down of their populations, in an attempt to combat the virus. In contrast, other governments have attempted to control the effect of the virus through timed interventions. We call the first policy, the lock-down policy (LDP), and the second policy, the timed intervention policy1 (TIP).

Roughly speaking, the LDP attempts to stop the virus in its track, and in doing so, buys society some time to find effective mitigation strategies such as a vaccine, or to build healthcare capability. While such measures are likely to be effective in reducing the spread of the virus (c.f. China) they do come at a heavy economic cost. For example, In India in the first two weeks of lock-down it is estimated that 100 Million people got unemployed and in the first two days of lock-down in Ireland, it is estimated that 140,000 people were made redundant (approx. 6% of the workforce). These statistics are likely to become grimmer, and may be followed by even more severe economic consequences, as personal/mortgage loan defaults emerge, which may spread to the banking sector. Despite these costs, the LDP makes sense if we are able to utilize the time gained to develop a vaccine for the general population. On the other hand, if we are unable to develop a vaccine

quickly, this policy gives no clear exit strategy from the current crisis, and the virus may simply re-emerge once the policy of strict social distancing is relaxed

SAFETY MEASURES TO BE TAKEN BEFORE THE EXIT PLAN

The challenge remains of how to balance relaxing current control measures while minimizing ongoing community transmission of the virus. This is especially difficult as we have not yet established ways to effectively measure and track community transmission and still have an incomplete understanding of the disease itself and the risk factors for significant community transmission. For example, the degree of asymptomatic and pre-symptomatic spread, the optimal size of social gatherings, the degree of risk in different workplaces, schools and other congregate settings. Vulnerable populations remain especially at risk, as evidenced by disease resurgence in several settings, such as in-migrant workers in Singapore.

To calibrate a safe path out of 'lockdown' requires a clear appreciation of the tools and strategies currently available to us. These are unlikely to include "silver bullets" of therapies or a vaccine with estimated timelines beyond 2020 for these to pass clinical trials. Assuming that an immediate full restoration of all social and economic freedoms as advocated by some economists is off the table, there are differing opinions about whether elimination or a suppression strategy should be pursued. Elimination would keep the maximum social distancing measures in place for longer, but success is uncertain and will be continually challenged, especially when international borders are re-opened. Australia has adopted a "suppression" strategy with Stage 3 restrictions currently in place at a federal level but has indicated that elimination may be possible in some geographical areas. We provide here a strategic framework for public health action as a platform for decision-making to 'exit the lockdown'. This framework has three main elements.

1. Additional stages:

This provides a structure to define in detail the pre-requisite information needs, public health and clinical capacities, and non-Covid-19 related considerations for transitioning between stages. Key to release are clearly defined 'trigger' points: milestones that need to be reached before there is control measures are changed (rather than arbitrary predefined dates).

The **stages** are:

- **Suppress:**

During the current Suppress stage the application and coverage of existing tools are upgraded and enhanced. Planning to identify and prioritize segments of the community to be 'released' is finalized. A mechanism is established to enable a flexible and adaptive approach to move through each phase of the step down based on effective monitoring and the rapid application of new information.

- **Release:**

In the Release stage there is limited restoration of socio-economic activity. This would potentially prioritize economic and education freedoms (schools, universities, workplaces) before many recreational freedoms (such as sporting events, concerts, festivals). However, these decisions should be based on highly sensitive surveillance of and empiric data on community transmission risk, informed by appropriate transmission and economic models and extant data on social mixing and behaviors. Vulnerable groups (health care workers, aged care facilities, detention centers, prisons, rural/remote and Indigenous communities) need to be systematically monitored for disease resurgence.

- **Restore:**

The Restore stage is a prelude to Stand Down and full Recovery, with broader restoration of normal activities, continued protection of health workers and vulnerable people, maintenance

of community support for disease control measures, and further preparation for or introduction of novel tools and strategies. Travel, especially overseas travel, is likely to remain curtailed during this period, although the opening of selected low-risk routes supported by strict quarantine may be feasible. Each step down would be preceded by a short transition period of gradual releasing of restrictive actions with intense monitoring for evidence of increased community transmission of Covid-19. The transition periods require an iterative review process based on clearly defined performance indicators to determine when further release can proceed or if a return to peak control measures is needed. A data-driven, evidence-based approach with inbuilt evaluations of the effectiveness and acceptability of countermeasures, the quality of communications and community actions, as well as practical assessments of the feasibility of swiftly re-instituting higher-level restrictions is required to maintain a malleable trajectory to 'exit'. Depending on the detail of the information available, different geographical areas may be able to release restrictions at different times.

2. Optimisation

The framework is premised on the notion that the optimization of the application of all our existing tools and strategies is the immediate priority. This includes:

- Optimised platforms to improve our understanding of the virus and its spread domestically to guide our responses
- Optimised detection and monitoring systems to track community spread (testing and surveillance)
- Optimised physical and social distancing measures to prevent transmission
- Optimised communications with the public for community support and engagement with the response
- Optimised rapid response capacity for disease resurgence
- Optimised hospital and primary care systems that have surge capacity to deal with increased cases of Covid-19 and can sustain and adapt existing services under varying levels of restrictions
- Optimised platforms for the rapid application of new learning and novel tools such as diagnostics, digital technologies and medical therapies.

3. Whole of-society response:

The strategy adopts a whole-of-society approach to address the many challenges of both Covid-19 and our responses to control it by harnessing, integrating and facilitating the application of the collective expertise and capability across government, non-government and private sectors, and our community. This means that not only are the primary tools and strategies sharpened, but that the current human, material and organizational limitations of our public health responses are overcome. This involves the following components:

- Having the right information - Information needs for policy makers and response implementers must be prioritized. The novel nature of Covid-19 necessitates the rapid collation and synthesis of information from a diverse range of sources including enhanced surveillance, amplified testing, experience from overseas, rapid integration of research into the response, and broad community consultation. The impacts and unintended consequences of the pandemic across Australia (and our region) need to be better understood. Assessing people understands of Covid-19 and government actions to reduce transmission, and how this influence individual behavior is not yet well documented. Modeling enables us to examine a range of Covid-19 and non-Covid19 outcomes of sustaining, releasing and re-applying public health measures and introducing new tools and strategies. In fact, Australia

is one of the few countries in a position to consider ambitious prospective data gathering exercises during the ‘exit’ to determine the optimal way(s) to do this and prepare for local disease resurgence, new introductions if the virus, future pandemics and to share knowledge with the rest of the world. This is the key to responding to a crisis that “...is beyond our current arrangements, thinking, experience and imagination”.

A taskforce to provide and continually update evidence-based clinical guidelines, and a Covid-19 expert database have already been formed. Similar mechanisms to guide public health actions and develop more sophisticated and relevant Covid-19 models, as well as for applied research and evaluations of the domestic responses are needed to supply the ‘right’ information.

- Having the right governance and operational mechanisms can ensure effective collaboration, cooperation and coordination across disciplines and sectors to support rapid innovation and learning in real-time, unlock system bottlenecks, address emerging issues particularly those related to impacts of the response, enable high-speed information flows and fast decision-making, and ultimately to ensure rapid translation into policy and practice. Critical for success, is the full engagement of the community. For instance, the effectiveness of the current self-isolation, quarantine and physical distancing strategy requires ongoing community cooperation, which will only happen if people are equipped with the necessary knowledge, skills and resources to respond to government requirements. Existing disaster management frameworks provide templates for effective governance during emergencies and the cultivation of effective partnerships that are coordinated with and can inform policy and emergency response arms of government.
- Having the right principles and approaches - A precautionary approach to stepping down or reinstituting restrictions needs to be adopted where residual uncertainties remain. People most at-risk of infection and severe outcomes of infection need ongoing shielding. A decision on whether a least restrictive approach to maintain disease suppression or a more conservative approach to minimize the chance of disease resurgence must be made either nationally or at sub-national levels. Ethical and legal concerns have been raised with numerous aspects of the outbreak response; consensus is needed on the ethical principles and values guiding decision-making during the ‘step down’. While the Australian Health Sector Emergency Response Plan for Covid-19; adaptations in our responses to the pandemic need to account for and specifically address prevailing ethical concerns. A pro-active approach to engaging citizens in the response and supporting community resilience is needed. Inequities must be looked for and addressed. Health authorities and politicians must be transparent to engender trust and enable community cooperation with public health directives that may require backtracking with re-imposing of restrictions if outbreaks recur.

EXIT PLAN FOR COVID-19 LOCKDOWN:

In Asian countries like Taiwan, Hong Kong and Singapore, lifting of lockdown has resulted in resurgence (largely related to imported cases), forcing these countries to enforce stricter measures than was initially in place. For instance, Singapore has closed schools and nonessential businesses and instructed residents to stay home—a dramatic escalation from its initial response. Japan has also tightened its approach, declaring a state of emergency in the country’s three biggest cities (White et al., 2020; Heath, 2020; Flu, 2020).

As governments seek a path forward, they must balance public health with economic considerations. At present, there is no scientific consensus or guidance on how to exit the lockdown with no broadly agreed benchmarks for what constitutes safe conditions for returning to normal life. Asian countries like Hong Kong have adopted a “suppress-and-lift” strategy, where the

government would introduce tougher measures when the virus transmission rate was high and loosen them when it dropped to an acceptable range (White et al., 2020; Heath, 2020; Mason and Stewart, 2020).

With the growing attention worldwide to easing lockdown and the lack of clarity on the way forward, this guidance document aims to fill the knowledge gap by synthesizing the best available evidence and country experiences to provide a road map for countries on how to exit the lockdown while preserving the health of their population.

The guidance document is divided into three interrelated phases:

Preparedness Phase

What needs to be in place before restrictions can be lifted?

Starting Phase

What are the requirements Or an effective exit strategy?

Implementation Phase.

Road map to Easing lockdown.

I. PREPAREDNESS PHASE:

A synthesis of exiting evidence and knowledge identified a set of conditions that need to be in place before state governments can consider relaxation of containment measures.

These are presented below in the form of a checklist. It is worth pointing out there is no consensus or golden standard when it comes to the threshold level.

EPIDEMIOLOGICAL CONTROL

- Country are beyond the “peak” of infections (spread of disease has significantly decreased and stabilized)
- Effective reproduction number (i.e., how many people the average infected person infects), $R_0 < 1$
- Sustained decline in documented cases for at least 14 days (without decreasing testing capacity)
- Downward trajectory of positive tests as a % of total tests within a 14-day period (flat or increasing volume of tests)
- Slower doubling rate over time (i.e., how many days it takes for the number of cases to double).
- Sustained decrease in number of new infections, hospitalizations and patients in intensive care
- These are presented below in the form of a checklist. It is worth pointing out there is no consensus or golden standard when it comes to the threshold level.

SUFFICIENT CAPACITY IN HEALTH CARE FACILITIES:

- Hospitals are capable of safely treating all patients who need hospitalization without resorting to crisis standards of care (areas with hospital bed capacity near 100% are not yet ready to reduce lockdown restrictions).
- Risk of importing new cases can be managed.
- Number of hospital beds (including intensive care unit (ICU) beds are adequate.
- Occupancy rate for ICU does not affect ability to surge ICU capacity.
- Sufficient stocking of medical and personal protective equipment, such as ventilators, testing kits and face masks (for primary and secondary care workers).
- Availability of primary care structures as well as adequate staff with appropriate skills to extend service delivery to the community (including caring for patients discharged from hospitals or maintained at home) and to engage in efforts to lift restrictions.

MASSIVE TESTING AND CONTACT TRACING CAPACITY:

- Ability to conduct widespread diagnostic testing for all people with COVID-19 symptoms including health care workers and workers in essential roles as well as those at higher risks of exposures contracting or transmitting the virus. While there is no gold standard when it comes to the number of tests per population, Harvard experts recommended a minimum of 152 tests per 100,000 people each day (Collins, 2020).
- Ability to deliver quick turnaround of test results for all suspected cases (ideally within 24 hours).
- Ability to conduct active monitoring of confirmed cases.
- Ability to swiftly trace, test and quarantine every contact of confirmed cases.
- Ability to isolate and treat every case effectively (at hospital or home) .
- Ability to minimize hot spot risks in vulnerable places (e.g. nursing homes, crowded camps).
- Availability of secure data sharing to support surveillance and enable rapid case-based interventions.
- Availability of a robust sentinel surveillance system that routinely monitors for infection among samples of the population (asymptomatic cases) to enable early identification of small outbreak.

SUSTAINED PREVENTIVE MEASURES AT SCALE:

- Adequate protective items are available for the general public.
- Preventive measures are in place in workplaces, schools and other essential places.
- Communities are fully educated, engaged and empowered to transition and adapt to a new normal.

II. STARTING PHASE:

WHAT ARE THE REQUIREMENTS FOR AN EFFECTIVE EXIT STRATEGY?

Although many aspects of COVID-19 infection are still unclear and require active research, information on the number of cases as well as the transmission and severity of the virus within a given community is important to assess current and future impact of the virus; hence , information an appropriate set of response to the exit strategy.

DEFINITIONS

➤ **Number:**

Number of people infected and or/unwell in communities across the country.

➤ **Transmission:**

- Basic reproduction number (R_0) in the country.
- Extent of asymptomatic transmission.
- Extent to which children are transmitting infection.
- Positivity rate (i.e., proportion of all samples tested that are positive).
- Doubling rate (i.e., how many days it takes for the number of cases to double).

➤ **Severity**

- Case fatality risk (CFR) in the country.
- Severity risk factors: extent to which CFR may be higher for older people and for persons with multi-morbidity.

FOR A MORE EFFECTIVE EXIT STRATEGY, COUNTRIES SHOULD ALSO STRIVE TO ENSURE THE FOLLOWING ELEMENTS:

- Establish an exit lockdown task force.
- Improve infrastructure and capability for testing:
 - Develop and scale up COVID-19 diagnostic capacity, accessible for all symptomatic people or those in close contact with confirmed cases as well as all risk groups and caregivers of vulnerable populations.
 - Activate community-based care approach, leveraging the vast network of primary healthcare centers, public dispensaries and decentralized testing facilities as nodes for rapid testing, surveillance, isolation and clinical management of mild cases while referring more critical cases to designated hospital facilities.
 - Set up adequate testing schemes, specifying which combination of tests should be carried out at what stage and prioritizing test application (e.g. health workers, people who return to their workplace, elderly at care homes, etc.). The tests applied should be of an acceptable quality.
 - Create a framework for contact tracing and warning with the help of mobile apps that warn citizens of an increased risk due to contact with a person tested positive for COVID-19.
 - Build data infrastructure for rapid sharing of results.
- Conduct mass testing to assess the extent of transmission rate in the community.
- Develop an exit lockdown strategy, discussed and agreed with all key stakeholders including governments, private sector, businesses, municipalities and the general public.
- Put in place a clearly coordinated system to implement and monitor the exit strategy that involves all concerned stakeholders from both public and private sector within and beyond health sector.
- Establish mechanisms to collaborate with municipalities and community leaders to:
 - Support translating high-level exit strategy into practical measures that can be implemented and monitored at the local community level as well as re-in force compliance among community members.
 - Map who has the capacity to meet which basic needs of vulnerable populations (food, health, shelter, water, sanitation and/or mental health support), coordinate, and clarify roles and responsibilities.
 - Develop community support mechanisms so that people who are asked to remain at home or are sick during the pandemic can have food, medicines, childcare, and emotional support.
- Develop a well-coordinated communication strategy to:
 - Educate, engage and inform the public and media about the exit lockdown strategy; manage expectations; and reinforce the importance of solidarity including the need to comply with the exit strategy.
 - Communicate government plan to ease economic losses on affected populations and sectors, revive the economy, and support the country as it gradually exits lockdown.

III. IMPLEMENTATION PHASE: [A Roadmap for easing lockdown.]

Once countries fulfill the above conditions, they can proceed to ease certain restrictions. In the absence of scientific consensus on how best to proceed with exiting the COVID-19 lockdown, countries need to implement their own exit strategies, using a step-wise and phased approach to ease restrictions on movement, travel and work (European Commission, 2020; WHO 2020).

Action should be gradual, as measures should be lifted in different steps. Surveillance will be essential to quickly identify any increase in cases in the country following the lifting of measures. Governments will need to constantly re-evaluate the implementation of these measures based on available surveillance data and be ready to adjust their approach over time

according to the epidemiology of local, national, and global spread.

Lockdown exit principles:

- Lift strict social distancing measures in a concerted and careful fashion, informed by real-time evidence and data.
- Allow gradual reopening of the economy and society at large, giving precedence to public health over economic considerations.
- Continue to control COVID-19 transmission and prevent reverting back to strict lockdown.

1. ADOPT GRADUAL AND STAGED LIFTING OF MEASURES WITH EXPERIMENTATION AND RE-ASSESSMENT, IN CYCLES OF SEVERAL WEEKS EACH

- Conduct mass testing to assess the extent of transmission rate in the community; if tests show infection rates are low enough, proceed with gradual lifting of measures.
- Prioritize lifting those measures with a local impact and gradually extend to measures with a broader geographic coverage, taking into account local specificities.
- Lift a number of restrictions and then actively test the public and conduct contact tracing. If there is no significant increase in numbers with those restrictions being lifted or the doubling time does not accelerate significantly, further easing of measures can be then implemented. Ensure sufficient time is left between the phases/cycles (e.g. one month), as the effect of lifting measures can only be measured over time.
- Repeat testing before proceeding to the next phase/cycle.

2. PROGRESSIVELY REPLACE GENERAL MEASURES BY MORE TARGETED ONES:

- Protect the most vulnerable populations while lifting restrictions for other groups:
 - Ensure the most vulnerable populations (individuals over the age of 60 and those with compromised immune systems or serious underlying health conditions) continue to practice social distancing as much as possible until a vaccine or a treatment is available, or there is no longer community transmission.
 - Maintain high levels of infection prevention and control efforts and limit visitors in vulnerable places like long-term care facilities and nursing homes to prevent outbreaks.
- Implement case-based interventions:
 - Isolate every confirmed case either at home, in a hospital, or in a local isolation facility (depending on the level of care required) for at least seven days, or according to latest CDC guidance.
 - Quarantine individuals waiting for test result until their results are out.
 - Trace close contacts of confirmed cases and place them under home or central quarantine, with active daily monitoring for at least 14 days.
 - Quarantine and treat diagnosed people or people with mild symptoms.
 - Release recovered immune patients from confinement measures.
- Replace existing general prohibitive measures with safe alternative to enable the targeting of risk sources while facilitating gradual return of necessary economic activities:
 - Intensified and regular cleaning and disinfection of transport hubs and vehicles, shops and workplaces, instead of entirely prohibiting services.
 - Reinforcement of hygienic measures (hand washing), respiratory etiquette, and facilitate hand sanitizer gel in public and private places (work centers, sports centers, etc.).
 - Provision of adequate measures or equipment to protect workers and customers

3. GENERAL PHYSICAL DISTANCING PRECAUTIONS SHOULD STILL BE THE NORM

- Continue to suspend events that gather a high number of people (including sporting, cultural and leisure events).
- Recommend the general population to avoid trips that are not essential.
- Reinforce hygienic measures (hand washing), respiratory etiquette, and facilitate hand sanitizer gel in public and private places (work centers, sports centers, etc.).
- Regularly disinfect high-touch surfaces.
- Continue to recommend measures of social distancing at the individual level, including self-quarantine for people potentially exposed to the virus, avoid shaking hands/kisses, try to keep at least one-meter distance (and ideally two) from other people, and avoid public transportation at peak times, as far as possible.

4. RE-OPEN GRADUALLY THE MOST IMPORTANT SERVICES AND BUSINESSES FIRST:

- Ensure population does not return to the workplace at the same time, with an initial focus on less vulnerable groups (young, strong, and/or recovered people with immunity) and sectors that are essential to facilitate economic activity (without significantly risking spread of virus).
- Give priority to re launching the economy by lifting restrictions on work, followed by slowly authorizing public gatherings.
- Decide on the essential services— those services essential to preserving life, health, public safety and basic societal functioning, and which are not suitable for teleworking.
 - Place a primary focus on reinstating services such as health care services as well as services which provide the necessities of life (e.g. food and clean water).
 - Place a secondary focus on reinstating law and order, banking services, and financial assistance services (welfare support).
- Ensure selected businesses can adjust to increasing activities in a safe way, as well as return to stricter containment measures as necessary.
- Mandate establishment of preventive measures and public health guidelines in workplaces and other essential places.

EXAMPLE OF ESSENTIAL HEALTH SERVICES IDENTIFIED BY BRITISH COLUMBIA PROVINCE, CANADA (CBC NEWS, 2020):

- **Health and health services:** All health-care services, including acute care (hospitals), secondary/long-term care, as well as health-care providers working within and outside an acute-care setting and other health services (pharmacy, rehabilitation, mental health) .
- **Law enforcement, public safety:** these include first responders, e.g. police, fire and those services providing for public safety, e.g. Commercial vehicle safety enforcement, corrections and detainment facilities, court services.
- **Vulnerable population service providers:** these include businesses and non-profits that provide food, shelter, social and support services, and other necessities of life for economically disadvantaged or otherwise vulnerable individuals.
- **Critical infrastructure service providers:** these include infrastructure, drilling and production, refineries, processing, completion facilities, utilities, transportation, transmission, stations and storage facilities- critical in supporting daily essential electricity needs, drinking water, waste water, electricity (including associated infrastructure), steam, alternative energy production, waste and hazardous management, industrial recycling, oil and natural and

propane gas, fuel and other fuel sources, such as heating oil and wood pellets, as well as operating staff. This also encompasses manufacturing of goods necessary for the continued and immediate operation of other essential infrastructure and businesses.

- **Food and agriculture service providers:** these include food cultivation (farming, livestock, aquaculture and fishing) and businesses that support the food supply chain, as well as community gardens and subsistence agriculture; food processing, manufacturing, storage and distribution of foods, feed products and beverages; and grocery stores, convenience stores, farmers' markets and other establishments engaged in the retail sale or provision of food, pet or livestock supply.
- **Transportation, infrastructure and vital manufacturing:** these include supply chain services needed to supply goods for societal functioning, including cooling, storing, packaging, transportation, warehousing and distribution; as well as local, regional, and provincial delivery services, including but not limited to businesses that ship or deliver groceries, food, goods or services directly to business and residences and mailing and shipping services.
- **Sanitation:** these include cleaning services necessary to provide and maintain disinfection as well as manufacturing of sanitary products, household paper products, chemicals, etc.
- **Communications, information sharing and information technology (IT):** these include workers maintaining IT and communications infrastructure for medical facilities, governments facilities, emergency response and command agencies, energy and utilities, banks and financial institutions, employees working from home, and other critical infrastructure categories and personnel, including managing information and cyber security incidents.

5. EXPLORE DIFFERENT WORK MODALITIES/SCHEDULES TO CONTROL SPREAD OF INFECTION:

- Consider, when possible, the possibility of teleworking and performing video meetings
Facilitate work and schedule flexibility to prevent resurgence:
 - Have all essential staff or those serving in mission critical functions return first (consider either maintaining any staggered or adjusted scheduling that may have been in place during the pandemic or return to normal schedules)—where staff who are asymptomatic and conduct a self-screening/temperature check daily, can return to the office on alternating days while maintaining adequate social distancing (Scafidi and Natarajan, 2020)
 - Have all staff return in shifts, where staff who are asymptomatic and conduct a self-screening/temperature check daily, can return to the office on alternating days while maintaining adequate social distancing. Consider a cyclic schedule of 4-day work and 10-day lockdown, or similar variants. The cycle reduces the reproduction number (R_0) by a combination of reduced exposure time and an anti-phasing effect in which those infected during workdays reach peak infectiousness during lockdown days. The number of workdays can be adapted in response to observations (Karin et al., 2020)
 - Alternatively, consider a staggered cyclic strategy in which the population is divided into two sets of households that work on alternating weeks each with a 'k-work:(14-k)-lockdown' schedule. This strategy has the advantage that production lines can work throughout the month and transmission during workdays is reduced due to lower density (Meidan et al., 2020)

6. RE-INTRODUCE TRANSPORT SERVICES GRADUALLY:

- Allow lower-risk, individualized transport (e.g. private cars) as soon as possible.

- Gradually phase in collective means of transport while necessitating public health measures (e.g. reducing the number of passengers in vehicles, higher service frequency for public buses, issuing personal protective equipment to transport personnel and/or passengers, using protective barriers, making sanitizing/disinfecting gel available at transport hubs and in vehicles, etc.)
- Consider re-opening of borders and access of nonresidents to the country in a second stage, taking account of the spread of the virus outside the county, and of the dangers of reintroduction including degree to which risk of importing new cases “can be managed.

7. SCALE-UP DIAGNOSTIC AND MONITORING FOR DETECTION OF VIRUS AND IDENTIFICATION OF IMMUNE PEOPLE:

- Expand same-day, point-of-care diagnostic testing (leveraging service delivery in communities, including primary healthcare centers and public dispensaries) for identifying cases, including those with asymptomatic and mild infections.
 - RT-PCR and rapid antigen tests would quantify ongoing infections and inform contact tracing, isolations and quarantine.
 - Roll out of accurate serological testing would help assess population acquired immunity and quantify the fraction of the population contributing to ‘herd immunity’.
- Conduct sentinel surveillance of workforce
 - Tests could be first targeted at healthcare professionals and holders of essential jobs (food service, public safety, public transportation, etc.).
 - With up scaling of diagnostic capacity, tests could support progressive de-confinement of population groups based on their expected contribution to the transmission and risk profile and the results of both RNA tests and serology tests.
- Test random samples of the population to get a better understanding of the proportion of asymptomatic individuals in the population.
- Develop comprehensive COVID-19 surveillance systems to monitor trends in incidence that leverages:
 - Widespread and rapid testing at the point of care.
 - Serological testing to gauge background rates of exposure and immunity to inform public health decision-making about required population-based mitigation measures.
 - National sentinel surveillance system, supported by and coordinated with local public health systems and health care providers, to track background rate of infection across the country and identify community spread while an outbreak is still small.
- Scale-up swift contact tracing and isolation and quarantine, leveraging technology and mobile phone for contact tracing and monitoring of quarantine. A recent study conducted by University of Oxford suggests that tracing apps can be effective in reducing infection rates, even when just 60% of the population adopts them (Ferretti et al., 2020)

8. PROGRESSIVELY AUTHORIZE PUBLIC GATHERINGS:

- Sequence authorization of public gatherings, firstly, schools and universities, then shops, restaurants and cafes, and at the last stage, festivals, cultural and sports events.
- School and universities (while there are no specific criteria to guide timing for opening of educational sector, consider specific measures such as different lunch times, enhanced cleaning, smaller classrooms, increased reliance on e-learning, etc.). In Lebanon, the prevalence of intergenerational households and asymptomatic transmission from children should be taken into consideration when deciding on re-opening of educational institutions. Care should be taken to

minimize the risk of transmission to the teaching staff and students' families, with the help of high-priority testing and personal protective equipment.

- Commercial activity (retail) with possible gradation (e.g. maximum number of people allowed).
- Social activity measures (restaurants, cafes, etc.) with possible gradation (e.g. restricted opening hours, maximum number of people allowed).
- Mass gatherings (e.g. festivals, concerts, spectator sports events etc. at the last stage).

9. ENFORCE AND SUSTAIN PUBLIC HEALTH AND PREVENTIVE MEASURES TO PREVENT THE SPREAD OF THE VIRUS:

- Continue with awareness campaigns to encourage the population to maintain strong hygiene practices (use of sanitizers, hand washing, cleaning high-contact surfaces, coughing/sneezing etiquette, avoiding touching the face, nose, eyes and mouth, etc.).
- Continue to apply social distancing guidelines (e.g. keeping at least two meters from other people, avoiding public transportation at peak times, etc.)
- Continue to ban large social events.
- Strongly encourage people to wear face masks (as part of applying precautionary principle) (CDC, 2020; Howard et al., 2020; BMJ, 2020):
 - Consider use of facemasks in community, especially when visiting crowded, confined spaces, such as grocery stores, shopping centres, or when using public transport.
 - If medical facemasks are not available for the public, consider use of non-medical facemasks made of various textiles or public cloth mask wearing.
 - Always give precedence to use of medical facemasks by healthcare workers over the use in the community.

10. ENSURE CONTINUOUS (AND REAL-TIME) MONITORING:

- Continuously monitor action taken and develop preparedness for returning to stricter containment measures as necessary, in case of an excessive rise in infection rates, including the evolution of the spread internationally.
- Establish a plan with explicit criteria to determine whether or when to reinstate stricter measures.
- Use quantitative mathematical modeling to ensure the proposed sets of actions would be safe, to check that the level of transmission and severe cases remain below the health system's capacity, to refine the timing and phasing of actions, and to inform the groups and sectors that will be gradually released from confinement on key decisions.
- Maintain a system for transparent reporting of progress including, spread of the virus, characteristics of infected and recovered persons and their potential direct contacts to better manage the lifting of measures.

Triggers to re-instate stricter measures:

 - A substantial number of cases cannot be traced back to known cases.
 - A sustained rise in new cases for five days.
 - Hospitals are no longer able to safely treat all patients requiring hospitalization.

11. EDUCATE, EMPOWER, BUILD PUBLIC TRUST AND MANAGE PUBLIC EXPECTATIONS IN THE NEW REALITY:

- Present to the public the rationale and justification behind the implemented lockdown exit measures.
- Educate the public, manage their expectations and address their concerns as they adapt to a new reality.

- Clarify to the public that the measures could be extended if circumstances require it; and that some measures may be removed or reduced while others remain in place, and the possibility of re-imposing large-scale social distancing measures if there is a resurgence of transmission following the lifting of measures.
- Establish a communication platform/monitoring system to observe public perceptions and opinions of both the outbreak and the response to the exit strategy.

12. PROVIDE A “BRIDGE” TO ASSIST POOR PEOPLE AND STRUGGLING BUSINESSES AND ENHANCE THEIR COMPLIANCE WITH THE LOCKDOWN EXIT STRATEGY

- Provide financial compensations and financial/social assistance schemes for families, communities and businesses affected by social distancing measures.
- Put in place regulation to protect the employment of people in isolation or quarantine or not released from confinement as part of the exit strategy.

13. PROVIDE SOCIAL SUPPORT FOR REFUGEES AND VULNERABLE POPULATIONS (ESPECIALLY IF MEASURES ARE NOT YET LIFTED OFF THEM IN THE INITIAL PHASES):

- Vulnerable individuals such as the elderly, those with underlying health conditions, disabled people, and people with mental health problems, homeless people, refugees, and undocumented migrants – will require extra support.
- Coordinate with, and support, nongovernmental organizations, civil society and religious groups that already work with vulnerable populations.
- Establish a support center –for providing communities with a variety of support services delivered through government departments, non-governmental organizations, community representative groups and other agencies.

CONCLUSION:

After the novel coronavirus made its way around the world, one country after another adopted harsh measures to stop SARS-CoV-2 from spreading and overwhelming hospitals. Now we had tried to frame a ease strategy for COVID-19 lockdown. Most researchers agree that reopening society will be a long haul, marked by trial and error. The number to watch in the next phase may no longer be the actual number of cases per day, but it depends on the effective reproduction number which denotes how many people the average infected person infects in turn. As they seek a path forward, governments around the world and Indian government must triangulate the health of their citizens, the freedoms of their population, and economic constraints.

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https://www.who.int/csr/resources/publications/PPE_EN_A1sl.pdf

https://www.mohfw.gov.in/pdf/1584423700568_COVID19GuidelinesonDeadbodymanagement.pdf

https://www.icmr.gov.in/pdf/covid/techdoc/Guidance_for_Management_of_Pregnant_Women_in_COVID19_Pandemic_12042020.pdf

Containment plan, Novel Coronavirus Disease 2019 (COVID-19), MOHFW Govt. of India.

Hospital preparedness for epidemics. Geneva: World Health Organization; 2014.

COVID-19: control and prevention. Washington, DC: Occupational Safety and Health.

<https://www.mohfw.gov.in/pdf/MeasuresUndertakenToEnsureSafetyOfHealthWorkersDraftedForCOVID19Services.pdf>

<https://www.mohfw.gov.in/pdf/Advisory&ManualonuseofHomemadeProtectiveCoverFace&Mouth.pdf>

ANNEXURES (Project-1st)

Annexure-1

Annexure-2

Annexure-3

Annexure-4

Annexure-5

Annexure-6

ANNEXURE 1

**GOVERNMENT OF RAJASTHAN
MEDICAL, HEALTH & FAMILY WELFARE DEPARTMENT**

No. F .1 (1)/MH/Gr-2/2020

Jaipur ,Date:- 29.04.2020

30.4.2020

All District Collectors,
All Principal and Controller Medical College Hospitals,
All Medical Superintendent Medical College Hospitals,
All Director, Medical & Health, Medical & Health Services, Jaipur
All Joint Directors,
All Chief Medical & Health officers,
All Principal Medical Officer,

Subject: Compliance of CPCB guidelines for handling, treatment and disposal of Bio Medical Waste generated during treatment/ diagnosis/ Quarantine of Covid-19 patients and implementation of three bucket system for cleaning at health care facilities.

At the outset, we wish to express our appreciation to all district administration/health authorities for putting in their best efforts to combat the COVID-19 pandemic across Rajasthan.

In reference to the above cited subject, as Covid-19 infected/suspected patients are being admitted in dedicated isolation wards of the hospitals, it is utmost important that Bio medical waste which is being generated during their diagnosis/treatment/Quarantine is disposed off according to the guidelines released by CPCB. Waste generated in the said conditions must be given special attention to avoid further spread of infection in the community as well as other general patients admitted in the hospital.

- Special attention must be given towards used PPE such as Goggles, face shields, splash proof apron, plastic cover, Hazmat suit; nitrile gloves, These must be disposed in red bag.
- Collect used mask (including triple layer mask, N-95 Mask etc.) head cover/cap/shoe cover, disposable linen, gown, non plastic or semi plastic cover, These must be disposed in yellow bags.
- Awareness should be spreaded among community that used mask and gloves generated from home quarantine or other households should be kept in paper bag for a minimum of 72 hours prior to it's disposal as general waste. It is advisable to cut the masks prior to disposable to prevent reuse.

Apart from the above, cleaning/disinfection of hospitals in a meticulous manner is utmost required in this critical situation; implementation of three bucket system for the purpose is affordable and useful for the same.



Cleaning trolley/bucket – It is preferable to have three bucket trolleys with a wringing mechanism. Prefer a light coloured bucket to enable earlier detection of soiling of the water. The trolley should have provision to store bottles of disinfectant, the hand mops and stick mops on the trolley. A separate storage space for used hand mops should be available on the trolley. Ensure the trolley/bucket is clean before using it for cleaning work. The Three bucket system should be ideally practiced.

The first bucket should contain water with detergent used in the beginning. The mop is then rinsed in the second bucket and dipped in the third bucket which contain a disinfectant (1% Sodium Hypochlorite) and the mopping done again in unidirectional way. Guidelines released from CPCB are being attached for your reference. Accord it on top priority.

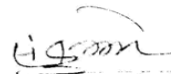
I am sure that following the above instructions, we would be able to overcome the Covid-19 challenge in a more efficient manner.

Enclosed: As above


(Rohit Kumar Singh)
Additional Chief Secretary

Copy to followings for information and necessary action:

1. PS to Hon'ble Chief Minister of Rajasthan.
2. SA to Hon'ble Health Minister of Rajasthan.
3. SA to Hon'ble State Health Minister of Rajasthan
4. PS to Chief Secretary, Govt. of Raj.
5. PS to Additional Chief Secretary, Medical Health & FW.
6. PS to Secretary, Medical Education.
7. PA to CEO, State Health Assurance Agency, ABMGRSBY
8. PA to Managing Director-RMSC
9. PA to Mission Director, NHM
10. Director-Public Health
11. Guard File


(Sanjay Kumar)
Deputy Secretary to the Govt.

Annexure 2



Government of Rajasthan
Directorate Medical & Health Services, Rajasthan, Jaipur
Integrated Disease Surveillance Programme



☎ 0141-2222355

No: IDSP/20/ 300

Dated: 18/03/20

District Collector
Rajasthan

Subject: - Establishment of Quarantine centers for housing personnel with potential exposure to COVID-19.

On the above cited subject, increasing number of countries reporting Novel Coronavirus Disease (COVID-19), it has been decided to establish quarantine centers for housing personnel with potential exposure to COVID-19.

Hence, all districts need to identify quarantine facilities that can house 300-500 people (For Divisional HQ- atleast 500 people and rest Districts -atleast 300 people). Such facilities should fulfill the following:-

- Preferably, it should be located in the outskirts of city areas away from human habitations.
- There should be access control to the facility monitored by security and or CCTV
- Such facility should be well ventilated (without ducted air conditioning) and should have adequate scope for natural lighting.
- Such facility should have functional requirements of individual rooms of dormitory settings of accommodating 5 to 10 beds at 1-2 meters apart with separate washroom facility.
- While planning the facility, space for an administration unit, a clinical examination room/medical station, catering facilities, laundry services and waste management need to be considered. The facility should have access to landline and internet services.
- Required human resources for all the services as mentioned above i.e. doctors, psychiatrists/ psychologists and public health specialists, nurses, administrative staff, catering staff sanitary staff etc. should be identified.
- For smooth administrative functioning an administrator (not below the SDM) should be identified as the nodal officer for each quarantine centre, who will directly report

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Government of Rajasthan
Directorate Medical & Health Services, Rajasthan, Jaipur
Integrated Disease Surveillance Programme



☎ 0141-2222355

- All such staff needs to be oriented on COVID-19 and on Infection Prevention and Control Practices including use of PPE Kits, masks, gloves etc.
- Information Education Communication materials should be displayed.
- Dedicated ambulance services should be available on round the clock basis.
- The referral hospital for transferring suspect cases should also be identified.
- The financial requirements to manage the quarantine center will be tied up with MD, NHM.

Kindly ensure to establish quarantine centers as per above norms at your districts . A check list for setting up the quarantine center is attached for your reference.

(Rohit Kumar Singh)
ACS, Medical & Health and
Family Welfare Department,
Rajasthan, Jaipur.

No: IDSP/20/ 300

Dated: 18/03/20

Copy for information and necessary action:-

1. PS to Hon'ble Health Minister, Government of Rajasthan, Jaipur.
2. PS to Director (PH), DM&HS, Jaipur.
3. Addl. Director (PH), DM&HS, Jaipur.
4. All, J.D. Zone, Rajasthan
5. All, CMHO & PMO, Rajasthan.
6. Nodal officer (IDSP), DM&HS, Jaipur.
7. Server Room, Room no 302.
8. Office Copy

Director (PH).
Medical & Health Department
Rajasthan, Jaipur

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Annexure 3



राजस्थान सरकार
राष्ट्रीय स्वास्थ्य मिशन, राजस्थान
चिकित्सा, स्वास्थ्य एवं परिवार कल्याण विभाग, स्वास्थ्य भवन, तिलक मार्ग, राजस्थान,
जयपुर फोन नं. 0141-2220961, E mail ID : co_isc.nrhм@yahoo.com

No: F23(NHM)/ISC/Gen. Letter/2019-20/726

Dated: 30.03.2020

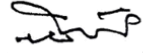
मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी,
समस्त जिले।

विषय:- Coronavirus Disease 2019 (COVID-19) के तहत संदिग्ध/पुष्ट केस को ट्रांसपोर्ट करने
बाबत Standard Operating Procedure (SOP) के क्रम में।

उपर्युक्त विषयांतर्गत निर्देशित किया जाता है कि निदेशालय द्वारा जारी आदेश क्रमांक No: F23(NHM)/ISC/Gen. Letter/2019-20/721 दिनांक 28.03.2020 के साथ-साथ भारत सरकार द्वारा जारी कोरोना वाइरस के तहत संदिग्ध/पुष्ट केस को Transport हेतु जारी दिशानिर्देशों की यथाआवश्यकता पालना किया जाना सुनिश्चित करें।

संलग्न:-

1. भारत सरकार द्वारा जारी दिशानिर्देश की प्रतिलिपि।
2. विभागीय आदेश क्रमांक 721 दिनांक 28.03.2020 की प्रतिलिपि।


(नरेश कुमार ठकराल)
विशिष्ट शासन सचिव,
चि.एवं स्वा. विभाग, एवं
मिशन निदेशक, एनएचएम।

प्रतिलिपि निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है:-

1. निजी सचिव, अतिरिक्त मुख्य सचिव, चिकित्सा एवं स्वास्थ्य सेवाएँ, राजस्थान, जयपुर।
2. निजी सचिव, विशिष्ट शासन सचिव, चि. एवं स्वा. सेवाएँ एवं मिशन निदेशक, एनएचएम।
3. निजी सचिव, निदेशक जनस्वास्थ्य, चिकित्सा एवं स्वास्थ्य सेवाएँ, राजस्थान, जयपुर।
4. समस्त जिला कलेक्टर, राजस्थान को लेख है कि उक्त के अतिरिक्त जिले की परिस्थिति को देखते हुए वह स्वयं के स्तर पर समुचित निर्णय लें।
5. अतिरिक्त निदेशक, (ग्रामीण स्वास्थ्य) मुख्यालय।
6. समस्त संयुक्त निदेशक, जोन राजस्थान।
7. समस्त प्रमुख चिकित्सा अधिकारी, राजस्थान।
8. समस्त सहायक औषधी नियंत्रक/औषधी नियंत्रण अधिकारी।
9. जिला प्रभारी (COVID -19), समस्त जिले, राजस्थान।
10. स्टेट हेड, जीवीके-ईएमआरआई को निर्देशित किया जाता है कि उक्त वर्णित दिशा निर्देशों की पालना के साथ-साथ पूर्व में जारी आदेश क्रमांक 721 दिनांक 28.03.2020 के बिंदु संख्या 1 पर अंकित 104 जननी एक्सप्रेस के स्थान पर बेस एम्बुलेंस के द्वारा Home Quarantine के व्यक्तियों को अस्पताल से घर भिजवाया जाना सुनिश्चित करें।
11. प्रभारी सर्वर रूम को ई-मेल हेतु।
12. रक्षित पत्रावली।


परियोजना निदेशक
एनएचएम

Annexure 4

COVID-19
अति-आवश्यक

राजस्थान सरकार

निदेशालय, चिकित्सा एवं स्वास्थ्य सेवायें, राजस्थान, जयपुर

क्रमांक: आई.डी.एस.पी./2020/ ५८४

दिनांक: ३०/५/२०२०

समस्त मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी

समस्त प्रमुख चिकित्सा अधिकारी

समस्त जिले, राजस्थान

विषय:- चिकित्सक व कार्मिकों को पीपीई किट के उपयोग का प्रशिक्षण करवाने के क्रम में।

उपरोक्त विषयान्तर्गत लेख है कि राज्य में कोविड-19 के रोगियों की जांच व उपचार हेतु संबंधित कार्मिकों को पीपीई किट का पहनने व उतारने तथा उनके निस्तारण का प्रशिक्षण प्रदान करते हुए प्रतिदिन अभ्यास कराया जाना सुनिश्चित करें।

संलग्न : 1. पीपीई किट के उपयोग की गाईडलाईन।

2. पीपीई किट के उपयोग हेतु वीडियो लिंक

<https://www.youtube.com/watch?v=LzB5krucZoQ&feature=youtu.be>

निदेशक (जन स्वा.)
चिकित्सा एवं स्वास्थ्य सेवायें
राजस्थान, जयपुर

क्रमांक: आई.डी.एस.पी./2020/ ५८४

दिनांक: ३०/५/२०२०

प्रतिलिपि- निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु -

1. निजी सचिव, अतिरिक्त मुख्य सचिव, चिकित्सा एवं स्वास्थ्य विभाग।
2. निजी सचिव, प्रमुख शासन सचिव, चिकित्सा शिक्षा, राजस्थान, जयपुर।
3. अतिरिक्त निदेशक (ग्रा0 स्वा0), चिकित्सा एवं स्वास्थ्य सेवायें, राजस्थान, जयपुर।
4. समस्त जिला कलेक्टर, राजस्थान।
5. समस्त संयुक्त निदेशक को भेजकर लेख है कि अपने अधीनस्थ जिलों से सूचना प्राप्त कर निदेशालय को प्रेषित करना सुनिश्चित करें।
6. नोडल अधिकारी (आईडीएसपी) चिकित्सा एवं स्वास्थ्य सेवायें राजस्थान, जयपुर।
7. डिप्टी सीएमएचओ (स्वा.) समस्त जिले, राजस्थान।
8. समस्त जिला प्रभारी को भेजकर लेख है कि अपने जिलों में पीपीई किट के उपयोग से संबंधित प्रशिक्षण कराना सुनिश्चित करें।
9. प्रभारी-सर्वर रूम को वास्ते ईमेल एवं विभागीय वेबसाइट पर अपलोड हेतु।
10. रक्षित पत्रावली।

निदेशक (जन स्वा.)
चिकित्सा एवं स्वास्थ्य सेवायें
राजस्थान, जयपुर

Annexure 5

COVID-19
अति-आवश्यक

राजस्थान सरकार
निदेशालय, चिकित्सा एवं स्वास्थ्य सेवायें, राजस्थान, जयपुर

क्रमांक: आई.डी.एस.पी./2020/ ५२५

दिनांक: 20/4/2020

समस्त जिला कलक्टर,
राजस्थान।

विषय:-कोविड-19 रोकथाम एवं नियंत्रण हेतु कार्य योजना के निर्माण के क्रम में।

उपरोक्त विषयान्तर्गत लेख है कि राज्य में कोविड-19 रोग के बचाव, रोकथाम व नियंत्रण हेतु यह आवश्यक है कि कोविड-19 के एक ही स्थान पर अत्यधिक रोगी पाये जाने पर तुरंत प्रभाव से कन्टेन्टमेन्ट व बफर जोन चिन्हित करते हुए आवश्यक कार्यवाही की जानी चाहिए।

अतः आपके सुलभ संदर्भ हेतु कार्य योजना संलग्न कर आवश्यक कार्यवाही हेतु प्रेषित की जा रही है।

संलग्न : उपरोक्तानुसार।

निदेशक (जन स्वास्थ्य)
चिकित्सा एवं स्वास्थ्य सेवायें
राजस्थान, जयपुर

क्रमांक: आई.डी.एस.पी./2020/ ५२५

दिनांक: 20/4/2020

प्रतिलिपि निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है-

1. विशिष्ट सहायक, माननीय मंत्री, चिकित्सा एवं स्वास्थ्य विभाग, राजस्थान सरकार।
2. निजी सचिव, अतिरिक्त मुख्य सचिव, चिकित्सा एवं स्वास्थ्य विभाग, राजस्थान।
3. निजी सचिव, प्रमुख शासन सचिव, चिकित्सा शिक्षा विभाग, राजस्थान।
4. निजी सचिव, प्रबन्ध निदेशक आरएमएससीएल, जयपुर।
5. निजी सचिव, मिशन निदेशक (एनएचएम), मुख्यालय।
6. प्रधानाचार्य एवं नियंत्रक समस्त मेडिकल कॉलेज।
7. अधीक्षक संलग्न चिकित्सालय मेडिकल कॉलेज।
8. समस्त संयुक्त निदेशक, जोन राजस्थान।
9. समस्त मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी, राजस्थान।
10. समस्त प्रमुख चिकित्सा अधिकारी, राजस्थान।
11. समस्त आरसीएचओ/उप मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी (प.क./स्वा.)
12. समस्त जिला परियोजना समन्वयक, जिला औषधि भंडार राजस्थान।
13. सर्वर रूम नं. 302 ई-मेल तथा वेबसाइट पर अपलोड करने बाबत।
14. कार्यालय पत्रावली।

निदेशक (जन स्वास्थ्य)
चिकित्सा एवं स्वास्थ्य सेवायें
राजस्थान, जयपुर

Annexure 6



राजस्थान सरकार
राष्ट्रीय स्वास्थ्य मिशन, राजस्थान
चिकित्सा, स्वास्थ्य एवं परिवार कल्याण विभाग, स्वास्थ्य भवन, तिलक मार्ग,
राजस्थान, जयपुर फोन नं. 0141-2223862, E mail ID : projectdirector@nhs.uk

एफ 7 ()/एन.एच.एम/सी.एच./NBSU/Part-2/2017-18/373

दिनांक 23.4.20

अधीक्षक, मेडिकल कॉलेज अस्पताल,
मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी,
प्रमुख चिकित्सा अधिकारी,
समस्त राजस्थान।

विषय:- COVID-19 महामारी के दौरान गैर COVID-19 आवश्यक स्वास्थ्य सेवाओं की उपलब्धता को बनाए रखने के संबंध में।

COVID-19 महामारी ने हमारी स्वास्थ्य व्यवस्था पर बहुत सी जिम्मेदारियां बढ़ा दी हैं। हमारे चिकित्सा संस्थान और स्वास्थ्यकर्मी वर्तमान में महामारी को नियंत्रित करने से संबंधित गतिविधियों में लगे हुए हैं। इस परिस्थिति में समुदाय को आवश्यक स्वास्थ्य सेवाओं की उपलब्धता एवं गुणवत्ता पूर्वक वितरण करना, जिनकी उम्मीद वह स्वास्थ्य विभाग से रखता है, एक बहुत बड़ी चुनौती है। COVID-19 से संबंधित गतिविधियों पर ध्यान केंद्रित करते हुये गैर COVID-19 आवश्यक सेवाएं जारी रखना, न केवल स्वास्थ्य व्यवस्था पर लोगों का भरोसा बनाए रखने के लिए महत्वपूर्ण है, बल्कि अन्य स्वास्थ्य स्थितियों के कारण रुग्णता और मृत्यु दर की वृद्धि को कम करने के लिए भी महत्वपूर्ण है।

गैर COVID-19 आवश्यक सेवाओं के अन्तर्गत उच्च प्राथमिकता वाली सेवाओं में प्रजनन, मातृ, नवजात, बाल और किशोर स्वास्थ्य से संबंधित सेवाएं शामिल हैं। अतः आपके अधीन समस्त चिकित्सा संस्थानों पर उक्त सेवाओं की पूर्व की भांति 24x7 उपलब्धता सुनिश्चित करें व इस हेतु आपके अधीन संस्थानों में स्थित प्रसव कक्ष, न्यू बॉर्न केयर यूनिट (SNCU/NICU)/न्यू बॉर्न स्टेब्लाइजेशन यूनिट, पोस्ट नेटल वॉर्ड, शिशु वॉर्ड, कुपोषण उपचार केन्द्र आदि के सफल संचालन हेतु आवश्यक चिकित्सक व प्रशिक्षित नर्सिंग स्टाफ की उपलब्धता सुनिश्चित करें तथा इन्हें COVID-19 वॉर्ड व COVID-19 से संबंधित अन्य कार्य जिनमें संक्रमण का खतरा रहता है से मुक्त रखें। जिन चिकित्सा संस्थानों में पृथक से MCH Wing संचालित नहीं है वहां यह सुनिश्चित किया जाये की मातृ एवं शिशु स्वास्थ्य से संबंधित ब्लॉक व COVID-19 हेतु चिन्हित अस्पताल/ब्लॉक इस तरह से विभाजित हो की COVID-19 का संक्रमण फैलने रोका जा सके।

प्रजनन, मातृ, नवजात, बाल और किशोर स्वास्थ्य से संबंधित सेवाओं की उपलब्धता एवं गुणवत्ता पूर्वक वितरण के संबंध में दिशा-निर्देश इस पत्र के साथ संलग्न कर भिजवाये जा रहे हैं।

संलग्न:- उपरोक्तानुसार।

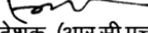
मिशन निदेशक, एन.एच.एम
एवं विशिष्ट शासन सचिव,
वि0स्वा0 एवं प0क0 विभाग
राजस्थान, जयपुर।

एफ 7 ()/एन.एच.एम/सी.एच/NBSU/Part-2/2017-18/ 373

दिनांक 23.4.20

प्रतिलिपि:- निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है:-

1. निजी सचिव, अतिरिक्त मुख्य सचिव, चि0स्वा0 एवं प0क0 विभाग।
2. निजी सचिव, शासन सचिव, चिकित्सा शिक्षा विभाग, राजस्थान।
3. निजी सचिव, मिशन निदेशक, एन.एच.एम एवं विशिष्ट शासन सचिव, चि0स्वा0 एवं प0क0 विभाग।
4. निजी सहायक, निदेशक जन स्वास्थ्य, चिकित्सा, स्वास्थ्य एवं प.क. सेवाएं, राजस्थान।
5. निजी सहायक, निदेशक, आरसीएच, चिकित्सा, स्वास्थ्य एवं प.क. सेवाएं, राजस्थान।
6. प्रधानाचार्य एवं नियंत्रक, मेडिकल कॉलेज समस्त।
7. अतिरिक्त निदेशक आरसीएच, चिकित्सा, स्वास्थ्य एवं प.क. सेवाएं, राजस्थान।
8. परियोजना निदेशक शिशु स्वास्थ्य/मातृ स्वास्थ्य, एनएचएम, राजस्थान।
9. जिला प्रजनन एवं शिशु स्वास्थ्य अधिकारी, समस्त जिले, राजस्थान।
10. चिकित्सा अधिकारी प्रभारी, सामुदायिक स्वास्थ्य केन्द्र- परतापुर (बांसवाड़ा), बयाना (भरतपुर), शाहपुरा (भीलवाड़ा), सरदारशहर (चूरू), भीनमाल (जालौर) एवं बिलाडा (जोधपुर)।
11. एसएनसीयू प्रभारी, समस्त।
12. लेबर रूम प्रभारी, समस्त।
13. सर्वर रूम को ई-मेल हेतु।


निदेशक (आर.सी.एच.)

चिकित्सा स्वास्थ्य एवं परिवार कल्याण सेवाएं
राजस्थान जयपुर

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