

प्रेषक,

शत्रुन्जय कुमार सिंह,
विशेष सचिव,
उत्तर प्रदेश शासन।

सेवा में,

- 1-महानिदेशक, चिकित्सा एवं स्वास्थ्य सेवाएं, उ०प्र० लखनऊ।
2. महानिदेशक, परिवार कल्याण, उ०प्र० लखनऊ।
3. मिशन निदेशक, राष्ट्रीय स्वास्थ्य मिशन, उ०प्र० लखनऊ।
4. निदेशक, संचारी रोग, उ०प्र० लखनऊ।

चिकित्सा अनुभाग-5

लखनऊ: दिनांक 03 मार्च, 2020

विषय:-"नोवेल कोरोना वायरस-2019" से बचाव हेतु **Disinfection of Quarantine facility** गाइड लाइन्स तथा **Containment Plan** का अनुपालन किये जाने के संबंध में।

महोदय,

प्रश्नगत सन्दर्भ में "नोवेल कोरोना वायरस-2019" से बचाव हेतु राष्ट्रीय रोग नियंत्रण केन्द्र **Disinfection of Quarantine facility** गाइड लाइन्स तथा स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार के **Containment Plan** की प्रतियां संलग्न करते हुए मुझे यह कहने का निदेश हुआ है कि कृपया उक्त गाइड लाइन्स तथा प्लान के अनुरूप कोरोना वायरस से संबंधित स्थलों की साफ-सफाई आदि की व्यवस्था अविलम्ब सुनिश्चित कराने का कष्ट करें, ताकि उक्त वायरस के प्रकोप पर नियंत्रण रखा जा सके।

संलग्नक : यथोक्त।

भवदीय,

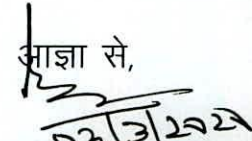
03/3/2020
(शत्रुन्जय कुमार सिंह)
विशेष सचिव।

संख्या एवं दिनांक यथोक्त।

प्रतिलिपि, निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

1. समस्त मण्डलायुक्त, उ०प्र० को इस अनुरोध सहित कि कृपया उक्त गाइड लाइन्स के अनुरूप समस्त संबंधित स्थलों पर साफ-सफाई सुनिश्चित कराने का कष्ट करें।
2. समस्त जिलाधिकारी, उ०प्र० को इस अनुरोध सहित कि कृपया उक्त गाइड लाइन्स के अनुरूप समस्त संबंधित स्थलों पर साफ-सफाई सुनिश्चित कराने का कष्ट करें।
3. समस्त मुख्य चिकित्साधिकारी/मुख्य चिकित्साधीक्षक, उ०प्र० को इस अनुरोध सहित कि कृपया उक्त गाइड लाइन्स के अनुरूप समस्त संबंधित स्थलों पर साफ-सफाई सुनिश्चित कराने का कष्ट करें।

संलग्नक: यथोक्त।

आज्ञा से,

03/3/2020
(शत्रुन्जय कुमार सिंह)



Guidelines for disinfection of quarantine facility (for COVID-19)

Scope: This document aims to provide interim guidance about the environmental cleaning / decontamination in quarantine camp facilities (e.g. barracks, cubicles in rooms, offices, and toilets, etc.) where persons with potential exposure to COVID-19 have housed.

The causative agent involved in the current outbreaks of 2019-nCoV acute respiratory disease, the 2019-nCoV (genus: Betacoronavirus), belongs to the family of Coronaviridae, a large family of enveloped, positive-sense single-stranded RNA viruses. Coronaviruses are transmitted in most instances through large respiratory droplets and contact transmission, but other modes of transmission have also been proposed worldwide.

The time of survival and the conditions affecting the 2019-nCoV viability in the environment are currently unknown. According to studies assessing the environmental stability of other coronaviruses, the Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) is estimated to survive several days in the environment and the Middle East Respiratory Syndrome-related coronavirus (MERS-CoV) more than 48 hours at an average room temperature (20°C) on different surfaces [1-3].

Environmental cleaning: Due to the potential survival of the virus in the environment for several days, the premises and areas potentially contaminated with the 2019-nCoV should be cleaned before their re-use, using products containing antimicrobial agents known to be effective against coronaviruses. Although there is lack of specific evidence for their effectiveness against 2019-nCoV virus, cleaning with water and household detergents and use of common disinfectant products should be sufficient for general precautionary cleaning. Tests carried out using SARS-CoV showed that sodium hypochlorite is effective.

These guidelines provide guidance for environmental cleaning in quarantine facilities housing people exposed/ potential exposure to COVID-19 and have been adapted based on the Hospital Infection Prevention and Control guidelines drafted by NCDC in collaboration with WHO and other stakeholders.

Area/Items	Item/Equipment	Process	Method/ Procedure
Clinical Area			
General clinical areas Floors (clinical areas) – daily mopping	Dust mops Mop (No broom will be used for sweeping) Detergent/ sanitizer–hot water, sodium hypochlorite(1%) Three buckets (one with plain water and one with detergent solution; one bucket for sodium hypochlorite(1%)	Sweeping Cleaning Daily mopping	<ul style="list-style-type: none"> Sweep with the dust mop or damp mop to remove surface dust. Sweep under the furniture and remove dust from corners. Gathered dust must be removed using a hearth brush and shovel. The sweep tool should be cleaned or replaced after use. Prepare cleaning solution using detergent with warm water Use the three-bucket technique for mopping the floor, one bucket with plain water and one with the detergent solution. First mop the area with the warm water and detergent solution. After mopping clean the mop in plain water and squeeze it. Repeat this procedure for the remaining area. Mop area again using sodium hypochlorite 1% after drying the area. In between mopping if solution or water is dirty change it frequently. Mop the floor starting at the far corner of the room and work towards the door. Clean articles between cleaning. <p>Note: Mopping should be done twice a day</p>
Ceiling and Walls	Sweeping tool Duster Bowl/ small bucket of soap solution Plain water	Damp dusting	<ul style="list-style-type: none"> Damp dusting with a long handled tool for the walls and ceiling done with very little moisture, just enough to collect the dust. Damp dusting should be done in straight lines that overlap one another. Change the mop head/cover when soiled. <p>Note: Should be done once a week or after examining a suspect case</p>
	Care of mop	Hot water Detergent Sodium hypochlorite 1%	<ul style="list-style-type: none"> Clean with hot water and detergent solution, disinfect it with sodium hypochlorite and keep for drying upside down.

Doors and door knobs	Damp cloth or Sponge squeeze mop Detergent	Thorough washing	<ul style="list-style-type: none"> The doors are to be washed with a brush, using detergent and water once a week (on one defined day); gently apply cloth to soiled area, taking care not to remove paint, then wipe with warm water to remove excess cleaning agent. Door knobs and other frequently touched surfaces should be cleaned daily.
Isolation room	Detergent/ Sanitizer– warm water, sodium hypochlorite (1%) Three buckets (one with plain water and one with detergent solution); separate bucket for sodium hypochlorite (1%)	Terminal cleaning	<ul style="list-style-type: none"> Before cleaning an isolation room, liaise with infection control team for details of any special requirements. Staff will be instructed on specific cleaning procedures required with reference to Safety uniform to be worn. Chemicals or disinfectants to be used. Also, if bed screen and shower screen are to be cleaned or changed, refer cleaning in isolation rooms.
All clinical areas/ Laboratories/ Wherever spill care is required	Sodium hypochlorite (1%) Rag piece Absorbent paper Unsterile gloves Spill care kit Mop Hot water	Blood and body fluid spill care	<ul style="list-style-type: none"> Wear non-sterile gloves. For large spills, cover with absorbent paper/ rag piece if any broken glass and sharps, using a pair of forceps and gloves, carefully retrieve. Use a large amount of folded absorbent paper to collect small glass splinters. Place the broken items into the puncture proof sharps container. Cover the spill with sodium hypochlorite(1%)for 10–20 minutes contact time. Clean up spill and discard into infectious waste bin, and mop area with soap and hot water. Clean the mop and mop area with 1% sodium hypochlorite. Wash mop with detergent and hot water and allow it to dry.
Stethoscope	Alcohol-based rub/Spirit swab	Cleaning	<ul style="list-style-type: none"> Should be cleaned with detergent and water. Should be wiped with alcohol based rub/spirit swab before each patient contact.
BP cuffs and covers	Detergent Hot water	Washing	<ul style="list-style-type: none"> Cuffsshouldbewipedwithalcohol-based disinfectant and regular laundering is recommended for the cover.

Thermometer	Detergent and water Alcohol rub Individual thermometer holder	Cleaning	<ul style="list-style-type: none"> • Should be stored dry in individual holder. • Clean with detergent and tepid water and wipe with alcohol rub in between patient use. • Store in individual holder inverted. • Preferably one thermometer for each patient.
Injection and dressing trolley	Detergent and water Duster Disinfectant (70% alcohol)	Cleaning	<ul style="list-style-type: none"> • To be cleaned daily with detergent and water. • After each use should be wiped with disinfectant.
Refrigerators	Detergent and water Absorbent paper or clean cloth	Cleaning (weekly)	<ul style="list-style-type: none"> • Empty the fridge and store things appropriately. • Defrost, decontaminate and clean with detergent. • Dry it properly and replace the things. • Weekly cleaning is recommended.

Area/Items	Item/Equipment	Process	Method/ procedure
Lodging area			
General cleaning	Detergent and warm water Mop Two buckets Clean utility gloves Handmops	Daily mopping floors Thorough washing	<ul style="list-style-type: none"> Scrub floors with hot water and detergent with using minimal water. (Do not pour the water.) Clean with plain water. Allow to dry Hypochlorite 1% mopping can be done. <p>Note: Recommend general cleaning procedure should be done twice a day</p>
Lockers, tables, cupboard, wardrobes, benches, shelves and cots	Damp duster Warm water Detergent Dry duster	Damp dusting	<ul style="list-style-type: none"> Damp dust with warm water and detergent.
Railings	Detergent/ Sanitizer-hot water, sodium hypochlorite 1% Three small buckets/ or big bowls One with plain water One with detergent solution One for sodium hypochlorite 1%	Daily dusting	<ul style="list-style-type: none"> Damp dust with warm water and detergent followed by disinfection with hypochlorite
Mirrors and Glass	Warm water Detergent water/ cleaning solution Damp cloth Wiper	Cleaning	<ul style="list-style-type: none"> Using warm water and a small quantity of detergent and using a damp cloth, wipe over the mirror and surround, then using a dry lint-free cloth, buff the mirror and glass to a clean dry finish.
Sluice room Stainless steel/ Any other sink	Powder cleanser Detergent powder Wiper Cloth	Cleaning	<ul style="list-style-type: none"> Sinks are to be cleaned with a powder cleanser. First wet the sink. Sprinkle on a little powder cleanser and work around the surface with a cloth, include the plughole. Do not use the powder cleanser on dry sink. After removing spillage and any stains, flush away with running water. Wipe down the surface of the sink.
Pantry furniture	Duster	Dusting	<ul style="list-style-type: none"> Damp dust
Telephone	Warm water detergent solution Duster	General cleaning	<ul style="list-style-type: none"> Damp dust with warm water and detergent. Pay special attention to the ear and mouth piece and dry it properly.
Desks	Damp cloth Furniture polish	Dusting	<ul style="list-style-type: none"> Wipe top sides and draw handles with a damp cloth. Wooden desks should be cleaned with furniture polish and buffed to clear glows. Pen holder etc. to be cleaned or dusted.

Chairs (Vinyl)	Warm water and detergent	Cleaning	<ul style="list-style-type: none"> Wipe down with warm water and detergent. Remove any marks under arms and seat. Check for damage to stoppers, if stopper require replacement, report to maintenance department.
Furniture and fittings	Warm water and detergent Rag piece	Dusting	<ul style="list-style-type: none"> Using warm water and detergent, damp dust all furniture and fittings, including chairs, stools, beds, tables, cupboards, wardrobes, lockers, trolleys, benches, shelves and storage racks, waste/ bins, fire extinguishers, oxygen cylinders, televisions window sills and dry properly.
Bed tables, bedside lockers	Warm water and detergent Wiper Duster	Cleaning	<ul style="list-style-type: none"> Wipe down over bed table. Wipe top and underneath base and stand, using warm water and detergent. Dry on completion. Wipe down the bedside. Remove marks from fronts of draws and sides. Using warm water and detergent, wash the top to remove any sticky marks and dust.
Light switches and over-bed lights	Damp cloth (never wet) Detergent Warm water	Cleaning	<ul style="list-style-type: none"> Light switches to be cleaned of dust, spots and finger marks. Clean with a damp cloth (never wet) and detergent. Over-bed lighting to be damp dusted. Clean with warm water and detergent.
Curtains	Soft clothes Water Mild soap solution	Cleaning	<ul style="list-style-type: none"> Clean with water and soap for curtains
White clothes	Sodium hypochlorite 1% Tap water	Washing	<ul style="list-style-type: none"> Should be washed under running water and soaked in 1% sodium hypochlorite for 20 minutes. <p>Note: PPE should be worn while washing soiled linen.</p>
Mattress and pillow covers (cloth)	Tap water	Washing	<ul style="list-style-type: none"> Mattress and pillows should be covered with a reusable mattress cover. It should be changed for each patient and when soiled sent to the laundry according to schedule.
Mattress/ Pillow with rexin cover	Sodium hypochlorite 1%	Terminal Damp dusting and cleaning	<ul style="list-style-type: none"> If with rexin cover, can be cleaned with 1% sodium hypochlorite before use for next patient
Normal/ without rexin	Sunlight	Drying in sunlight	<ul style="list-style-type: none"> If routine mattress, dry it in bright sunlight for 1-2 days before using for next patient
Water jars	Vim powder Soap and water	Cleaning	<ul style="list-style-type: none"> Recommended boiled water for drinking Water jars should be scrubbed/ cleaned with soap and water and boiled water before filling with water.

Areas	Agents / Toilet cleaner	Procedure
Cleaning of toilets		
Toilet pot/ commode	Sodium hypochlorite 1%/ Soap powder / long handle angular brush	<ul style="list-style-type: none"> • Inside of toilet pot/commode: • Scrub with the recommended agents and the long handle angular brush. • Outside: Clean with recommended agents; use a nylon scrubber.
Lid/commode	Nylon scrubber and soap powder	<ul style="list-style-type: none"> • Wet and scrub with soap powder and the nylon scrubber inside and outside
Toilet floor	Soap powder and scrubbing brush/ nylon broom	<ul style="list-style-type: none"> • Scrub floor with soap powder and the scrubbing brush • Wash with water • Use sodium hypochlorite 1% dilution
Tap	Nylon scrubber and soap powder	<ul style="list-style-type: none"> • Wet and scrub with soap powder and the nylon scrubber.
Outside sink	Soap powder and nylon scrubber	<ul style="list-style-type: none"> • Scrub with the nylon scrubber.
Showers area / Taps and fittings	Warm water Detergent powder Nylon Scrubber	<ul style="list-style-type: none"> • Thoroughly scrub the floors/tiles with warm water and detergent • Wipe over taps and fittings with a damp cloth and detergent. • Care should be taken to clean the underside of taps and fittings. • Taps should be dried after cleaning
Soap dispensers	Detergent and water	<ul style="list-style-type: none"> • Daily dusting • Should be cleaned weekly with detergent and water and dried.

Note: Dry the floors with a separate drying mop.

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Containment Plan

**Novel Coronavirus Disease 2019
(COVID 19)**

**Ministry of Health & Family Welfare
Government of India**

1. INTRODUCTION

1.1 Background

On 31st December 2019, the World Health Organization (WHO) China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. On 7th January 2020, Chinese authorities identified a new strain of Coronavirus as the causative agent for the disease. The virus has been renamed by WHO as SARS-CoV-2 and the disease caused by it as COVID-19. The disease since its first detection has affected all the provinces of China and 40 other countries (including Hong Kong, Macau and Taiwan). As per WHO (as of 26th February, 2020), there has been a total of 81109 confirmed cases of COVID-19 worldwide including 78191 confirmed cases and 2718 deaths reported from China. Besides China, 2918 confirmed cases and 44 deaths have been reported from 37 countries.

In India, as on 26th February, 2020, three travel related cases (from Hubei province, China), were reported (all from Kerala). All these cases were clinically stable during the period of hospitalization and discharged as per the discharge policy.

1.2. Risk Assessment

The risk for spread has been assessed by World Health Organization and currently (as on 26th February, 2020) it is very high for China and high at regional and global levels. WHO on 30th January, 2020 declared the current novel coronavirus outbreak as a Public Health Emergency of International Concern (PHEIC). According to WHO, “all countries should be prepared for containment, including active surveillance, early detection, isolation and case management, contact tracing and prevention of onward spread of SARS-CoV-2 infection.

Clusters have appeared in many countries including USA, France, Germany and local transmission in Hong Kong, Singapore, Republic of Korea, Iran and Italy.

1.3. Epidemiology

Coronaviruses belong to a large family of viruses, some causing illness in people and others that circulate among animals, including camels, cats, bats etc. Rarely, animal corona viruses may evolve and infect people and then spread between people as witnessed during the outbreak of Severe Acute Respiratory Syndrome (SARS, 2003) and Middle East Respiratory Syndrome (MERS, 2014). The etiologic agent responsible for current outbreak of SARS-CoV-2 is a novel coronavirus is closely related to SARS-Coronavirus.

In humans, the transmission of SARS-CoV-2 can occur via respiratory secretions (directly through droplets from coughing or sneezing, or indirectly through contaminated objects or surfaces as well as close contacts). Nosocomial transmission has been described as an important driver in the epidemiology of SARS and MERS and has also documented in COVID-19.

Current estimates of the incubation period of COVID range from 2-14 days, and these estimates will be refined as more data become available. Most common symptoms include fever, fatigue, dry cough and breathing difficulty. Upper respiratory tract symptoms like sore throat, rhinorrhoea, and gastrointestinal symptoms like diarrhoea and nausea/vomiting are seen in about 20% of cases.

Due to paucity of scientific literature based on community based studies, the available data on host factors is skewed towards cases requiring hospitalization. As per analysis of the biggest cohort reported by Chinese CDC, about 81% of the cases are mild, 14% require hospitalization and 5% require ventilator and critical care management. The deaths reported are mainly among elderly population particularly those with co-morbidities.

At the time of writing this document, many of the crucial epidemiological information particularly source of infection, mode of transmission, period of infectivity, etc. are still under investigation.

2. STRATEGIC APPROACH

India would be following a scenario based approach for the following possible scenarios:

- i. Travel related case reported in India
- ii. Local transmission of COVID-19
- iii. Community Transmission of COVID-19 disease
- iv. India becomes endemic for COVID-19

2.1. Strategic Approach for Current Scenario: “only travel related cases reported from India”

- (i) Inter-ministerial coordination (Group of Ministers, Committee of Secretaries) and Centre-State Co-ordination been established.
- (ii) Early Detection through Points of Entry (PoE) screening of passengers coming from China, Honk Kong, Indonesia, Japan, Malaysia, Republic of Korea, Singapore, Thailand and Vietnam through 21 designated airports, 12 major ports, 65 minor ports and 8 land crossings.
- (iii) Surveillance and contact tracing through Integrated Disease Surveillance Programme (IDSP) for tracking travellers in the community who have travelled from affected countries and to detect clustering, if any, of acute respiratory illness.
- (iv) Early diagnosis through a network of 15 laboratories of ICMR which are testing samples of suspect cases.
- (v) Buffer stock of personal protective equipment maintained.
- (vi) Risk communication for creating awareness among public to follow preventive public health measures.

2.2. Local transmission of COVID-2019 disease

The strategy will remain the same as explained in para 2.1 as above. In addition cluster containment strategy will be initiated with:

- Active surveillance in containment zone with contact tracing within and outside the containment zone.
- Expanding laboratory capacity for testing all suspect samples and
- Establishing surge capacities for isolating all suspect / confirmed cases for medical care.
- Implementing social distancing measures.
- Intensive risk communication.

3. SCOPE OF THIS DOCUMENT

In alignment with strategic approach, this document provides action that needs to be taken for containing a cluster. The actions for control of large outbreaks will be dealt separately under a mitigation plan.

4. OBJECTIVES

The objective of cluster containment is to stop transmission, morbidity and mortality due to COVID-19.

5. CLUSTER CONTAINMENT

5.1. Definition of Cluster

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:

- (i) Who has not travelled from an area reporting confirmed cases of COVID-19 or
- (ii) Who had no exposure to a person travelling from COVID-19 affected area or other known exposure to an infected person

There could be single or multiple foci of local transmission. There may or may not be an epidemiological link to a travel related case.

5.2. Cluster Containment Strategy

The cluster containment strategy would be to contain the disease within a defined geographic area by early detection, breaking the chain of transmission and thus preventing its spread to new areas. This would include geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, home quarantine of contacts, social mobilization to follow preventive public health measures.

5.3. Evidence base for cluster containment

Large scale measures to contain COVID-19 have been tried in China and Republic of Korea and also in countries that reported small clusters such as Germany, France, Singapore and Italy. Since COVID-19 is an airborne infection and there is efficient human to human transmission, success of containment operations cannot be guaranteed. Interventions to limit morbidity, mortality and social disruption associated with SARS in 2003 demonstrated that it was possible then to mobilize complex public health operation to contain SARS outbreak. Mathematical modeling studies suggest containment might be possible.

5.4. Factors affecting cluster containment

A number of variables determine the success of the containment operations. These are:

- (i) Size of the cluster.
- (ii) How efficiently the virus is transmitting in Indian population.
- (iii) Time since first case/ cluster of cases originated. Detection, laboratory confirmation and reporting of first few cases must happen quickly.
- (iv) Active case finding and laboratory diagnosis.
- (v) Isolation of cases and quarantine of contacts.
- (vi) Geographical characteristics of the area (e.g. accessibility, natural boundaries)
- (vii) Population density and their movement (including migrant population).
- (viii) Resources that can be mobilized swiftly by the State Government/ Central Government.
- (ix) Ability to ensure basic infrastructure and essential services.

5.5. Assumptions

- (i) The virus is not circulating in Indian Population.
- (ii) Even if there is a global pandemic, there is large part of the country which remains unaffected and large population which remains susceptible.

6. ACTION PLAN FOR CLUSTER CONTAINMENT

6.1. Institutional mechanisms and Inter-Sectoral Co-ordination

At the National Level, the National Crisis Management Committee (NCMC) will be activated. The co-ordination with health and non-health sectors will be managed by NCMC, on issues, flagged by Ministry of Health. Ministry of Health and Family Welfare will activate its Crisis Management Plan.

The Concerned State will activate State Crisis Management Committee or the State Disaster Management Authority, as the case may be to manage the clusters of COVID-19.

There will be daily co-ordination meetings between the centre and the concerned State through video conference.

The State should review the existing legal instruments to implement the containment plan. Some of the Acts/ Rules for consideration could be (i) Disaster Management Act (2005) (ii) Epidemic Act (1897) (iii) Cr.PC and (iv) State Specific Public Health Acts.

6.2. Trigger for Action

The trigger could be the IDSP identifying a cluster of Influenza like Illness (ILI) or Severe Acute Respiratory syndrome (SARI), which may or may not have epidemiological linkage to a travel related case. It could also be through other informal reporting mechanisms (Media/ civil society/ hospitals (government / private sector) etc. The State will ensure early diagnosis through the ICMR/VRDL (Virus Research and Diagnostic Laboratory) Network. A positive case will trigger a series of actions for containment of the cluster.

6.3. Deployment of Rapid Response Teams (RRT)

Emergency Medical Relief (EMR) division, Ministry of Health and Family Welfare will deploy the Central Rapid Response Team (RRT) to support and advice the State. The State will deploy its State RRT and District RRT.

6.4. Identify geographically-defined Containment zone and Buffer zone

6.4.1. Containment zone

The containment zone will be defined based on:

- (i) The index case / cluster, which will be the designated epicenter
- (ii) The listing and mapping of contacts.
- (iii) Geographical distribution of cases and contacts around the epicenter.
- (iv) Administrative boundaries within urban cities /town/ rural area.

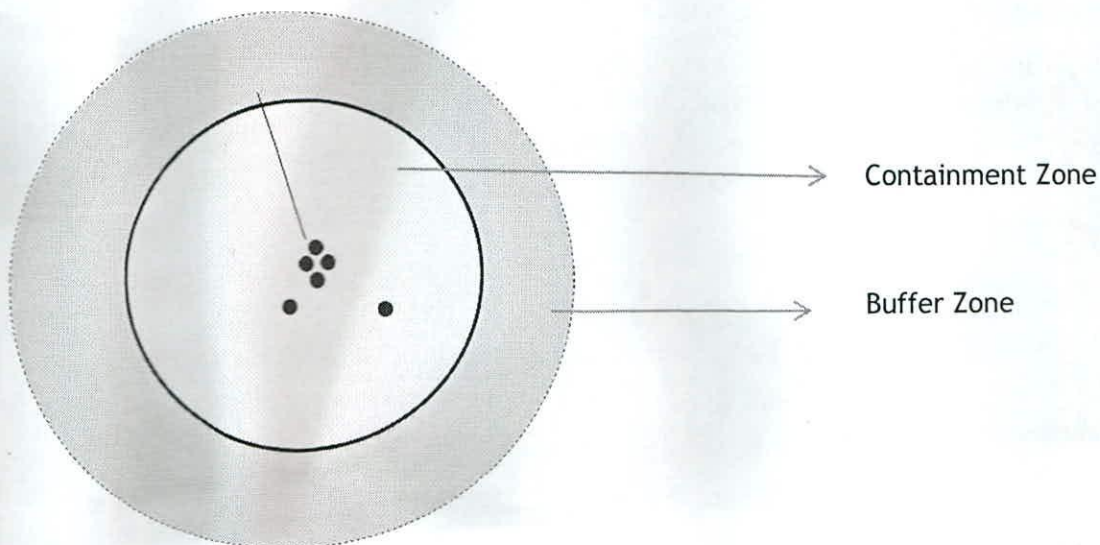
The RRT will do listing of cases, contacts and their mapping. This will help in deciding the perimeter for action. The decision of the geographic limit and extent of perimeter control will be that of the State Government. However, likely scenarios and possible characteristics of the containment and buffer zone are given in Table-1.

Table 1: Scenarios for determining containment and buffer zones

S. No.	Scenario	Containment zone characteristics
1	A small cluster in closed environment such as residential schools, military barracks, hostels or a hospital.	Containment zone will be determined by the mapping of the persons in such institution 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.

* The perimeter of the containment zone will be determined by the continuous real time risk assessment.

** The decision to follow a containment protocol will be based on the risk assessment and feasibility of perimeter control.



The Central RRT will help the State/ District administration in mapping the Containment Zone.

If the epidemiological assessment process is to take time (>12-24 hrs), then a containment zone of 3 Kms and a buffer zone of 7 Kms will be decided which may be subsequently revised, if required, based on epidemiologic investigation. Except for rural settings.

6.4.2. Buffer zone

Buffer zone is an area around the containment zone, where new cases are most likely to appear. There will not be any perimeter control for the buffer zone. The activities of buffer zone are listed under paragraph 7.2.

6.4.3. Perimeter

Perimeter of the containment zone will be decided by the District administration based on criteria defined in Para 6.4.1. Clear entry and exit points will be established. The perimeter controls that need to be applied is in para 7.3.

7. SURVEILLANCE

7.1. Surveillance in containment zone

7.1.1. Contact listing

The RRTs will list the contacts of the suspect / laboratory confirmed case of COVID-19. The District Surveillance Officer (in whose jurisdiction, the laboratory confirmed case/ suspect case falls) 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.

7.1.2. 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).

7.1.3. Active Surveillance

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.

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.

All ILI/SARI cases reported in the last 14 days by the IDSP in the containment zone will be tracked and reviewed to identify any missed case of COVID-19 in the community.

Any case falling within the case definition will be conveyed to the supervisory officer who in turn will visit the house of the concerned, confirm that diagnosis as per case definition and will make arrangements to shift the suspect case to the designated treatment facility. The supervisory officer will collect data from the health workers under him/ her, collate and provide the daily and cumulative data to the control room by 4.00 P.M. daily.

7.1.4 Passive Surveillance

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.

7.1.5. Contact Tracing

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.

7.2. Surveillance in Buffer zone

The surveillance activities to be followed in the buffer zone are as follows:

- i. Review of ILI/SARI cases reported in the last 14 days by the District Health Officials to identify any missed case of COVID-19 in the community.
- ii. Enhanced passive surveillance for ILI and SARI cases in the buffer zone through the existing Integrated Disease Surveillance Programme.
- iii. In case of any identified case of ILI/SARI, sample should be collected and sent to the designated laboratories for testing COVID-19.

All health facilities in the buffer 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. Measures such as personal hygiene, hand hygiene, social distancing to be enhanced through enhanced IEC activities in the buffer zone.

7.3. Perimeter Control

The perimeter control will ensure that there is no unchecked outward movement of population from the containment zone except for maintaining essential services (including medical emergencies) and government business continuity. 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.

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.

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 vehicles moving out of the perimeter control will be decontaminated with sodium hypochlorite (1%) solution.

8. LABORATORY SUPPORT

8.1 Designated laboratories

The identified VRDL network laboratory, nearest to the affected area, will be further strengthened to test samples. The other available govt. laboratories and private laboratories (BSL 2 following BSL 3 precautions) if required, shall also be engaged to test samples, after ensuring quality assurance by ICMR/VRDL network. If the number of samples exceeds its surge capacity, samples will be shipped to other nearby laboratories or to NCDC, Delhi or NIV, Pune or to other ICMR lab networks depending upon geographic proximity.

All test results should be available within 12 hours of sampling. ICMR along with the State Government will ensure that there are designated agencies for sample transportation to identified laboratories. The contact number of such courier agencies shall be a part of the micro-plan.

The designated laboratory will provide daily update (daily and cumulative) to District, State and Central Control Rooms on:

- i. No. of samples received
- ii. No. of samples tested
- iii. No. of samples under testing

- iv. No. of positive samples

8.2 Testing criteria

All suspect cases conforming to the case definition will be tested. The testing of suspect cases in the containment and buffer zones will continue till 14 days from the date, the last confirmed case is declared negative by laboratory test.

9. HOSPITAL CARE

All suspect cases detected in the containment/buffer zones (till a diagnosis is made), will be hospitalized and kept in isolation in a designated facility till such time they are tested negative. Persons testing positive for COVID-19 will remain to be hospitalized till such time 2 of their samples are tested negative as per MoHFW's discharge policy. About 15% of the patients are likely to develop pneumonia, 5 % of whom requires ventilator management. Hence dedicated Intensive care beds need to be identified earmarked. Some among them may progress to multi organ failure and hence critical care facility/ dialysis facility/ and Salvage therapy [Extra Corporeal Membrane Oxygenator (ECMO)] facility for managing the respiratory/renal complications/ multi-organ failure shall be required. If such facilities are not available in the containment zone, nearest tertiary care facility in Government / private sector needs to be identified, that becomes a part of the micro-plan.

9.1 Surge capacity

Based on the risk assessment, if the situation so warrants (data suggested an exponential rise in the number of cases), the surge capacity of the identified hospitals will be enhanced, private hospitals will be roped in and sites for temporary hospitals identified and it's logistic requirements shall be worked out.

9.2 Pre-hospital care (ambulance facility)

Ambulances need to be in place for transportation of suspect/confirmed cases. Such ambulances shall be manned by personnel adequately trained in infection prevention control, use of PPE and protocol that needs to be followed for disinfection of ambulances (by 1% sodium hypochlorite solution using knapsack sprayers).

9.3 Infection Prevention Control Practices

Nosocomial infection in fellow patients and attending healthcare personnel are well documented in the current COVID-19 outbreak as well. There shall be strict adherence to Infection prevention control practices in all health facilities. IPC committees would be formed (if not already in place) with the mandate to ensure that all healthcare personnel are well aware of IPC practices and suitable arrangements for requisite PPE and other logistic (hand sanitizer, soap, water etc.) are in place. The designated hospitals will ensure that all healthcare staff is trained in washing of hands, respiratory etiquettes, donning/doffing & proper disposal of PPEs and bio-medical waste management.

At all times doctors, nurses and para-medics working in the clinical areas will wear three layered surgical mask and gloves. The medical personnel working in isolation and critical care facilities will wear full complement of PPE (including N95 masks).

The support staff engaged in cleaning and disinfection will also wear full complement of PPE. Environmental cleaning should be done twice daily and consist of damp dusting and floor mopping with Lysol or other phenolic disinfectants and cleaning of surfaces with sodium hypochlorite solution. Detailed guidelines available on MoHFW's website may be followed.

10. CLINICAL MANAGEMENT

10.1. Clinical Management

The hospitalized cases may require symptomatic treatment for fever. Paracetamol is the drug of choice. Suspect cases with co-morbid conditions, if any, will require appropriate management of co-morbid conditions.

For patients with severe acute respiratory illness (SARI), having respiratory distress may require, pulse oxymetry, oxygen therapy, non-invasive and invasive ventilator therapy. Detailed guidelines available on MoHFW's website and updated from time to time, may be followed.

10.2. Discharge Policy

Discharge policy for suspected cases of COVID-19 tested negative will be based on the clinical assessment of the treating physician. For those tested positive for COVID-19, their discharge from hospital will be governed by consecutive two samples tested negative and the patient is free from symptoms.

11. PHARMACEUTICAL INTERVENTIONS

As of now there is no approved drug or vaccine for treatment of COVID-19.

12. NON-PHARMACEUTICAL INTERVENTIONS

In the absence of proven drug or vaccine, non-pharmaceutical interventions will be the main stay for containment of COVID-19 cluster.

12.1. Preventive public health measures

There will be social mobilization among the population in containment and buffer zone for adoption of community-wide practice of frequent washing of hands and respiratory etiquettes in schools, colleges, work places and homes. The community will also be encouraged to self-

monitor their health and report to the visiting ASHA/Anganwadi worker or to nearest health facility.

12.2. Quarantine and isolation

Quarantine and Isolation are important mainstay of cluster containment. These measures help by breaking the chain of transmission in the community.

12.2.1. Quarantine

Quarantine refers to separation of individuals who are not yet ill but have been exposed to COVID-19 and therefore have a potential to become ill. There will be voluntary home quarantine of contacts of suspect /confirmed cases. The guideline on home quarantine available on the website of the Ministry provides detail guidance on home quarantine.

12.2.2. Isolation

Isolation refers to separation of individuals who are ill and suspected or confirmed of COVID-19. There are various modalities of isolating a patient. Ideally, patients can be isolated in individual isolation rooms or negative pressure rooms with 12 or more air-changes per hour.

In resource constrained settings, all positive COVID-19 cases can be cohorted in a ward with good ventilation. Similarly, all suspect cases should also be cohorted in a separate ward. However under no circumstances these cases should be mixed up. A minimum distance of 1 meter needs to be maintained between adjacent beds. All such patients need to wear a triple layer surgical mask at all times.

12.3 Social distancing measures

For the cluster containment, social distancing measures are key interventions to rapidly curtail the community transmission of COVID-19 by limiting interaction between infected persons and susceptible hosts. The following measures would be taken:

12.3.1 Closure of schools, colleges and work places

Administrative orders will be issued to close schools, colleges and work places in containment and buffer zones. Intensive risk communication campaign will be followed to encourage all persons to stay indoors for an initial period of 28 days, to be extended based on the risk assessment. Based on the risk assessment and indication of successful containment operations, an approach of staggered work and market hours may be put into practice.

12.3.2 Cancellation of mass gatherings

All mass gathering events and meetings in public or private places, in the containment and buffer zones shall be cancelled / banned till such time, the area is declared to be free of COVID-19 or the outbreak has increased to such scales to warrant mitigation measures instead of containment.

12.3.3. Advisory to avoid public places

The public in the containment and buffer zones will be advised to avoid public places and only if necessary for attending to essential services. The administration will ensure supply of enough triple layer masks to the households in the containment and buffer zones.

12.3.4. Cancellation of public transport (bus/rail)

There will be prohibition for persons entering the containment zone and on persons exiting the containment zone. To facilitate this, if there are major bus transit hubs or railway stations in the containment zone, the same would be made dysfunctional temporarily. Additionally, irrespective of fact that there is a rail/road transit hub, the perimeter control will take care of prohibiting people exiting the containment zone including those using private vehicles and taxis.

As a significant inconvenience is caused to the public by adopting these measures in the containment zone, State government would proactively engage the community and work with them to make them understand the benefits of such measures.

13. MATERIAL LOGISTICS

13.1. Personal Protective Equipment

The type of personal protective equipment for different categories of:

S. No.	Name of the item	Category of personnel
1	PPE Kit, N 95, Mask, Gloves, Goggles, cap and shoe cover)	<ul style="list-style-type: none">• Doctors and nurses attending to patients in isolation, ICU/ critical care facilities of hospitals in the containment zone.• Para-medical staff in the back cabin of ambulance.• Auxillary/ support staff involved in disinfection vehicles/ ambulances and surface cleaning of hospital floors and other surfaces
2	N-95 Mask and gloves	<ul style="list-style-type: none">• Supervisory doctors verifying a suspect case• Persons collecting samples.• Doctors/nurses attending patients in primary health care facilities
3	Triple Layer Surgical mask	<ul style="list-style-type: none">• To be used by Field workers doing surveillance work• Staff providing essential services.• Suspect cases and care giver / by stander of the suspect case• Security staff.• Ambulance drivers• Residents permitted to go out for essential services .

The State Government has to ensure adequate stock of personal protective equipment. The quantity required for a containment operation will depend upon the size & extent of the cluster and the time required containing it. A containment of a cluster, lasting a month or two

14.2.3 Dedicated helpline

A dedicated helpline number will be provided at the Control room (district headquarter) and its number will be widely circulated for providing general population with information on risks of COVID-19 transmission, the preventive measures required and the need for prompt reporting to health facilities, availability of essential services and administrative orders on perimeter control.

14.2.4 Media Management

At the Central level, only Secretary (H) or representative nominated by her shall address the media. There will be regular press briefings/ press releases to keep media updated on the developments and avoid stigmatization of affected communities. Every effort shall be made to address and dispel any misinformation circulating in media incl. social media.

At the State level, only Principal Secretary (H), his/her nominee will speak to the media.

15. INFORMATION MANAGEMENT

15.1 Control room at State & District Headquarters

A control room (if not already in place) shall be set up at State and District headquarters. This shall be manned by State and District Surveillance Officer (respectively) under which data managers (deployed from IDSP/ NHM) responsible for collecting, collating and analyzing data from field and health facilities. Daily situation reports will be put up.

The state will provide aggregate data on daily basis on the following (for the day and cumulative):

- i. Total number of suspect cases
- ii. Total number of confirmed cases
- iii. Total number of critical cases on ventilator
- iv. Total number of deaths
- v. Total number of contacts under surveillance

15.2 Control room in the containment zone

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.

in a population of 100,000 may require 20,00,000 triple layer masks; 2,00,000 gloves; 100,000 N-95 masks and about 50,000 PPE Kits. The foregoing number is to illustrate that State need to have a rate contract and assured supply for these items.

13.2. Transportation

A large number of vehicles will be required for mobilizing the surveillance and supervisory teams. The vehicles will be pooled from Government departments. The shortfall, if any, will be met by hiring of vehicles.

13.3. Stay arrangements for the field staff

The field staff brought in for the surveillance activities and that for providing perimeter control need to be accommodated within the containment zone. Facilities such as schools, community buildings etc. will be identified for sheltering. Catering arrangement will need to be made at these locations.

13.4 Bio-medical waste management

A large quantity of bio-medical waste is expected to be generated from containment zone. Arrangement would also be required for such bio-medical waste (discarded PPEs etc.), preferably by utilizing the bio-medical waste management services at the designated hospital.

14. RISK COMMUNICATION

14.1 Risk communication material

Risk communication materials [comprising of (i) posters and pamphlets; (ii) audio only material; (iii) AV films] prepared by PIB/MoHFW will be prepared and kept ready for targeted roll out in the containment and buffer zones.

14.2 Communication channels

14.2.1 Interpersonal communication

During house to house surveillance, ASHAs/ other community health workers will interact with the community (i) for reporting symptomatic cases (ii) contact tracing (iii) information on preventive public health measures.

14.2.2 Mass communication

Awareness will be created among the community through miking, distribution of pamphlets, mass SMS and social media. Also use of radio and television (using local channels) will ensure penetration of health messages in the target community.

17. FINANCING OF CONTAINMENT OPERATIONS

The fund requirement would be estimated taking into account the inputs in the micro-plan and funds will be made available to the district collector from NHM flexi-fund.

17.1 Scaling down of operations

The operations will be scaled down if no secondary laboratory confirmed COVID-19 case is reported from the containment and buffer zones for at-least 4 weeks after the last confirmed test has been isolated and all his contacts have been followed up for 28 days. The containment operation shall be deemed to be over 28 days from the discharge of last confirmed case (following negative tests as per discharge policy) from the designated health facility i.e. when the follow up of hospital contacts will be complete.

The closing of the surveillance for the clusters could be independent of one another provided there is no geographic continuity between clusters. However the surveillance will continue for ILI/SARI.

However, if the containment plan is not able to contain the outbreak and large numbers of cases start appearing, then a decision will need to be taken by State administration to abandon the containment plan and start on mitigation activities.

18. IMPLEMENTATION OF THE MICRO-PLAN

Based on the above activities, the State/ District will prepare an event specific micro-plan and implement the containment operations.

15.3 Alerting the neighboring districts/States

The control room at State Government will alert all neighboring districts. There shall be enhanced surveillance in all such districts for detection of clustering of symptomatic illness. Awareness will be created in the community for them to report symptomatic cases/contacts.

Also suitable provisions shall be created for enhancing horizontal communication between adjacent districts, especially for contact tracing exercise and follow up of persons exiting the containment zone.

16. CAPACITY BUILDING

16.1 Training content

Trainings will be designed to suit requirement of each and every section of healthcare worker involved in the containment operations. These trainings for different target groups shall cover:

1. Field surveillance, contact tracing, data management and reporting
2. Surveillance at designated exit points from the containment zone
3. Sampling, packaging and shipment of specimen
4. Hospital infection prevention and control including use of appropriate PPEs and bio-medical waste management
5. Clinical care of suspect and confirmed cases including ventilator management, critical care management
6. Risk communication to general community

16.2 Target trainee population

Various sections of healthcare workforce (including specialist doctors, medical officers, nurses, ANMs, Block Extension Educators, MHWs, ASHAs) and workforce from non-health sector (security personnel, Anganwadi Workers, support staff etc.). Trainings will be tailored to requirements of each of these sections.

The training will be conducted by the RRT a day prior to containment operations are initiated.

16.3 Replication of training in other districts

The State Govt. will ensure that unaffected districts are also trained along the same lines so as to strengthen the core capacities of their RRTs, doctors, nurses, support staff and non-health field formations. These trainings should be accompanied with functional training exercises like mock-drills.