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Containment Plan for Large Outbreaks: Novel Coronavirus Disease 2019 (COVID-19)

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 in China has now spread to over 200 countries/territories, with reports of local transmission happening in more than 160 of these countries/territories. As per WHO (as of 1st April, 2020), there has been a total of 823626 confirmed cases and 40598 deaths due to COVID-19 worldwide.

In India, as on 2nd April, 2020, 1965 confirmed cases (including 51 foreign nationals) and 50 deaths reported from 29 States/UTs. Large number of cases has been reported from Delhi, Karnataka, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Telangana and Uttar Pradesh.

1.2. Risk Assessment

COVID-19 was declared a pandemic by WHO on 11th March, 2020. While earlier the focus of spread was centered on China, it has now shifted to Europe and North America. WHO has advised countries to take a whole-of-government, whole-of-society approach, built around a comprehensive strategy to prevent infections, save lives and minimize impact.

In India also, clusters have appeared in multiple States, particularly Kerala, Maharashtra, Rajasthan, Uttar Pradesh, Delhi, Punjab, Karnataka, Telangana and UT of Ladakh. 211 districts are now reporting COVID-19 cases and the risk of further spread remains very high.

Ministry of Health and Family Welfare, Government of India

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 coronaviruses may evolve and jump species to infect people and then spread between people as witnessed during the outbreak of Severe Acute Respiratory Syndrome (SARS, 2003) and Middle East Respiratory Syndrome (MERS, 2014). The etiologic agent responsible for current outbreak of SARS-CoV-2 is a novel coronavirus closely related to SARS-Coronavirus.

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

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

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

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

2. STRATEGIC APPROACH

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

i. Travel related case reported in India

ii. Local transmission of COVID-19

iii. Large outbreaks amenable to containment

iv. Wide-spread community transmission of COVID-19 disease

v. India becomes endemic for COVID-19.

2.1. Strategic Approach for Scenario: "Travel Related Cases Reported from India"

(i) Inter-Ministerial coordination (Group of Ministers, Committee of Secretaries) and Centre-State co-ordination been established.

(ii) Early detection through universal screening of all International passengers at Points of Entries (PoEs).

(iii) Surveillance and contact tracing through Integrated Disease Surveillance Programme (IDSP) for tracking travellers in the community who have travelled from affected countries.

(iv) Early diagnosis through testing samples of suspect cases.

(v) Buffer stock of Personal Protective Equipment (PPE) maintained.

(vi) Risk communication for creating awareness among public to follow preventive public health measures.

2.2. Local Transmission of COVID-2019 Disease

Local transmission will lead to clustering of cases in time and space, epidemiologically linked to a travel related case or a positive case that has links to a travel related case. The cluster containment strategy will be:

- Extensive contact tracing and active search for cases in containment zone
- Testing all suspect cases and high risk contacts
- Isolating all suspect/confirmed cases and providing medical care.
- Quarantining contacts
- Implementing social distancing measures.
- Intensive risk communication.

2.3. Large Outbreaks Amenable to Containment

The strategy will remain the same as explained in para 2.2 as above but vary in extent depending upon spread and response to be mounted to contain it. Geographic quarantine and containment strategy will include:

- Defining the area of operation
- Active surveillance for cases and contacts in the identified geographic zone.
- Expanding laboratory capacity for testing all suspect cases, high risk contacts and SARI cases.
- Operationalize surge capacities created for isolation (COVID-19 hospitals/COVID-19 dedicated blocks) to hospitalize and manage all suspect/confirmed cases.
- Implementation of social distancing measures with strict perimeter control.
- Provide chemoprophylaxis with Hydroxychloroquine to all asymptomatic healthcare workers and asymptomatic household contacts of laboratory confirmed cases.
- Further intensification of risk communication through audio, social and visual media.

3. SCOPE OF THIS DOCUMENT

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

4. OBJECTIVE

The objective of this plan is to stop the chain of transmission thus reducing the morbidity and mortality due to COVID-19.

5. CONTAINMENT FOR LARGE OUTBREAKS THROUGH GEOGRAPHIC QUARANTINE

5.1. Geographic Quarantine

Geographic quarantine (cordon sanitaire) strategy calls for near absolute interruption of movement of people to and from a relatively large defined geographic area where there is single large outbreak or multiple foci of local transmission of COVID-19. In simple terms, it is a barrier erected around the focus of infection.

Geographic quarantine shall be applicable to such areas reporting large outbreak and/or multiple clusters of COVID-19 spread over multiple blocks of one or more districts that are contiguous.

5.2. Cluster Containment Strategy

The Cluster Containment Strategy would be to contain the disease within a defined geographic area by early detection of cases, breaking the chain of transmission and thus preventing its spread to new areas. This would include geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, quarantine of

contacts and risk communication to create awareness among public on preventive public health measures.

5.3. Evidence for Implementing Geographic Quarantine

In 2009, during the H1N1 Influenza pandemic it was observed that well connected big cities with substantive population movement were reporting large number of cases, whereas rural areas and smaller towns with low population densities and relatively poor road/rail/airway connectivity were reporting only few cases.

The current geographic distribution of COVID-19 mimics the distribution of H1N1 Pandemic Influenza. This suggests that while the spread of COVID-19 in our population could be high, it's unlikely that it will be uniformly affecting all parts of the country. This calls for differential approach to different regions of the country, while mounting a strong containment effort in hot spots.

Large scale measures to contain COVID-19 over large territories have been tried in China. Mathematical modeling studies have suggested that containment might be possible especially when other public health interventions are combined with an effective social distancing strategy.

5.4. Factors Affecting Large Outbreak Cluster Containment

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

(i) Number and size of the cluster/s.

(ii) Effectiveness of geographic quarantine.

(iii) How efficiently the virus is transmitting in Indian population, taking into account environmental factors especially temperature and humidity.

(iv) Public health response in terms of active case finding, testing of large number of cases, immediate isolation of suspect and confirmed cases and quarantine of contacts.

(v) Geographical characteristics of the area (e.g. accessibility, natural boundaries).

(vi) Population density and their movement (including migrant population).

(vii) Ability to ensure basic infrastructure and essential services.

6. ACTION PLAN FOR GEOGRAPHIC QUARANTINE

6.1. Legal framework

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

The Home Ministry has delegated the powers under DM Act, 2005 [Section 10 sub-section 2 clauses (i) and (l)] to Secretary (Health and Family Welfare) to act in such a way to contain or control the outbreak. States may invoke the provisions under DM Act, 2005 or under the Epidemic Act, 1897 to delegate powers to identified authority to act in such a manner to control or contain the outbreak.

Indian Penal Code under sections 270 provides power to act against those indulging in spread of disease. Section 144 of the Code of Criminal Procedure, when invoked, prohibits gathering of people.

6.1. Institutional Mechanisms and Inter-sectoral Co-ordination

At the Union Government level

6.1.1 The Group of Ministers (GoM) under the Chairmanship of Union Health Minister will be the apex body to take policy decisions. The GoM will have Ministers of External Affairs, Civil Aviation, Shipping, Pharmaceuticals, Home Ministry and option for co-opting any other Ministry. The Union Health Minister will have an advisory Group that will advise him on way forward. The Public Health Working Group under Secretary (H) and Joint Monitoring Group under DGHS will provide technical inputs.

6.1.2. At the national level, the Cabinet Secretary/ National Crisis Management Committee (NCMC)/ Committee of Secretaries (CoS) will review the situation across the country and continue to direct the concerned Ministries to implement its directions . The co-ordination with health and non-health sectors will be managed by NCMC/CoS, on issues, flagged by Ministry of Health.

The scale of arrangement within the Ministry of Health will be expanded with additional areas among the core capacities assigned to various officers. If need be, there will be empowered group taking decisions for the core areas of work (planning-co-ordination, surveillance, laboratory support, hospital preparedness, human resource, logistics and data analysis).

At the State level

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

Institutional arrangement at the operational level

6.1.4. District Collector would be the nodal person for all preparedness and response activities within his jurisdiction. District Collector will hold regular meetings with health functionaries, DDMA, Revenue, PWD, Forest, Education and Panchayati Raj/Local Self Governance Departments where the containment plan will be finalized and operationalized. These officials will issue directions to their ground level staff in all aspects of preparedness, control and containment in accordance with the Containment Plan and Guidelines.

District Collector would need to identify key issues (logistics, legal, technical and resources) and address them for implementing containment operations. He/she will keep ready all administrative orders for social distancing, restriction of rail/road/air transport, perimeter control and continuity of essential services.

In addition, a compendium of all the administrative orders required for enforcing the nonpharmaceutical interventions would be prepared well in advance and kept ready to be executed during response phase.

6.2. Trigger for Action

Epidemiological intelligence on increase in the incidence of a COVID-19 cases occurring within a defined geographic area will be trigger for action. This will be provided by IDSPs early warning and response (EWAR) system. Routine laboratory based surveillance of SARI cases is another trigger for action.

6.3. Deployment of Rapid Response Teams (RRT)

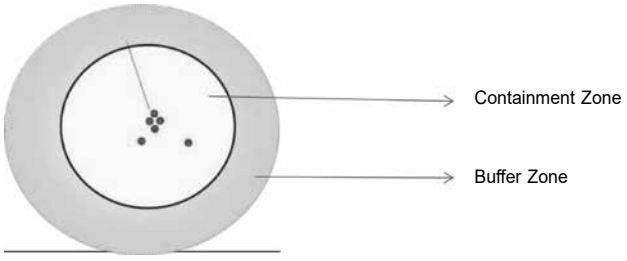
Emergency Medical Relief (EMR) division, Ministry of Health and Family Welfare will deploy the Central Rapid Response Team (RRT) to support and advice the State. The State will deploy its own State RRT and District RRT.

6.4. Identify Area Under Geographic Quarantine

6.4.1 A large outbreak is defined as localized increase in the incidence of a COVID-19 cases occurring within a defined geographic area e.g., in a village, town, or city. This could also imply progression of a small cluster, earlier noticed for which cluster management action is under implementation, into multiple clusters.

6.4.2. Defining containment and buffer zones: The area under geographic quarantine will be defined. There shall be (i) containment zone, surrounded by (ii) buffer zone.

Boundary for geographic quarantine will be defined based on: (i) geospatial distribution of each cluster contained within, (ii) largest administrative unit containing all clusters occurring within a state (with a minimum of 1 district), (iii) feasibility to implement strict interruption of movement of people, (iv) joint assessment by State and Central RRTs.



6.4.3. Buffer Zone

The adjoining blocks of the affected district or rural districts of the affected city will be considered as the buffer zone.

6.4.4. Perimeter

Perimeter of the geographically quarantined will be decided by the State administration based on criteria defined in Para 6.4.1. Clear entry and exit points will be established. The perimeter controls that need to be applied is in para 7.4.

7. SURVEILLANCE

7.1. Surveillance in containment zone, including contact listing, tracking and follow up shall be carried out as detailed in Cluster Containment Plan. Contact tracing shall be as per IDSP guidelines on the same.

7.2. Precise mapping of the outbreak shall be carried out.

7.3. Passive Surveillance shall be enhanced all throughout the area under geographic quarantine and districts surrounding it for ILI and SARI cases. All hospitalized patients with Severe Acute Respiratory Illness shall also be tested for COVID-19.

7.4. Perimeter Control

The perimeter control will ensure that there is no unchecked outward movement of population from the containment zone except for maintaining essential services (including medical emergencies) and government business continuity. Thermal screening, IEC shall be carried out at all entry and exit points.

All vehicular movement, movement of public transport and personnel movement will be stopped. All roads including rural roads connecting the containment zone will be guarded by Police. For personnel and vehicles requiring regular movement, a pass/ID card may be issued with details recorded and communicated.

The District administration will post signs and create awareness informing public about the perimeter control. Health workers posted at the exit point will perform screening (e.g. interview travelers, measure temperature, record the place and duration of intended visit and keep complete record of intended place of stay).

Details of all persons moving out of perimeter zone for essential/emergency services will be recorded and they will be followed up through IDSP. Those entering such geographically quarantined areas shall be given a chemoprophylactic dose of hydroxychloroquine. All vehicles moving out of the perimeter control will be decontaminated with sodium hypochlorite (1%) solution.

8. LABORATORY SUPPORT

8.1. Designated Laboratories

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

All test results should be available within 12-24 hours of sampling. ICMR along with the State Government will ensure that there are designated agencies for sample transportation to identified laboratories. The contact number of such courier agencies shall be a part of the micro-plan.

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

i. No. of samples received

ii. No. of samples tested

iii. No. of samples under testing

iv. No. of positive samples

8.2. Testing Criteria

Laboratory/s will undertake testing of: (i) All symptomatic individuals who have undertaken international travel in the last 14 days, (ii) All symptomatic contacts of laboratory confirmed cases, (iii) All symptomatic health-care workers, (iv) All hospitalized patients with SARI and (v) Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact.

The testing will continue till 14 days from the date the last confirmed case is declared negative by laboratory test.

9. HOSPITAL CARE

All suspect/confirmed COVID-19 cases will be hospitalized and kept in isolation in dedicated COVID-19 hospitals/hospital blocks. Persons testing positive for COVID-19 will remain hospitalized till such time as two of their samples are tested negative as per discharge policy. About 15% of the patients are likely to require hospitalization, and an additional 5% will requires ventilator management.

A three tier arrangement for managing suspect/ confirmed cases will be implemented to decrease burden on the COVID Block/hospital.

(i) The mild cases will be kept in temporary makeshift hospital facilities by converting hotels/hostel/guest houses/stadiums near a COVID-19 hospital. The existing quarantine facility may also be converted. This will be identified near an existing COVID hospital/COVID block.

(ii) Dedicated COVID-19 hospitals/dedicated blocks in large hospitals will be identified and operationalized. Moderate to severe cases, who require monitoring of their clinical status (patients with radiological evidence of pneumonia) will be admitted to COVID hospital.

(iii) Some of the severe cases may progress respiratory failure and/or progress to multi-organ failure and hence critical care facility/dialysis facility/ and Salvage therapy [Extra Corporeal Membrane Oxygenator (ECMO)] facility for managing the respiratory/renal complications/multi-organ failure shall be required. If such facilities are not available in the containment zone, nearest tertiary care facility in Government/private sector needs to be identified, that becomes a part of the micro-plan.

In every hospital fever clinics with triage, holding areas, sampling stations and individual doctor's chambers

where patients with fever/cough/breathing difficulty will be attended will be established.

9.1. Surge Capacity

Based on the risk assessment, if the situation so warrants (if data suggests an exponential rise in the number of cases), the surge capacity of the identified hospitals will be enhanced, private hospitals will be roped in and sites identified for temporary hospitals will be operationalized.

Surge capacity will also need enhancement in terms of laboratory testing capacity as detailed in para 8.1 above.

9.2. Pre-hospital Care (Ambulance Facility)

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

For any further guidance Standard Operating Procedure (SOP) for transporting a suspect/confirmed case of COVID-19 may be referred to (Available at: https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconfirmedcaseofCOVID19.pdf)

9.3. Infection Prevention Control Practices

Healthcare associated infections among attending healthcare personnel are well documented in the current COVID-19 outbreak. There shall be strict adherence to Infection Prevention Control (IPC) practices in all health facilities. IPC committees would be formed (if not already in place. The designated hospitals will ensure that all healthcare staff is trained in washing of hands, respiratory etiquettes, donning/doffing & proper disposal of PPEs and biomedical waste management.

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

The support staff engaged in cleaning and disinfection will also wear full complement of PPE. Environmental cleaning should be done twice daily and consist of damp dusting and floor mopping with Lysol or other phenolic disinfectants and cleaning of commonly touched surfaces with sodium hypochlorite solution.

Detailed guidelines available MoHFW's website on (i) Infection prevention and control in healthcare facilities, (ii) Rational use of Personal Protective Equipment, may be referred to.

All healthcare workers must be advised to self-monitor their health and report any breach in IPC practices or occurrence of any illness.

10. CLINICAL MANAGEMENT

10.1. Clinical Management

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

For patients with Severe Acute Respiratory Illness (SARI), having respiratory distress may require, pulse oxymetry, oxygen therapy, non-invasive and invasive ventilator therapy.

Detailed guidelines available on MoHFW's website and updated from time to time, may be followed.

Doctors managing severe COVID cases may contact AIIMS, Delhi (helpline - 9971876591) or through tele-medicine network to seek guidance for management of severe cases.

10.2. Discharge Policy

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

11. PSYCHOSOCIAL SUPPORT

Quarantine, isolation and being affected by a new disease, all can be very stressful for those involved and for their family members. Social distancing measures that force one to stay at home and resulting social isolation can be frustrating. This apart, the healthcare workers working under the fear of an unknown disease, under stressful and demanding situations, impact their mental well-being. A guidance note on dealing with various mental issues is available at: https://www.mohfw.gov.in/pdf/MindingourmindsduringCoronaeditedat.pdf.

The National Institute of Mental Health and Neuro Sciences (NIMHANS) will be the nodal agency to plan and execute psychosocial support. NIHMANS will

prepare a Psychosocial Support plan and implement the same in the COVID affected areas.

12. PHARMACEUTICAL INTERVENTIONS

As of now there is no approved specific drug or vaccine for cure or prevention of COVID-19.

However Hydroxychloroquine has been recommended as chemoprophylaxis drug for use by asymptomatic healthcare workers managing COVID-19 cases and asymptomatic contacts of confirmed COVID-19 cases (advisory issued by ICMR in this regard is available at: https://www.mohfw.gov.in/pdf/AdvisoryontheuseofHydroxychloroquinasprophylaxisforSARSCoV2infection.pdf).

In addition a combination of Hydroxychloroquine and Azithromycin has been advocated for use in severe cases of COVID-19 under medical supervision. (Guideline on clinical management protocol of COVID-19 is available at: https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf).

Contacts and healthcare workers receiving Hydroxycholoroquine as chemoprohylaxis will be informed to report any untoward health event to nearest health facility.

13. NON-PHARMACEUTICAL INTERVENTIONS

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

13.1. Preventive Public Health Measures

There will be intensive social mobilization among the population in geographic quarantine zone for adoption of community-wide practice of frequent washing of hands and respiratory etiquettes. The community will also be encouraged to self-monitor their health and report to the ASHA/Anganwadi worker visiting home or to nearest health facility.

13.2. Quarantine and Isolation

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

13.2.1. Quarantine

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

The contacts advised quarantine will undergo risk profiling. Those above 60 or with comorbidities will be shifted to designated quarantine facility. This will help identify early development of symptoms among them, their testing and shifting to isolation facility under para 9.

13.2.2. Isolation

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

In resource constrained settings, all positive COVID-19 cases can be cohorted in a ward with good ventilation. Similarly, all suspect cases should also be cohorted in a separate ward. However, under no circumstances these cases should be mixed up. The COVID hospital/COVID block in an identified hospital or the make shift temporary hospitals mentioned under para 9 will all have separate facilities to keep suspect and confirmed cases.

A minimum distance of 1 meter needs to be maintained between adjacent beds. All such patients need to wear a triple layer surgical mask at all times.

13.3. Social Distancing Measures

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

13.3.1. Closure of schools, colleges and work places

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

13.3.2. Cancellation of mass gatherings

All mass gathering events and meetings in public or private places, in the containment and buffer zones shall be cancelled/banned till such time as the area is

declared to be free of COVID-19 or the outbreak has increased to such scales to warrant mitigation measures instead of containment.

13.3.3. Advisory to avoid public places

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

13.3.4. Cancellation of public transport (bus/rail)

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

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

13.3.5. Enforcement of Geographic quarantine

The perimeter control and movement of vehicles within the containment zone will be prohibited except for those (identified through special passes) earmarked for providing essential services. Police check-posts at prominent locations will check vehicles and give necessary guidance by police. Those found defaulting of Government orders will be prosecuted.

14. MATERIAL LOGISTICS

14.1. Personal Protective Equipment

The type of personal protective equipment for different categories of:

S. No.	Name of the item	Category of personnel
1	PPE Kit, N95 Mask, Gloves, Goggles, cap and shoe cover	• 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 performing interventional lifesaving maneuvers. • Those working in laboratories or collecting sample
2	N-95 Mask and gloves	• Supervisory doctors verifying a suspect case • Doctors/nurses attending patients in Screening fever clinics/respiratory clinics/ primary healthcare facilities
3	Triple Layer Surgical mask	• 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

The State Government has to ensure adequate stock of Personal Protective Equipment (PPE). The quantity required for a containment operation will depend upon the size and extent of the cluster and the time required for containing it. States will also ensure that the PPE are being used in accordance with the guidelines on rational use of PPE.

14.2. Transportation

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

14.3. Stay Arrangements for the Field Staff

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

14.4. Bio-medical Waste Management

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

15. RISK COMMUNICATION

15.1. Risk Communication Material

Risk communication materials [comprising: (i) posters and pamphlets (ii) audio only material (iii) AV films

(prepared by PIB/MoHFW)] will be prepared and kept ready for targeted roll out in the entire geographic quarantine zone.

15.2. Communication Channels

15.2.1. Interpersonal communication

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

15.2.2. Mass communication

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

15.2.3. Dedicated helpline

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

15.2.4. Media Management

At the Central level, only Secretary (H) or representative nominated by her shall address the media. At the State level, only Principal Secretary (H), his/her nominee will speak to the media. At the District level DM/DC will address the media.

There will be regular press briefings/press releases to keep media updated on the developments and avoid stigmatization of affected communities. Every effort shall be made to address and dispel any misinformation circulating in media including social media.

16. INFORMATION MANAGEMENT

16.1. Control Room at State & District Headquarters

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

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

i. Total number of suspect cases

ii. Total number of confirmed cases

iii. Total number of critical cases on ventilator

iv. Total number of deaths

v. Total number of contacts under surveillance.

16.2. Control Room in the Geographic Quarantine Zone

A Control Room shall be set up inside the geographic quarantine zone to facilitate collection, collation and dissemination of data from various field units to District and State Control Rooms. This shall be manned by an epidemiologist under which data managers (deployed from IDSP/NHM) will be responsible for collecting, collating and analyzing data from field and health facilities.

This Control Room will provide daily input to the District Control Room for preparation of daily situation report.

16.3. Alerting the Neighboring Districts/States

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

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

17. CAPACITY BUILDING

It is expected that in such circumstances, large human resource requirement will be there to manage: (i) Field activities including surveillance, (ii) Clinical care at hospitals, (iii) laboratory testing and (iv) support staff to provide support services.

17.1. Training Content

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

1. Field surveillance, contact tracing, data management and reporting

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

17.2. Target Trainee Population

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

Prepare Training plan and calendar for undertaking training of non-health workers (including trainee ANM), volunteers from Red Cross, Civil Defence, NCC, NSS, Nehru Yuva Kendra volunteers, Panchayati Raj functionaries (rozgar sewaks) on community surveillance (self-protection, brief questionnaire interview and reporting to supervisors).

Train all available clinical resources (respiratory physicians, anaesthetists, intensivists, MBBS doctors who have handled ventilators, including DNB and MD students) on clinical and ventilatory management.

The training resources available at IGOT platform of GoI may be utilized.

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

17.3. Replication of Training in Other Districts

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

18. FINANCING OF CONTAINMENT OPERATIONS

The fund requirement would be estimated taking into account the scale of operations and funds will be made available to the district collector from NHM flexi-fund. The SDRF funds can also be used as per notification issued by Ministry of Home Affairs.

19. SCALING DOWN OF OPERATIONS

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

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

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

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Biologics for RA Safe with Nonelective Surgery

Patients with rheumatoid arthritis (RA) who were being treated with biologic therapies and underwent nonelective surgery had outcomes no worse than those who were treated with methotrexate, revealed a large retrospective cohort study.

Among patients being administered a tumor necrosis factor (TNF) inhibitor who needed surgery, the adjusted odds ratios (OR) for 90-day mortality were 0.83 (95% CI 0.67-1.02), and 0.86 (95% CI 0.75-0.933) for 30-day readmission, suggested researchers. They noted that even low-dose glucocorticoid use was associated with worse outcomes, with adjusted OR of 1.41 (95% CI 1.08-1.82) for 90-day mortality and 1.26 (95% CI 1.05-1.52) for 30-day readmission. The findings were published online in *Annals of the Rheumatic Diseases*.