

Preparing for home-based
management of SARS-CoV-2
A playbook

January 2022

Contents

Introduction	6
Integrated Command and Control Centre	12
Virtual Health	18
Tiered Medical Infrastructure	24
Outreach, Education, and Communication	32
Scale and Replicate	36
Appendix	40

Acknowledgement

Deloitte would like to thank the Corona Warriors who have been fighting SARS-CoV-2 in their communities and in health facilities across all States and Union Territories of India. We also express our sincere gratitude to the Government of India and State Government authorities, essential services workers, frontline health care workers, and volunteers whose efforts and support have enabled the Citizens of India in addressing the impact of SARS-CoV-2 and whose continued support is essential to protect lives and livelihoods as we fight the new variant of the virus.

Foreword

In response to the pandemic and in the hope to create a better future after COVID-19, Deloitte India has released this playbook to help local administrations focus on bringing supervised health care to people at home. By ‘expanding the medical ward’, the intent is to reduce the burden on the health care value chain and optimize the use of limited resources. When this approach is implemented, much needed medical care and resources can be made more accessible to rural, under-served and hard to reach communities. The model outlined in the playbook can assist governments to scale their health care support and resources required to address many health emergencies, through a ‘fit for purpose’ model.

The playbook builds on the learning gained from Niti Aayog, ‘Sanjeevani Pariyojana’ in Karnal, Haryana, as well as experience in South Africa. This was a collaborative effort, and I would like to extend my gratitude to Shri Amitabh Kant and Dr. Vinod K. Paul of the NITI Aayog, Dr. K. Srinath Reddy of the Public Health Foundation of India, and Dr. Dhruva Chaudhry of the Post Graduate Institute of Medical Sciences in Haryana, and all

those who contributed to the success of the effort, and in building this compendium.

I am confident that by thinking creatively, leveraging technology, and executing a playbook as in Karnal, Deloitte will continue to collaborate towards building better, stronger, more equitable primary health care in India.



Punit Renjen
Deloitte Global CEO

Introduction



Health Equity is the fair and just opportunity for every individual to achieve their full potential in all aspects of health and well-being. India has made rapid progress over the past decade in improving access to health care.

However, as is true with many nations, access to health care is often determined by the ability to pay for services and the proximity to health care infrastructure.

People in poor, rural and tribal communities often have limited or no access to hospitals, therapies, or vaccines. Health outcomes also vary differently around socio-economic dimensions such as gender, income, education, and geography.

SARS-CoV-2 has led to enormous challenges for Governments. Strong leadership and emerging emergency response structures have led to an effective response in India over the past two years.

However, there is still a long way to go. The WHO has called for a “whole-of-government, whole-of-society” approach to managing the response to SARS-CoV-2”.

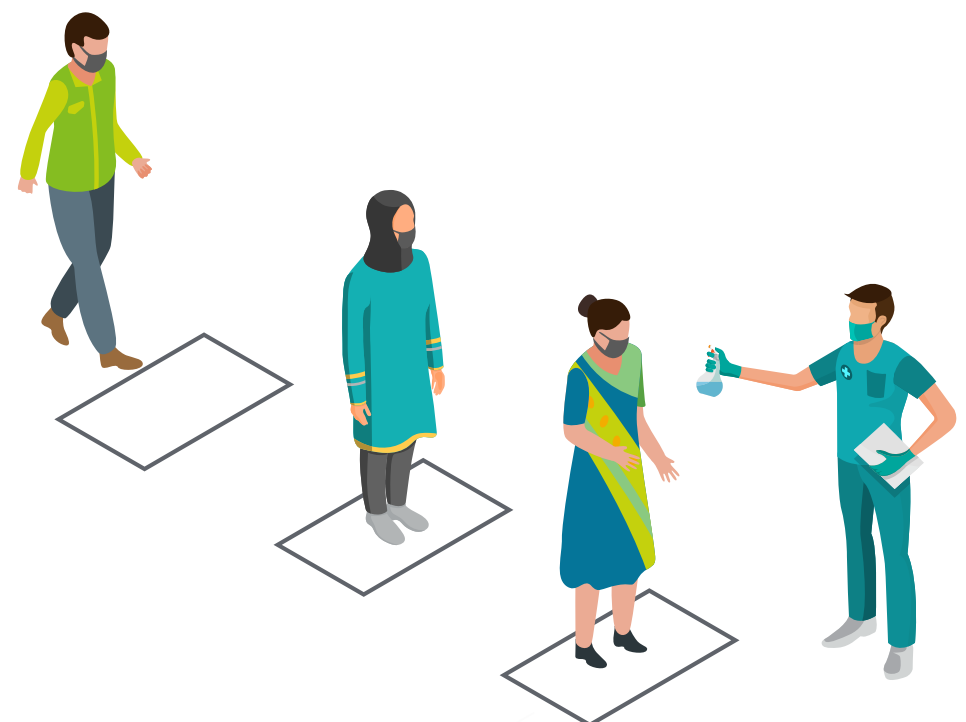
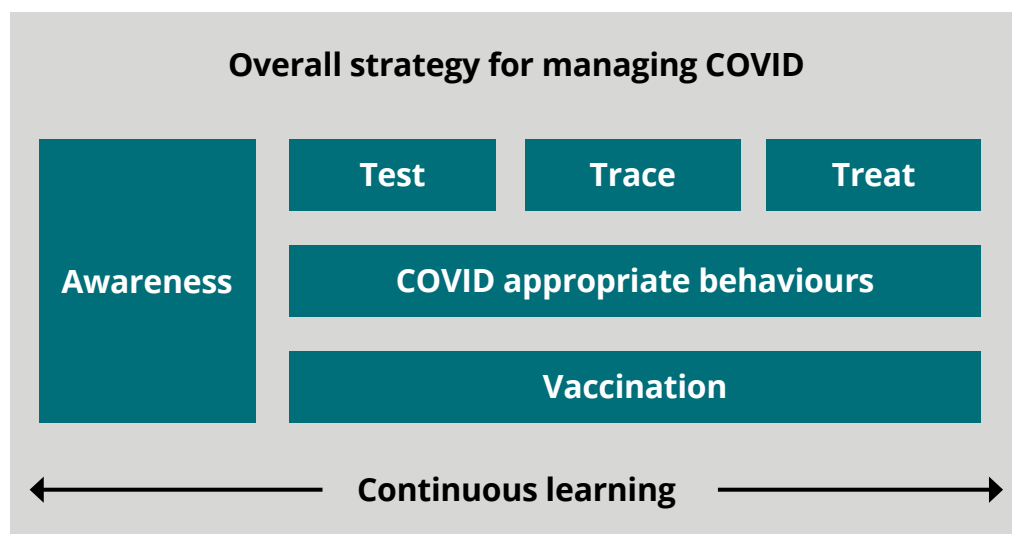
The recent cases of the latest SARS-CoV-2 Omicron variant have largely been mild; experts believe it would take weeks to understand

the true severity of the variant. The “supervised home-based care model” has emerged as an effective **management model of choice** for equitable health outcomes.

Home isolation of SARS-CoV-2 patients (under appropriate guidelines) reduces the burden on the entire health care value chain and optimises the use of limited resources. The model brings “Health care to the Home” leveraging on a combination of Digital and Human interventions. The wider reach improves equitable access and quality of care, better awareness, and improved recovery at reduced costs.

This playbook is an enhancement of the playbook planned and designed jointly by Government of Haryana and Deloitte with contributions from Post Graduate Institute of Medical Sciences (PGIMS)-Rohtak, Public Health Foundation of India (PHFI) and Kalpana Chawla Medical College. It is intended to be a common reference for local administration to address the challenges of limited resources against a rapid rise in infections.

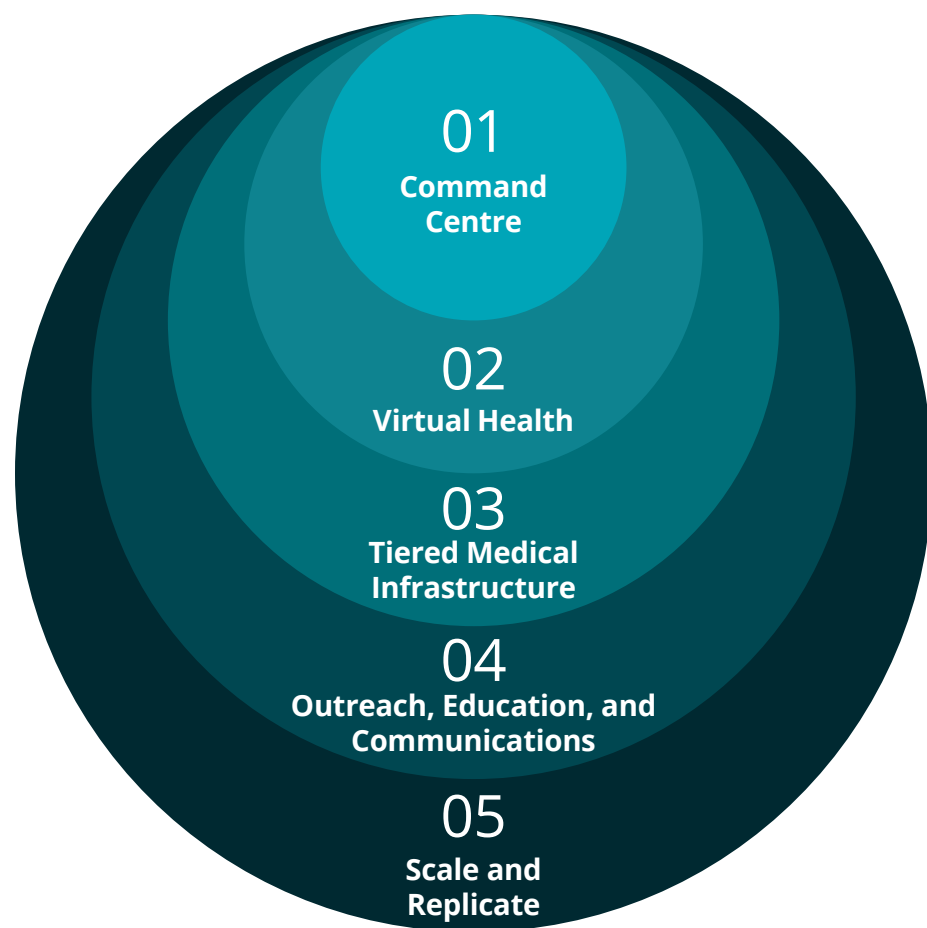
This playbook includes learning from how various Indian States used the concepts of Top-Down leadership and decentralised coordination, execution and planning. The learnings are intended to lay a foundation for a better, stronger, more equitable primary health care infrastructure around the world.



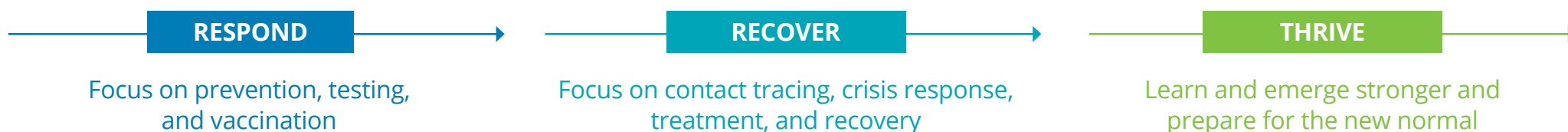
Note: This material contains general information and is not meant for rendering any kind of public health advice, medical advice or services, is not a substitute for public health advice, medical advice or services. Before making any decision or taking any action, you should seek specific advice of a medical advisor and other relevant professionals/stakeholders. Refer further to the last page in this regard.

What does it take to enable the supervised home-based care model?

Any integrated fit-for-purpose model has 5 pillars

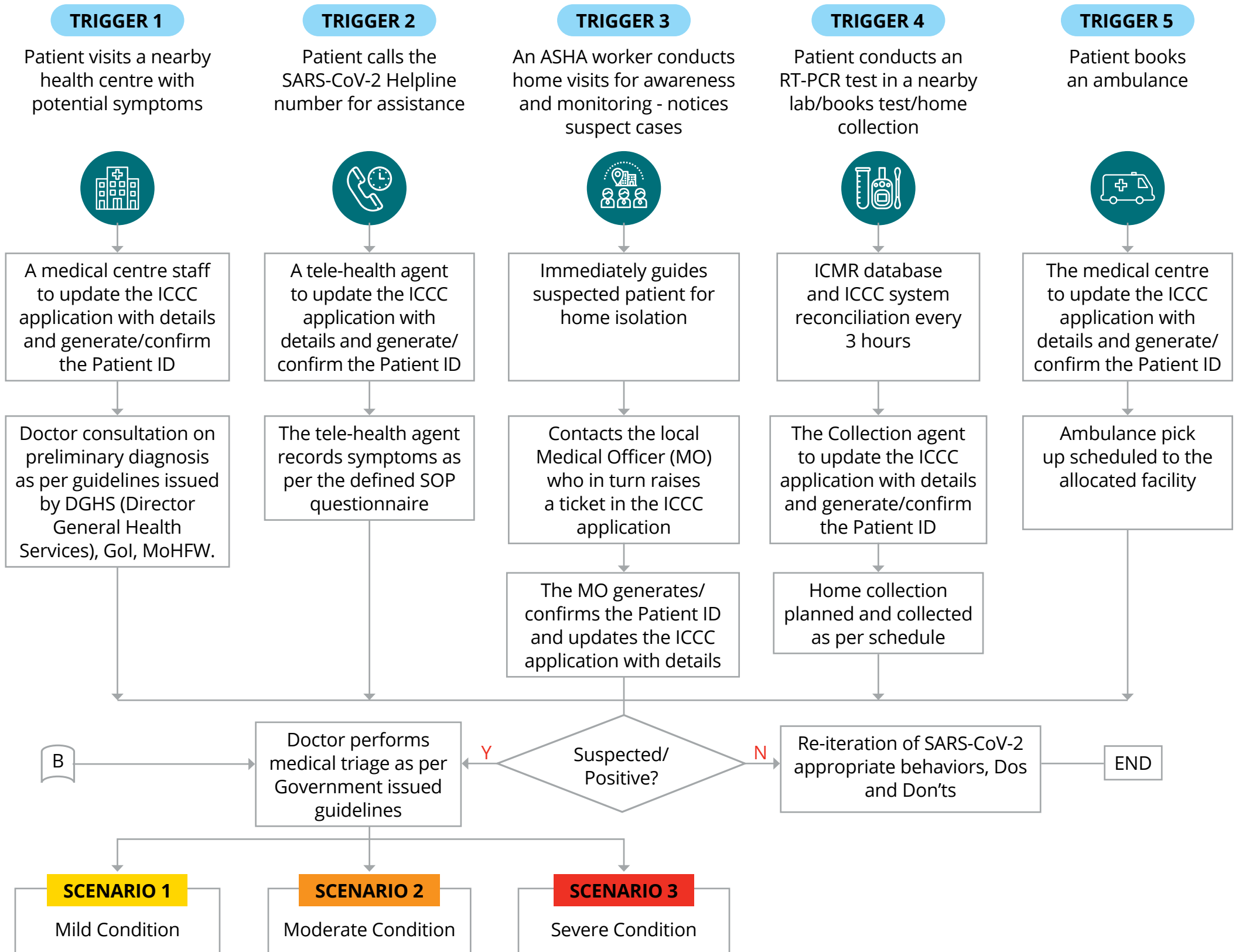


- 01 24x7 tech-enabled integrated command and control centre for monitoring and co-ordination of activities
- 02 Virtual health - Automated IVR systems, dedicated helplines, outbound calls, and tele-health solutions, mobile labs, pharmacies, and vaccination drives
- 03 Strengthening the 3-tier medical infrastructure – COVID Care Centres/COVID Care Health Centres, Community Health Centres, Main Hospitals/District Hospitals; Ambulances, etc.
- 04 COVID protocols for prevention and home care - Outreach and training initiatives through multiple online and offline channels
- 05 Playbook for replicating and scaling including process flows, key requirements, roles & responsibilities - Centralised repository of good practices and lessons learned

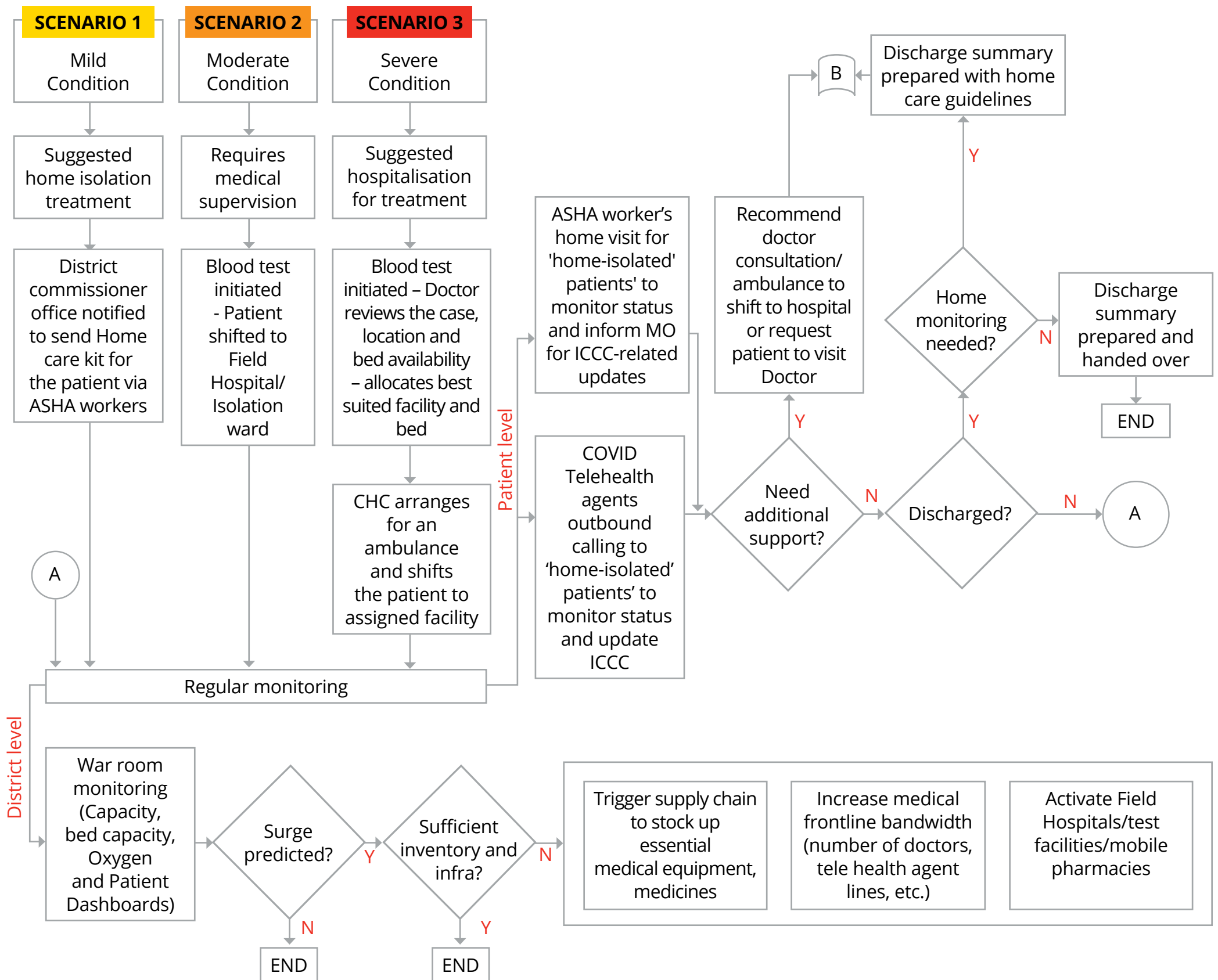


Non-linear stages: Activities must scale up or down to best address the existing outbreak.

Extend the Ward home-based care model - An end-to-end patient lifecycle flow

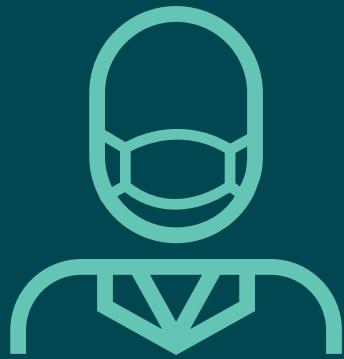


Note: E2E patient lifecycle may be modified as per clinical guidance for management of SARS-CoV-2 patients, guidelines and notifications issued by DGHS, Ministry of Health and Family Welfare, Government of India and by respective State Governments



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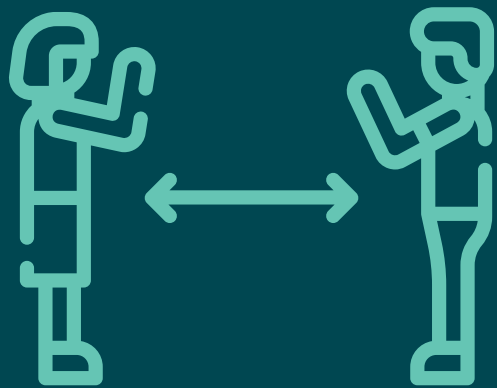
Follow COVID appropriate behaviour



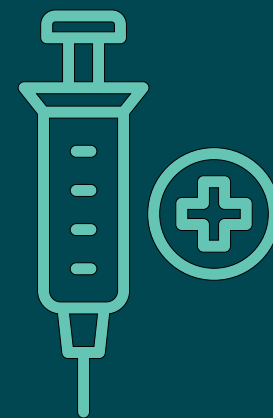
Keep your mask on always



Wash hands frequently



Maintain social distancing



Vaccinate yourself, your family and friends as per guidelines

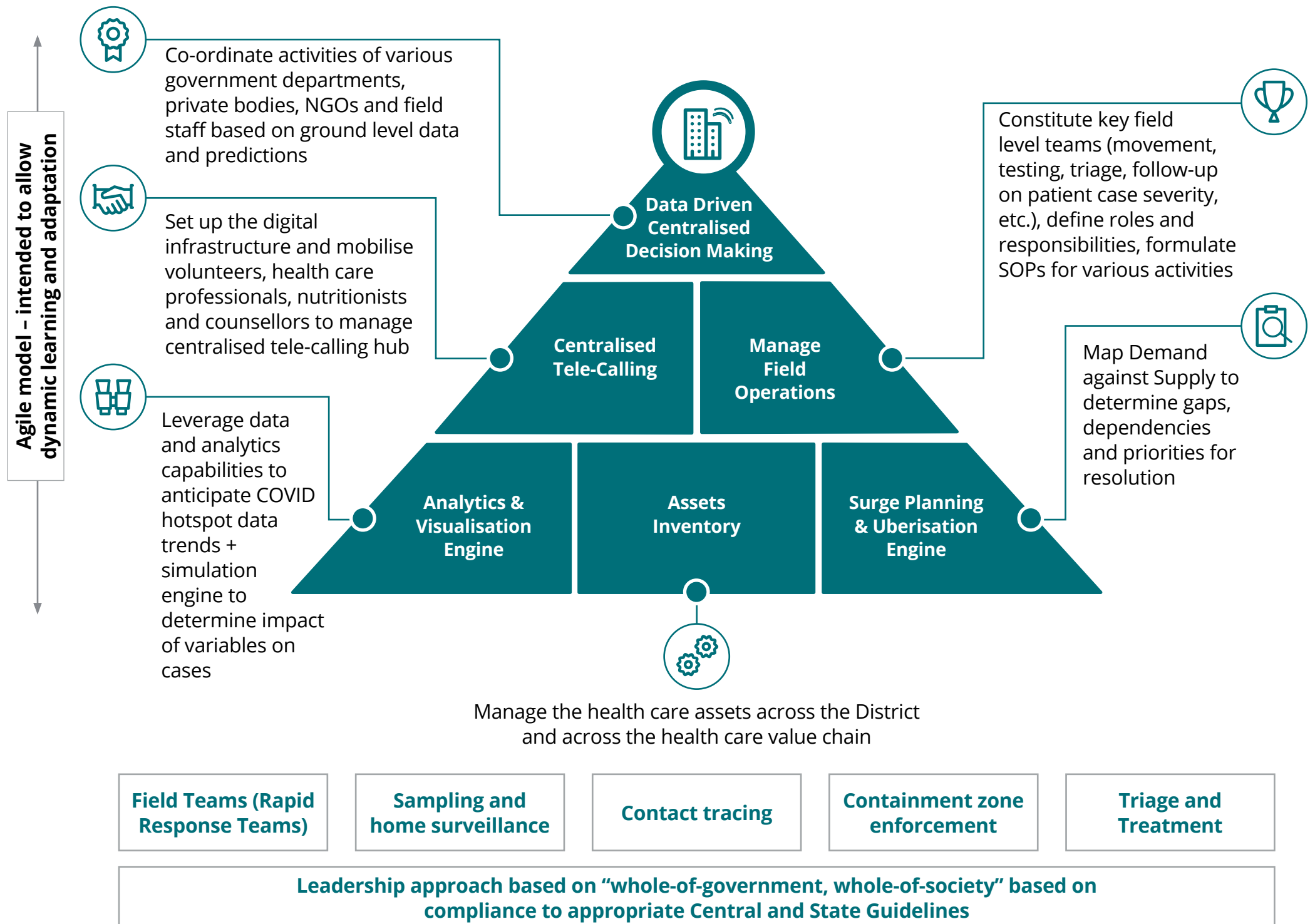
Integrated Command and Control Centre



Step #1: Set up an Integrated Command and Control Centre

Objective

An effective strategy to combat SARS-CoV-2 centres around coordinated efforts between various state departments and Community Based Organisations (CBOs). An Integrated Command and Control Centre supplemented by tracking systems and digital facilities would have the objective of providing real time situational analysis support planning, co-ordination and management of various prevention and detection measures, community engagement measures to effectively manage and distribute scarce resources such as beds, oxygen, and medical professionals.



Team required for integrated command and control centre

Position	Background/designation	Number	Working hours
Data Entry (Central Team)	Data entry staff/volunteers	6-7	12 hours
Village Level Medical Officers (including volunteers) to manage data entry from door-to-door surveys by ASHA, Anganwadi or Auxiliary Nurse Midwife	Volunteers/Data entry staff	One in each village	As required
Shifting team: Doctors [Currently this role is delegated to Doctors at Medical facilities but may be centralised in an emergency]	Doctors	As per requirements at Medical facilities	As required
Training Team	Volunteers/Medical Colleges and Institutions/Staff with local language communication skills	As required	As required
Block Officers	Health department zonal heads	One for each Block	As required
Nodal Heads for data entry enforcement, capacity building, oxygen, HR management, reporting and shifting	4 Senior health officials and 1 Deputy Commissioner (for Overall supervision)	5	As required
Nodal Officer	Head of the SARS-CoV-2 Task force from Health Department (Chief Medical Officer)	1	As required
Facility staff to manage patient and inventory records in each facility	Hospital/Facility Administration Staff	3 in each facility (split into shifts)	As required
Students/Volunteers to provide tele medicine consultation and support	Retired Doctors, Medical Students who are suitably trained and supervised by licensed medical professionals	Depends on patient load	12 hours
Doctors to provide consultation and triaging	Doctors and specialists	Depends on patient load	24 hours

Key Considerations:



Enable swift decision-making through a dashboard that captures analytics and insights for evidence based planning and coordination at the District and State level.



Mandate data entry



Prepare contingency plans to obtain supplies at short notice in case of bottlenecks.



Review the decision support systems periodically for accuracy and plan ahead in case of a SARS-CoV-2 surge.



Empower only medical professionals to make decisions on medical triage and allocation of scarce resources

Note: The exact structure and the number of people may be determined by the District Administration in accordance with the workload

The Integrated Command and Control Centre collates information...

Respond and recover



- Collate all Guidelines, Orders, applicable rules and regulations issued on SARS-CoV-2 response
- Data analysis for evidence-based forecast, planning and disease surveillance for SARS-CoV-2 containment and necessary targeted interventions at the community level including forecasting COVID hotspots and comparing with health care assets (people and resources) for effective surge planning
- Coordinating social protection services such as ensuring grain supply from public distribution systems and other essential services such as food, water, electricity and sanitation
- Establish ownership through State and District orders for the key components of the Integrated Command and Control Centre:
 - Data
 - Hardware and software and changes thereof
 - Technology network
 - Core team that will support technology
 - Core team that will support Field Operations including physician supervised clinical assessment protocol, patient transfer, physician led triage, data entry and training
 - Data and infrastructure security
 - Volunteer mobilisation
 - Adherence to any applicable laws, rules and regulations
 - Standard Operating Procedures including patient examination and referral, Clinical Triage, checklists for physical verification of patients, medically supervised exclusions from home isolation (such as patients with immunocompromised status, elderly patients and those with comorbidities such as Diabetes, Hypertension, Cardiovascular disease, Chronic lung/ liver/ kidney disease, Cerebro-vascular disease etc.), case reporting, death reporting etc.
 - Patient reported outcomes reporting and feedback systems
 - Empowerment for implementing and enforcing containment measures
 - Integration with District and State Emergency Operations
 - Governance – including interdepartmental interface and intra-departmental interfaces, procedures to establish patient privacy, data and system security and audit, templates for patient consent for home isolation etc.



Emergency and disaster planning of buffer stocks against various simulated surges – stocks include medicines, oxygen supply (cylinders and concentrators), hospital capacity in terms of beds (oxygen supported or otherwise), ICU beds and ventilators, infection control and sanitation materials, isolation infrastructure and lab facilities as well as Community Based Workers/health care workforce mobilisation

...relevant to monitor, assess, coordinate, and support

Respond and recover



- Build contingency plans and plan for effectiveness on key aspects such as:
 - Decentralised rapid response teams (RRTs) and committees at District and Ward/Block level – to respond and activate the team for physical assessment of the alerted patients in home isolation followed by distribution of home care kits containing a mask, oximeter, thermometer, basic medicines and AYUSH products
 - Volunteer database – data entry and coordination volunteers, qualified Physician/AYUSH/Nursing/pharmacy trained professionals, specialist physicians in areas such as ENT, mental counsellors, psychologists, nutrition counsellors and need based super specialists such as pulmonologists, cardiologists
 - Connections with Educational Institutes and Industry Associations to enable rapid scale up
 - Digital tools and tracking systems for real time monitoring and immediate response for patients in home care
 - Establish adequate infrastructure and resources (physical space, telephone lines, support infrastructure etc.) to provide tele-medicine facilities for home isolated patients
 - Helpline and essential services telephone capacity simulations
 - Co-ordination with ambulance services for transfer to higher level facilities as and when needed
 - Roles and responsibilities at the ward/block/panchayat level, district level, and state level for decision making against key indicators to be tracked and monitored as per a defined schedule
 - Door-to-Door household surveillance, extensive contact tracing, and the provision of doorstep delivery of essential items to individuals within containment zones
- Establish systems and processes to enable connectivity and data collection across multiple entities involved in the pandemic response such as district and state administration, health authorities, emergency services, labs, and NGOs
- Monitor the vaccination status at a ward/panchayat level and plan focused efforts to conduct door-to-door or mobile vaccination clinics across dense and remote areas to reach vulnerable populations
- Ensure full and prompt utilisation of funds released by the Central and State Government under Emergency SARS-CoV-2 Response Packages for strengthening of health infrastructure.
- Ensure prompt reporting of fund utilisation to the respective authorities

Map each SARS-CoV-2 positive case in home isolation using GIS and highlight the containment plan using heat maps

- Monitor bed availability, oxygen availability, and health worker availability to enable capacity planning and resource distribution
- Track ambulance availability using GIS for quick transport of cases requiring hospitalisation
- Evaluate the status of home-isolated patients and their health parameters for quick identification of cases requiring hospitalisation
- Track, monitor, and co-ordinate the distribution of SARS-CoV-2 kits and other essential services to home-isolated patients
- Monitor adherence to testing, isolation, and quarantine norms as per government regulations
- Monitor trends in caseload increase to effectively plan the establishment of field hospitals and mobilisation of resources to manage them
- Measure and monitor progress on each element of the five-fold strategy of Test-Track-Treat-Vaccinate and adherence to COVID Appropriate Behaviour (CAB).

Thrive

- Monitor activities to initiate re-opening of specific segments of civic life such as schools, entertainment zones, public transport, and shopping facilities
- Monitor the potential resurgence of infection in specific zones
- Monitor communication mechanisms and their effectiveness
- Co-ordinate activities with community leaders, NGOs, and small business owners to re-open the economy



Virtual Health



Step #2: Establish Virtual Health—a tele-health monitoring system

Objective

Virtual Health is a technology enabled tele-health monitoring system that provides the first line of support to citizens who are exhibiting symptoms but are not clinically diagnosed or are diagnosed and in home isolation for any potential escalations. It is managed by carefully selected, extensively trained and clinically supervised volunteers who operate under a strict protocol for identifying symptoms, monitoring patients in home isolation, and referring licensed doctors to patients in need.

System	Description	Key Activities
House-To-House Surveillance System	A system that captures disease data, symptoms and co-morbidities and shares with the authorities. It will assist front-line field workers to perform testing and early identification of cases to minimise further spread in the community. It should support the public health investigation workflow and enable analysis and sharing of information. The platform should be device agnostic and should be accessible on computers, tablets and mobiles (including feature phones), both online and offline, and enable data transfer over the internet.	<ul style="list-style-type: none"> • Conduct door to door surveys to identify Influenza Like Illness (ILI) cases, under the supervision of Village/Ward/Block level rapid response teams • Organise mobile testing drives in factories, housing colonies etc. based on localised outbreaks
Database of Volunteers	A database of health care volunteers (such as final year M.B.B.S students), mental health counsellors, nutritionists, doctors, and specialists who can manage outbound calls, and helpline numbers in the event of a case surge	<ul style="list-style-type: none"> • Create a well-defined protocol for health care volunteers to identify symptoms, monitor patients in home isolation, and refer licensed doctors to patients in need
Tele-health System	A centralised tele-health team and infrastructure such as E-Sanjeevani to provide access to specialist doctors through remote consulting for patients with SARS-CoV-2 symptoms as well as other requirements. Patients shall be able to avail medicines against e-prescriptions generated by the E-Sanjeevani app at Health and Wellness Centres or pharmacies	<ul style="list-style-type: none"> • Define protocols for tele-triage of patients and direct patients triaged as “mild” for home-isolation or to isolation-wards, or field hospitals • Utilise an outbound communication programme to monitor key health parameters of home-isolated patients, effectively remote triage them, and identify those that require hospitalisation • Organise calls to home-isolated patients from a volunteer health worker/doctor, nutritionist, and mental health counsellor at defined intervals (Refer Appendix 1) • Provide information on breathing exercises to increase lung capacity and prone method to increase Spo2 levels for home isolated patients

System	Description	Key Activities
Patient Symptom Tracker	To record patient details, test results, x-rays and record vitals and key health parameters on a daily basis for home isolated patients. Technology tools such as Whatsapp based chat bots and apps such as Home Isolation Tracking (HIT) application may be used for recording and tracking of patient vitals by frontline workers	<ul style="list-style-type: none"> Track and record patient vitals daily based on inputs from field workers, tele-callers and data from helpline numbers. Automatic triaging of patients to identify those who require hospitalisation.
IVR System	An automated IVR system which can record and analyse the caller's response to a pre-set questionnaire about symptoms. The IVR system shall notify volunteers in case of worsening of symptoms of a SARS-CoV-2 patient.	<ul style="list-style-type: none"> Establish a team of volunteers at the Integrated Control and Command Centre to handle cases where IVR reports a variation in symptoms Volunteers to arrange a tele-consult with a Medical Officer to determine whether to home isolate the patient or to move to a hospital as per defined protocols. If required, arrange for a home visit by a doctor or transport facility by ambulance

Empower the ASHAs

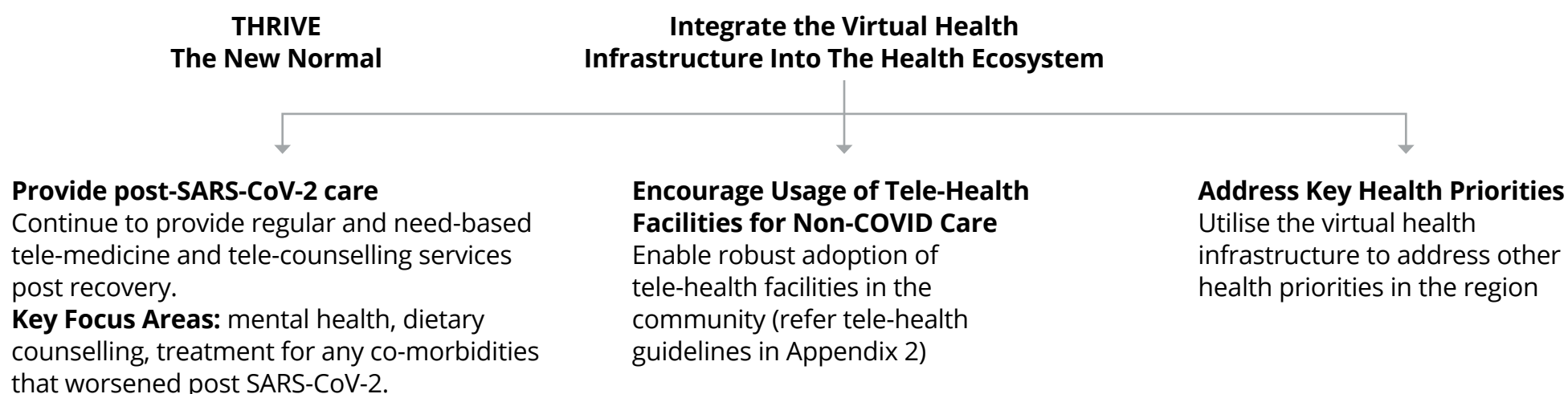
- Train ASHAs to administer Rapid Antigen testing to enable early identification of cases and prevent community spread.
- Provide ASHAs with smartphones and apps for monitoring patient symptoms, and updating surveillance results.
- Design and implement a comprehensive online training and certification programme to empower the ASHAs to handle various scenarios during the pandemic surge.

System	Description	Key Activities
Patient Reported Outcomes and Feedback System	A tele-caller based outbound patient feedback system to collect patient feedback covering all domains of quality of care as defined by the World Health Organization - Safe, Effective, Patient-centred, Timely, Efficient and Equitable. This will enhance quality of care and enable quick decision making.	<ul style="list-style-type: none"> Design a standardised questionnaire for collecting patient feedback Collate responses received by the telecaller and analyse them to identify areas of improvement. Issue directives to the respective teams to take actions based on feedback analysis.

System	Description	Key Activities
Helpline Numbers	<p>Enable dedicated helpline numbers for home isolated patients as well as patients with influenza-like symptoms. Dedicated helpline numbers shall be made available for the following:</p> <ul style="list-style-type: none"> • Reporting of Symptoms by Patients to a Volunteer/Health Worker • Tele-Consult with a Doctor-On-Call including requests for home visit by doctor/nurse 	<ul style="list-style-type: none"> • Arrange for the necessary infrastructure and team of volunteers to handle the helpline numbers. • Request information about SARS-CoV-2 • Psycho-social counselling • Nutritionist on Call • Patient Feedback
Mobile Pharmacies/Labs/Vaccination Clinics	<p>Mobile units which enable reaching remote and vulnerable sections of population as well as providing at home testing services and delivery of medicines. Vaccination clinics allow enhanced vaccination coverage in the community.</p>	<ul style="list-style-type: none"> • Liaise with partners and labs for door-to-door testing services for home-isolated patients per pre-defined frequencies • Establish mobile pharmacies and mobile labs • Conduct vaccination

- Establish a district level call centre to integrate all virtual health facilities.
- Estimate the number of lines for tele-consultation and various access numbers – to ensure that hold time for callers are within acceptable limits.

Have well-defined protocols for accurate reporting of death cases in the case of home isolated patients



Virtual Health - Home Isolation Management

Given the highly infectious nature and high probability of person to person spread at home, the health workers should also record the name, age, gender and clinical status of other family members, during the contact tracing exercise. Such records will help gather data for studying the dynamics of spread in clusters and the community.

If family members notice any symptoms, they should report immediately to the helpline numbers. In such cases, repeat testing is advised, even if the initial testing results were negative. Trained ASHA workers could also conduct these tests.

Frontline workers and tele-callers are also recommended to enquire about family members during the outbound calls (as per the tele-medicine protocol mentioned in Step 7 and detailed in Appendix 1), which can enable early clinical diagnosis and case detection.

Wherever tele-calling is not possible, frontline workers can perform contact tracing through home visits.



1. Testing of suspected cases

Arrange for testing of people who
(a) have symptoms,
(b) arrive from at-risk countries
(c) are first level contacts of positive cases
(d) are in hotspots/ clusters

2. Contact tracing of positive cases

Receive list of positive cases from labs and ICMR. Enter this list into tracking application, ICCS systems and analytics engines. Regularly monitor case trajectory and report to higher authorities as per pre-defined protocols. Initiate contact tracing through field visit/tele-calling for all positive cases

- Ensure that when a patient tests positive, only those who meet the **medical and social eligibility criteria of home isolation** as per guidelines issued by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), are permitted to be home isolated. Other patients should be transferred to isolation centres as per district and state level protocols.
- Educate patients and caregivers of home isolated patients on self-monitoring of symptoms and when to seek medical care as per the SOPs of Ministry of Health and Family Welfare (MoHFW), Government of India. Caregivers should ideally have completed the vaccination schedule, should be available 24*7 and should be in touch with the Medical Officer on a regular basis.
- Empower Medical Officers (MOs) from urban and rural PHC covering a particular region to decide on home isolation eligibility for each patient.



3. Create patient card

Create patient card for positive cases in the tracking application.



4. Send for genome sequencing

Ensure prompt dispatch of all positive cases to the mapped Indian SARS-CoV-2 Genomics Consortium (INSACOG) labs for whole genome sequencing.



5. Tele-triage/triage based on home visit

Triage all positive cases either through tele-calling or based on home visit by field workers/doctors. Update outcomes in the patient card.



8. Arrange for upshift to higher care centre

At any point in Step 7, if symptoms worsen, such as a drop in SpO2 levels, arrange for upshift to higher care centre based on bed availability. Assign patient card to ambulance team.



7. Invoke tele-medicine protocol

Invoke the 10 day outbound call protocol for home-isolated patients. Arrange for daily self-reporting/field based tracking of vitals. Ensure effective **availability of tele-health facilities** such as E-Sanjeevani to provide access to specialists for SARS-CoV-2 and other treatment requirements. Enable patients to avail medicines against e-prescriptions generated by the E-Sanjeevani app at Health and Wellness Centres or pharmacies



6. Home isolate or arrange for transport

Frontline health workers shall:

- visit home isolated patients to confirm availability of separate rooms with attached washroom for home isolation of patients.
- co-ordinate transfer of patients to COVID Care Centres in case such facilities are not available.
- arrange for transport to higher care facilities, for patients with advanced symptoms or co-morbid conditions



9. Complete patient hand over

Transfer patient card to health facility once patient reaches the health facility. Further patient details to be updated by health facility.



10. Downshift patient to periphery/home isolation

Once the patient symptoms improve, downshift the patient to a step down facility or home care. Update patient details accordingly



11. Recuperation & discharge

After completion of treatment/required days of home isolation, patient is tested again. Process the discharge in the system, if test results are negative.



12. Post-COVID Follow-Up

Utilise the virtual health infrastructure to provide post-SARS-CoV-2 care to patients who have recovered from SARS-CoV-2 by continuing to provide regular and need-based tele-medicine and tele-counselling services. Services such as mental health and dietary counselling, and treatment for any co-morbidities that worsened post SARS-CoV-2, may be provided through the virtual health platforms.

In the event that a patient is not eligible for home isolation and is reluctant to move to a COVID Care Centre, then incentive schemes such as cash incentives or lottery-based reward schemes may be organised to enable adherence to isolation and quarantine protocols and minimise community spread of the virus



Tiered Medical Infrastructure



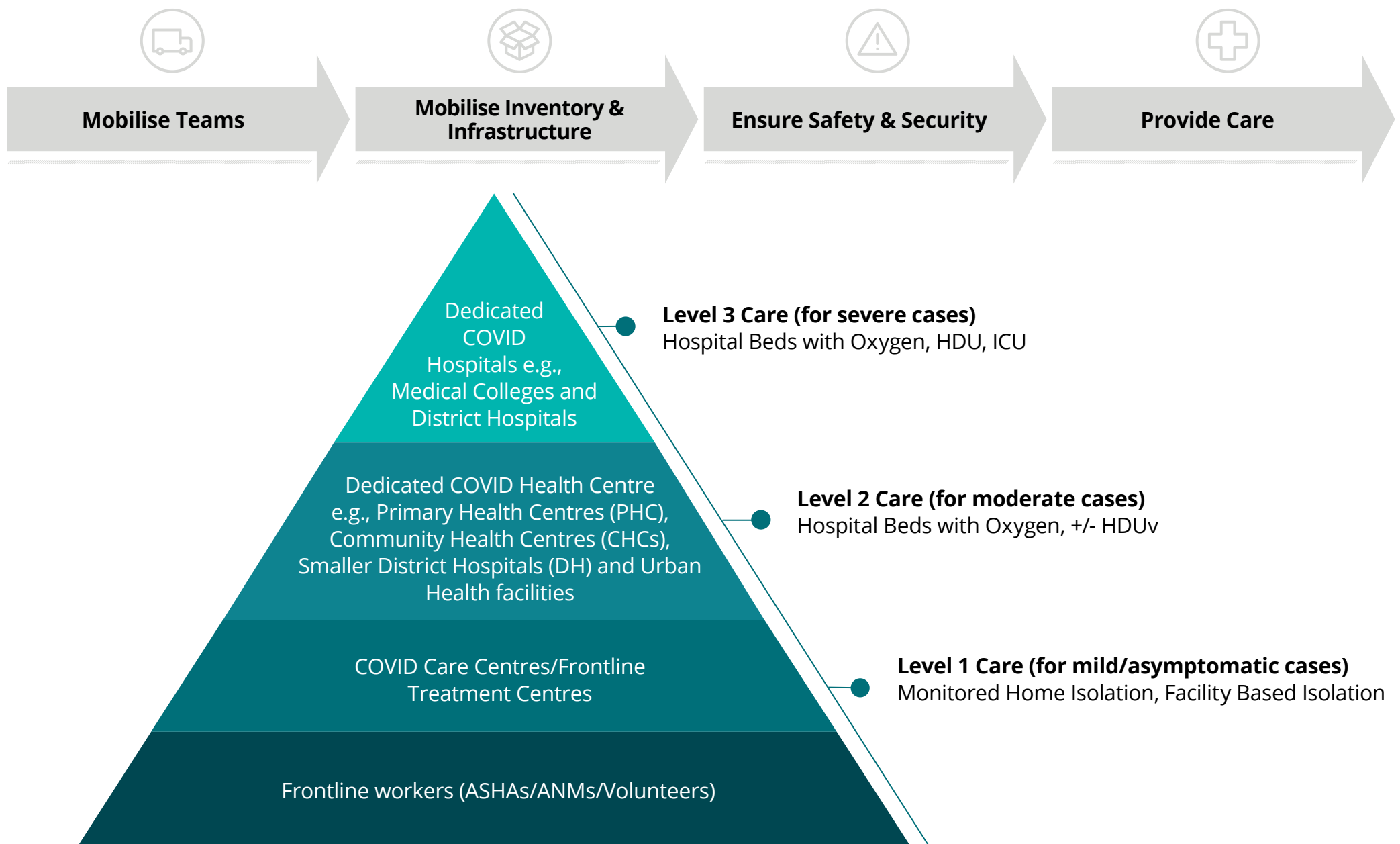
Step #3: Establish Tiered Medical Infrastructure

Objective

The objective of establishing a tiered medical infrastructure is to enable effective utilisation of all tiers, starting from frontline health workers to tertiary care hospitals in an equitable and effective manner in the event of a pandemic surge.

Purpose:

- To ensure optimal and equitable utilisation of the medical infrastructure of the region
- To establish how temporary augmentation of the health infrastructure can be done in the event of a surge
- To identify gaps and areas of improvement for long-term strengthening of infrastructure



The management model should have flexibility to move health care workers and patients across the various tiers based on the occupancy rates and caseload.



Team	Key Responsibilities
<p>SARS-CoV-2 care committees (at Gram Panchayat Level)</p>	<ul style="list-style-type: none"> • Monitor the operations of SARS-CoV-2 care homes and isolation centres. • Co-ordinate the distribution of SARS-CoV-2 kits, food kits and other essential services • Arrange transport to higher care facilities for home isolated patients
<p>SARS-CoV-2 Triage Team (at PHC Level) The team can be composed of final year MBBS students who shall be allotted to Primary Health Centres (PHC) and shall work closely with the Accredited Social Health Activists (ASHAs) workers , Auxiliary Nurse Midwives (ANMs), and the medical officer</p>	<p>Conduct daily home-triaging of positive patients. Each triage team shall be provided with a list of SARS-CoV-2 positive cases daily to help them plan the home visits.</p> <p>Visit the patient and based on an evaluation of symptoms and other factors, place them on home isolation, move them to a COVID Care Centre or arrange for hospitalisation.</p>
<p>Rapid Response Teams (at medical zone level) Divide the district into medical zones based on geographical proximity and caseload.</p>	<p>RRTs to be in charge of clinical assessment of patients under home isolation – including daily monitoring of symptoms, adherence to home isolation protocols and record keeping</p> <p>Ensure prompt investigation of new hotspots/clusters, breakthroughs and re-infection cases by the Rapid Response teams.</p>

The Rapid Response Teams (RRTs) shall consist of trained doctors, paramedical staff and AYUSH medical officers.





Key Activities

Establish Corona Care Centres (CCCs)/Isolation Wards

Purpose: To isolate SARS-CoV-2 positive patients with mild or no symptoms who do not have necessary facilities at home for home isolation.

Location: At each Gram Panchayat Level

Facilities to Be Provided:

- Basic facilities such as well-ventilated rooms, separate toilet facilities, adequate staff and necessary medical kits.
- At least one oxygen supported bed
- Access to all virtual health facilities available for home isolated patients such as provision for tele-consultation, testing, and ambulance services for emergency transfers to higher care facilities.

Establish ‘Pop-Up’ Field Hospitals

- Establish location, timelines, facilities, and manpower needed to establish “pop-up” field hospitals in the event of a caseload surge
- Identify and arrange required space and infrastructure for the field hospitals

Procurement & Inventory Management

- Ensure prompt procurement and ready availability of consumables to ensure that health facilities including field hospitals are well-equipped and functional. (Refer Side Bar)
- Ensure adequate buffer stock for the critical drugs identified in the clinical treatment of SARS-CoV-2 as per defined protocols and based on the predicted caseloads. (Refer Side Bar)

Partner with NGOs and Private Partners

- Initiate partnership with private providers for augmenting SARS-CoV-2 treatment facilities, transport facilities and vaccinations at standardised rates.
- Set up oxygen concentrator banks
- Arrange for medical kits & food kits
- Augment the ambulance network for home visits, transport of patients, and distribution of medicines

Ensure Adequate Buffer Stock

- **Testing**
 - RT-PCR Testing Kits
- **Critical Drug List**
 - Tocilizumab,
 - Methyl Prednisolone
 - Enaxopirin
 - Dexamethasone
 - Remdesivir
 - Amphotericin B Deoxycholate
 - Posaconazole
 - Intravenous Immunoglobulin (IVIG)
- **Safety Equipment**
 - PPE kits, Masks, Sanitisers
- **Functional Equipment & Consumables**
 - Ventilators, PSA plants, and oxygen concentrators.

The Critical Drug List shall be updated periodically based on Government guidelines. As and when oral anti-viral tablet therapy is approved by the Government, such therapy shall be initiated as per guidelines. When approved, such drugs too shall be added to the critical drug list.



Key Activities

Establish Disinfection Protocols

- Establish protocols for sanitisation of public transport, market areas and other civic amenities
- Establish disinfection protocols for ambulances and returnable pieces in SARS-CoV-2 kits
- Define infection prevention and control mechanisms in isolation wards and field hospitals

Ensure Fire Safety & Security

- Make adequate fire safety arrangements and security arrangements in the temporary and permanent SARS-CoV-2 health facilities with the support of the police department.

Organise Safety Equipment & Medical Kits

- Arrange for distribution of PPE kits, sanitisers, masks to community workers as well as SARS-CoV-2 positive patients under home isolation.
- Prepare medical kits for home-isolated patients based on risk stratification.
- Prepare prophylaxis kits for family members of home-isolated patients
- Establish criteria for the distribution of food kits for the vulnerable population and arrange for resources and distribution
- Standardise rates for essential drugs, testing, and to avail oxygen cylinders and refills. Generate public awareness of these rates through press releases and publishing in web portals and other established communication channels

Vaccination Strategy

There is strong real-world evidence that booster doses of vaccines offer significant increased protection against symptomatic disease of SARS-CoV-2. Health authorities and district administrations must jointly develop an immunization strategy which is fine-tuned based on:

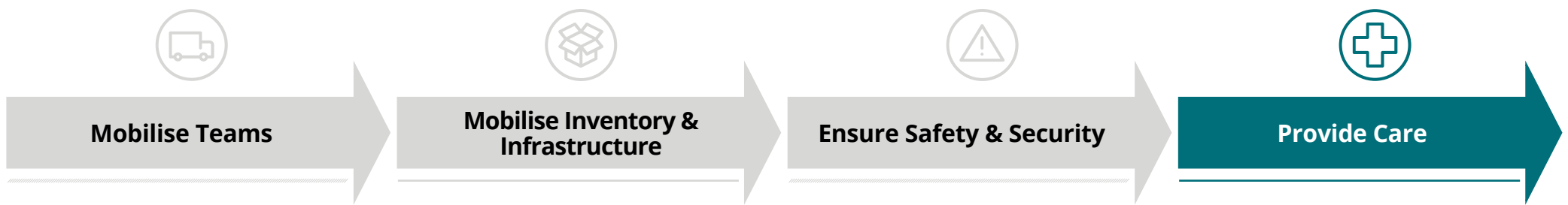
- a. the prevalence of the different variants of the disease in the region; and
- b. the effectiveness of single dose vaccination for all vs. booster doses for vulnerable population

Sample Contents of Medical Kit

1. Oximeter - 1
2. Digital thermometer - 1
3. Face masks - 50
4. Steamer - 1
5. Hand sanitiser - 1
6. Giloy tablets - 60
7. Vitamin C tablets - 30
8. Vitamin D3 - 4
9. Vitamin Zinc Zinconia 50 mg - 30
10. Topcid 40 mg - 14
11. Ayush Kwath Liquid 200 ml (Kahra)
12. Dolo 650 MG - 15
13. Cough Syrup 100 ML
14. Betadyne gargles or salt gargles
15. Cetirizine, Okacet tablet - 10

Source: 1. <https://www.nejm.org/doi/10.1056/NEJMoa2114255>

2. <https://www.medrxiv.org/content/10.1101/2021.11.15.21266341v1>



Key Activities

Conduct Vaccination and Testing Drives

- Ensure full vaccination coverage of eligible population through addressing vaccine hesitancy and organising mobile vaccine clinics
- Ensure testing of people at vaccination centres prior to vaccination to enable early identification of cases. In case of positive test results vaccination shall be deferred as per guidelines and triaging protocols may be initiated.
- Ensure prompt dispatch of all positive cases to the mapped Indian SARS-CoV-2 Genomics Consortium (INSACOG) labs for whole genome sequencing.
- Ensure robust mechanisms for contact tracing and testing for all positive patients.
- Ensure close monitoring and testing of international travellers from ‘at-risk’ countries during the quarantine period as per defined protocols.
- Increase testing and surveillance measures to enable early identification of suspect cases to enable home isolation and follow-up monitoring.
- Closely monitor cases of influenza-like illness (ILI), severe acute respiratory infection (SARI) and respiratory distress symptoms.

Manage Home Isolated Patients

Provide oxygen concentrators, pulse oximeters, and thermometers to all symptomatic, elderly, and co-morbid patients on a returnable basis. Establish and follow disinfection protocols for the equipment before redistribution. Home care kits can also contain information leaflets with details of vaccination centres, helpline numbers, instructions for home monitoring and reporting of health parameters, and SARS-CoV-2-appropriate behaviours

- Co-ordinate home visits by frontline workers to check oxygen saturation levels as well as other symptoms to enable early identification of cases requiring referrals.
- Co-ordinate home visits by a medical response team (consisting of doctors and nurses) for examining patients with co-morbid conditions or if patient’s symptoms worsen. The medical response team shall conduct blood glucose test, BP checkup and manage other minor procedures for such patients on a regular basis.
- Ensure that dedicated Basic Life Support ambulances (BLS ambulances) are stationed near cluster of home isolated patients, primary health facilities, SARS-CoV-2 test centres and block and district headquarters for emergency transfer of SARS-CoV-2 patients to higher facilities
- Ensure home visits by frontline workers to ensure adherence to quarantine protocols by home isolated patients

Oxygen Management

- Provide oxygen concentrators (OCs) to patients on a returnable basis against a refundable security deposit.
- OCs with flow capacity of 5 L per minute delivering oxygen with concentration of 90 percent or more is recommended.
- While use of domiciliary oxygen support is not recommended, in the event of an acute surge in cases, oxygen cylinders may be made available for home isolated patients instead of transferring them to a hospital. In such cases, a technician should explain its usage to the caregiver at home.
- Establish a dedicated helpline number or web portal for oxygen requests, which can be supplied against valid identity proofs, SARS-CoV-2 positive report, and other documents like CT scan report. Domiciliary oxygen support shall also be provided to all moderate to severe cases post hospitalisation who are prescribed domiciliary oxygen support/short-term oxygen therapy (STOT) at home.

Respond and recover



- Develop contingency plans for ensuring essential emergency clinical services, such as high-risk deliveries, neonatal services, antenatal care services, immunisation sessions dialysis, chemotherapy, and blood transfusion and various outpatient and primary health care services are still available for the patients even if existing infrastructure is converted to dedicated SARS-CoV-2 hospitals
- Review preparedness of Lab facilities including with private sector laboratories to increase overall testing capacity and disease surveillance of the state during the epidemic – this may be integrated into the existing vaccination and containment plans
- Test rostering and rotation plans for resource deployment (across frontline workers, health care workers, essential services workers, law enforcement agencies) to ensure effort optimisation and reduction of fatigue
- Dovetail into surge planning for making administrative arrangements to expand the clinical health workforce, redefine roles and responsibilities for health workers, redirecting contractual workers from various existing health care programs for community surveillance activities, rapid recruitment against essential vacant contractual posts and the redeployment of recently retired health workers primarily for non-SARS-CoV-2 services
- Coordinate mock drills on clinical, laboratory, and surveillance measures and their adequacy to handle various surge scenarios



Thrive – Post COVID Care

Work closely with the medical colleges and district hospitals to establish a comprehensive post-SARS-CoV-2 care centre with an outpatient unit, testing facilities, inpatient and rehab services

Upgrading services of the dedicated SARS-CoV-2 clinics by including the services of senior pulmonologists, diabetologists, cardiologists and neurologists



Outreach, Education, and Communication



Step #4: Organise Outreach, Communication, and Education

Objective

To empower people with the right information at the right time through the right medium and a message that prompts positive action

Purpose



- ✓ Establish **trust** in the administration and actions taken
- ✓ Build public **awareness and knowledge** on current risk levels, prevention measures, and resources for assistance
- ✓ Increase public **motivation** to adhere to appropriate behaviour such as wearing masks, social distancing, and compliance with testing, quarantine, and isolation requirements
- ✓ Facilitate **coordination**, alignment, and collaboration between and within government departments, health care providers, hospitals, labs, NGOs, and private sector institutions

Program Design



Focus Area	Message	Via Channels
Access to testing centres for suspected cases	Nearest testing centres and opening times	IVR, SMS, Messaging Apps, Contact Tracing Apps, Websites, Print, Outdoor Media
Track and restrict the spread of the virus	Information on live-tracking websites, apps for tracking vaccination status and hotspots	Social Media, Print, Outdoor Media (e.g., billboards), and TV
Treat COVID patients	Information on home isolation, pulse oximeter usage, use of masks, management of mental health etc.	Pamphlets, Social Media Content, Messaging Apps, TV and Print Media
Information on Vaccination centres	Nearest Vaccination centres, Vaccine Availability and opening times	IVR Helplines, SMS, Messaging Apps, Contact Tracing Apps, Print, Outdoor Media
Information on Vaccination Schedules	Reminders for upcoming vaccination dose or booster dose	IVR, SMS, Messaging Apps, Contact Tracing Apps
Training for Health care Workers	Train and retrain frontline workers and community health workers ASHA/Anganwadi/ ANM/Volunteers from Resident Welfare Associations/Gram Panchayat-Block-Ward level volunteers and essential services teams on Standard Operating Procedures and Guidelines that were issued by the Government of India, The Indian Council of Medical Research, Central Government Health Scheme and States	Online Training Platforms, Videos on Messaging Apps, Online collaboration platforms
Psychological Counselling for Health care Workers	Acknowledge health risks and emotional burden for not just health workers, but government functionaries, local law enforcement agencies, essential services teams and other self – government bodies for psychological counselling	Online and Offline Counselling Services
Recommend and reinforce COVID Appropriate Behaviours	Promote public health safety measures— Sanitisation, hygiene, physical distancing, wearing masks, testing and tracing	Across all online platforms (messaging, social media, TV, websites) and offline platforms (Outdoor Media, Print)

Role of SARS-CoV-2 Communication

	Respond	Recover	Thrive
Trust	Establish a communication framework that has a consistent narrative and is rooted in empathy. Focus on reliability, credibility, and integrity .		
Awareness and knowledge	Disseminate information around: <ul style="list-style-type: none"> • Current SARS-CoV-2 risk • Key steps taken by the government for a potential outbreak • Need for vaccination • Details of vaccination centres • Need for testing • Details of testing centres 	Disseminate information around: <ul style="list-style-type: none"> • Current SARS-CoV-2 situation • Lockdowns, travel restrictions, and hotspots in the district • Intervention measures taken by the authorities • Home isolation protocol • Helpline numbers established • Hospital facilities available and when to avail them 	Disseminate information around: <ul style="list-style-type: none"> • Current SARS-CoV-2 situation • Permissible activities and precautions to be taken
Motivation	Increase perceived value and acceptance of <ul style="list-style-type: none"> • A safe, effective SARS-CoV-2 vaccine • Consistent safe behaviours 	Increase perceived value and acceptance of <ul style="list-style-type: none"> • Consistent adherence to isolation and quarantine protocols • Self-monitoring of key parameters while in home isolation • Consistent adherence to travel restrictions 	
Co-ordination	Co-ordinate roles and responsibilities and reporting mechanisms across government and private entities	Co-ordinate emergency response efforts across different entities	Increase alignment and collaboration between government departments and private sector institutions to formulate, review, and revise reopening guidelines

Examples of approaches adopted

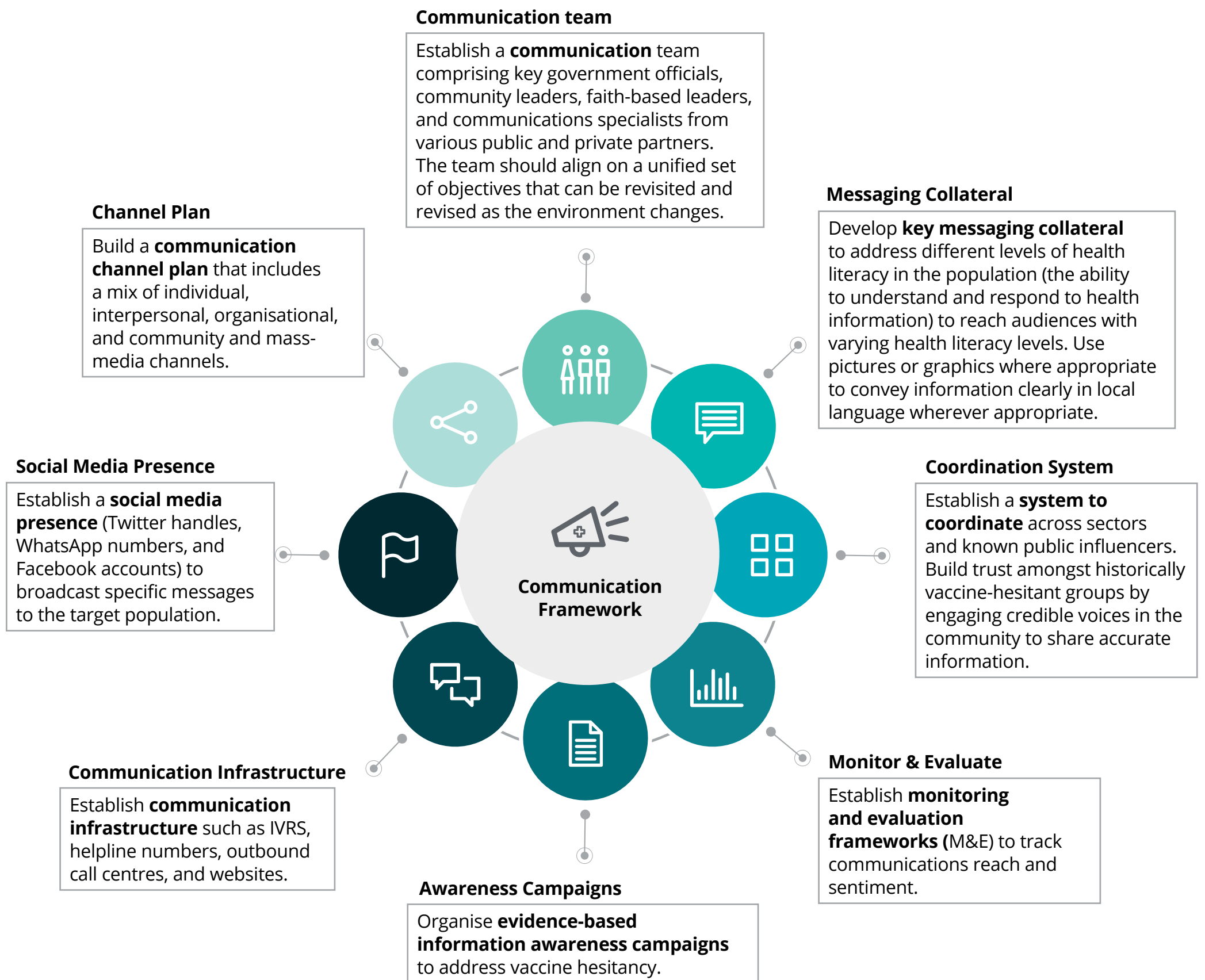
In Japan the **“three Cs” guide** was developed to avoid high-risk situations and help citizens avoid potential super-spreader events.

The three Cs refer to situations that can breed super-spreader events: **Closed places, crowded spaces, and close-contact** settings.

This can be adopted in India to reduce super-spreader instances while re-opening businesses such as super-markets, restaurants, and movie-halls

A leading transportation services provider has adopted **mask recognition technology**, whereby drivers and riders could not access their transportation app beyond the landing page without wearing a recognisable mask





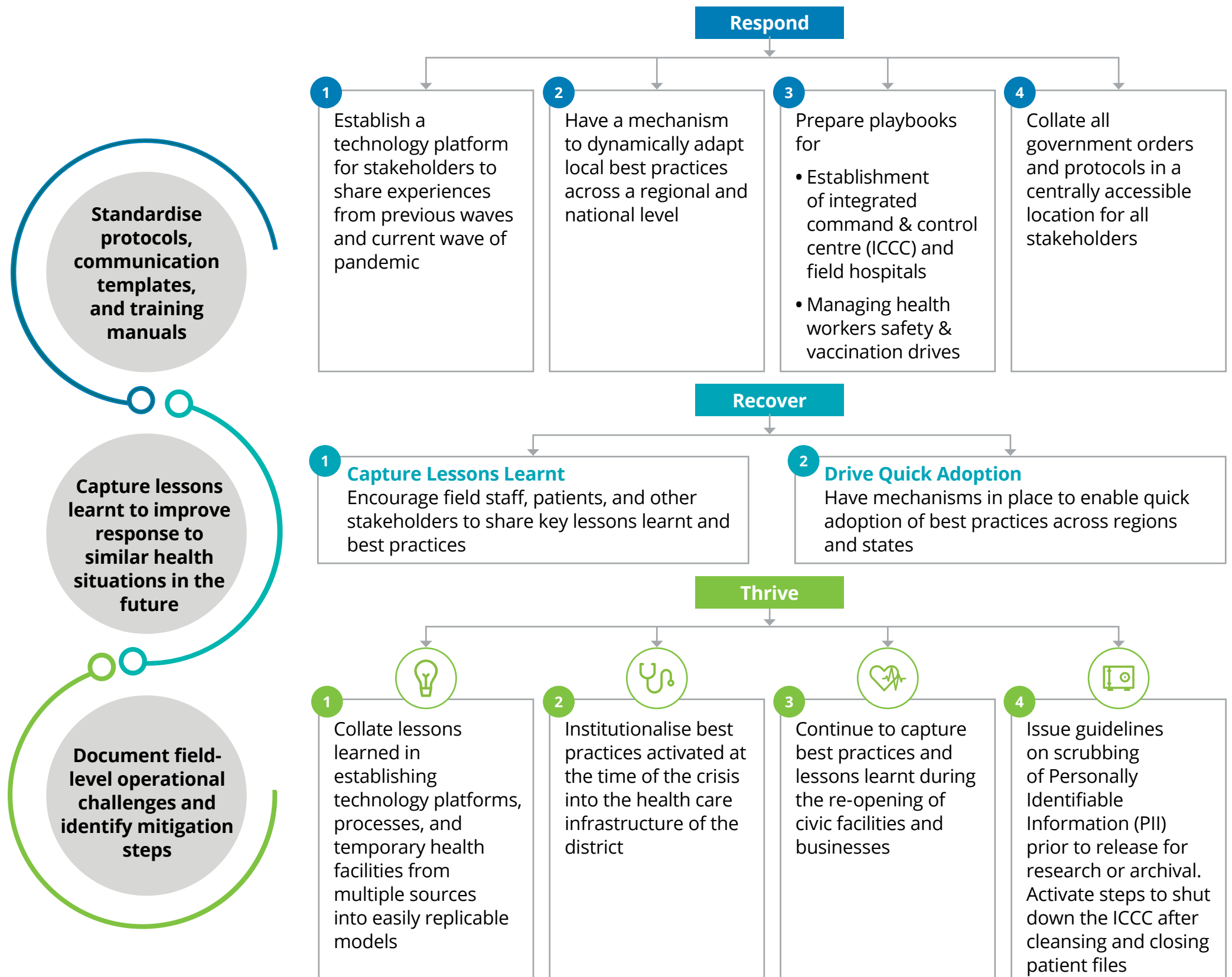
Scale and Replicate



Step #5: Scale and Replicate

Objective

To capture best practices and lessons learnt so that they can be easily scaled and replicated across geographies to handle emerging health priorities.



Utilising Virtual Health Infrastructure and Frontline Workers for Long COVID Study

Role of Frontline Workers/ Helpline Numbers

- A COVID Symptom Study App may be developed for individuals to self-report their symptoms and for frontline workers to report symptoms. A dedicated helpline number may be established for reporting of symptoms of long COVID.
- Frontline workers will continue to visit COVID-19 patients post recovery to monitor for long COVID symptoms. Such symptoms will be recorded in the Symptom Study App.
- Physicians at the Integrated Command and Control Centre will triage patients and arrange for tele-consult/referral as required.

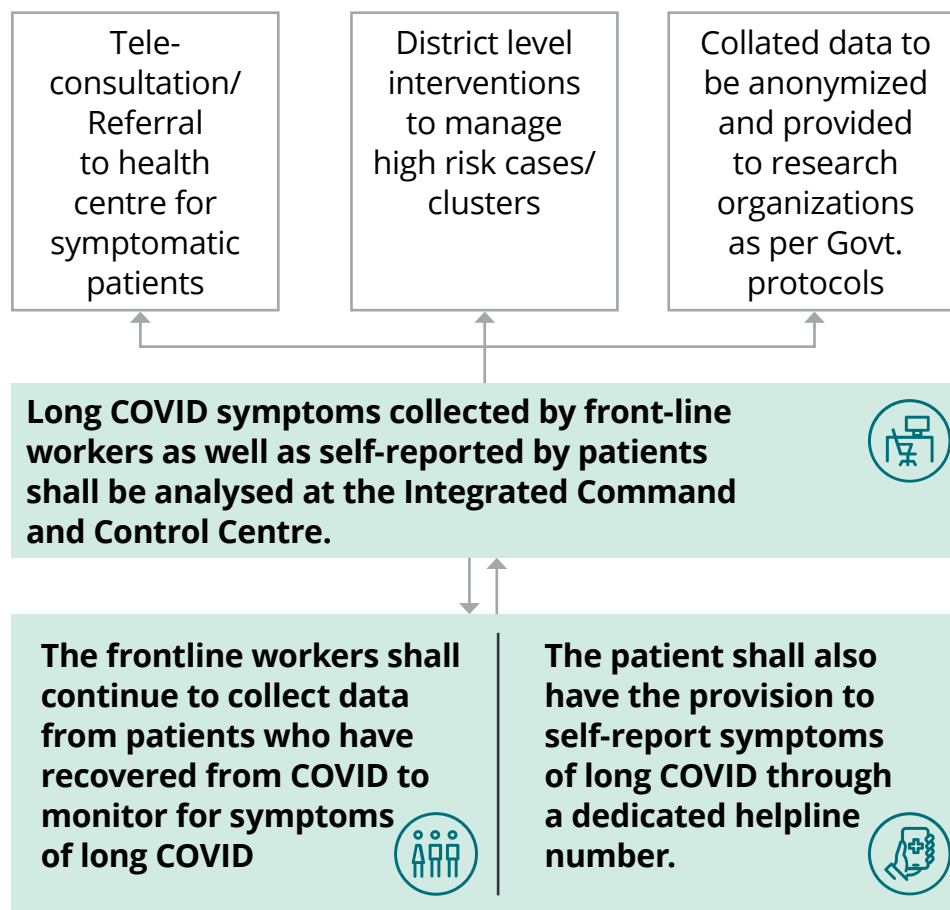
District Level Interventions

- Monitor prevalence of long COVID symptoms reported to identify clusters and high-risk groups.
- Evaluate the need for additional infrastructure needed, if any, to manage long COVID patients
- Co-ordinate with central and state authorities to implement treatment protocols as and when they are formulated.

Long Term Research

- While many patients have reported long lasting symptoms of COVID-19, there are not many studies about the risk factors, its prevalence or whether it is possible to predict the probability of long COVID in the early stages of the disease.
- Collating data at the front-line field level will contribute significantly to such research and help to develop protocols for management of long COVID.

Data collection and timely interventions shall reduce the recovery time for long COVID



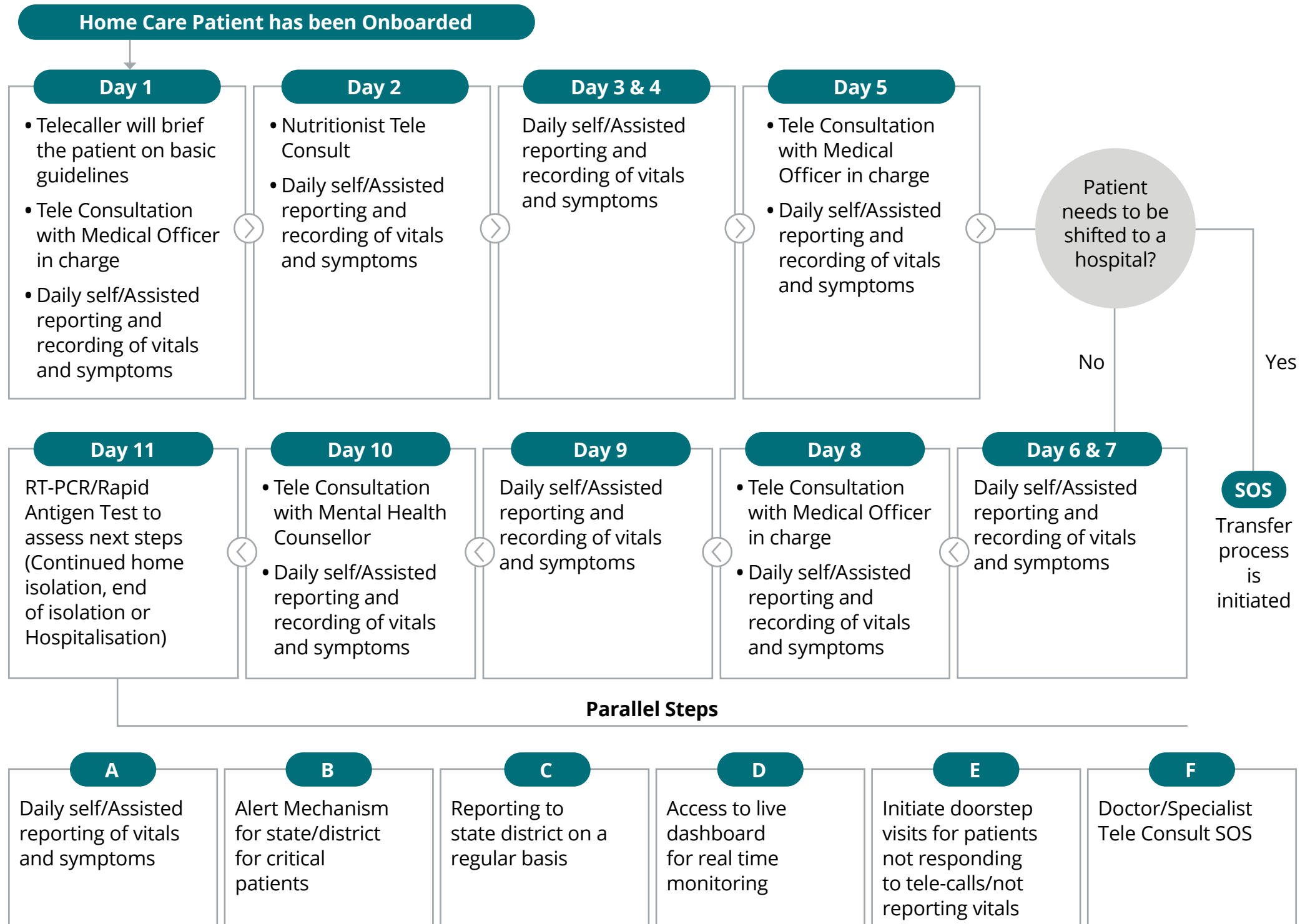


Appendix



Appendix 1: Suggested Protocol for Outbound Tele-Calling of Home Isolated Patients

This is a sample protocol for tele-calling of patients who have been tested positive or have exhibited symptoms and have been advised home isolation after verifying eligibility for home isolation based on field visits and as per defined guidelines. Any protocols/guidelines issued by Government authorities from time to time shall take precedence over this protocol.



Protocols for outbound calls during home isolation

What happens if patient fails to answer the outbound calls.

1

Patient not reporting their symptoms & vitals/not showing up for tele-consults

2

2 reminders will be sent on the patient's phone to report their vitals and reschedule the missed consult

3

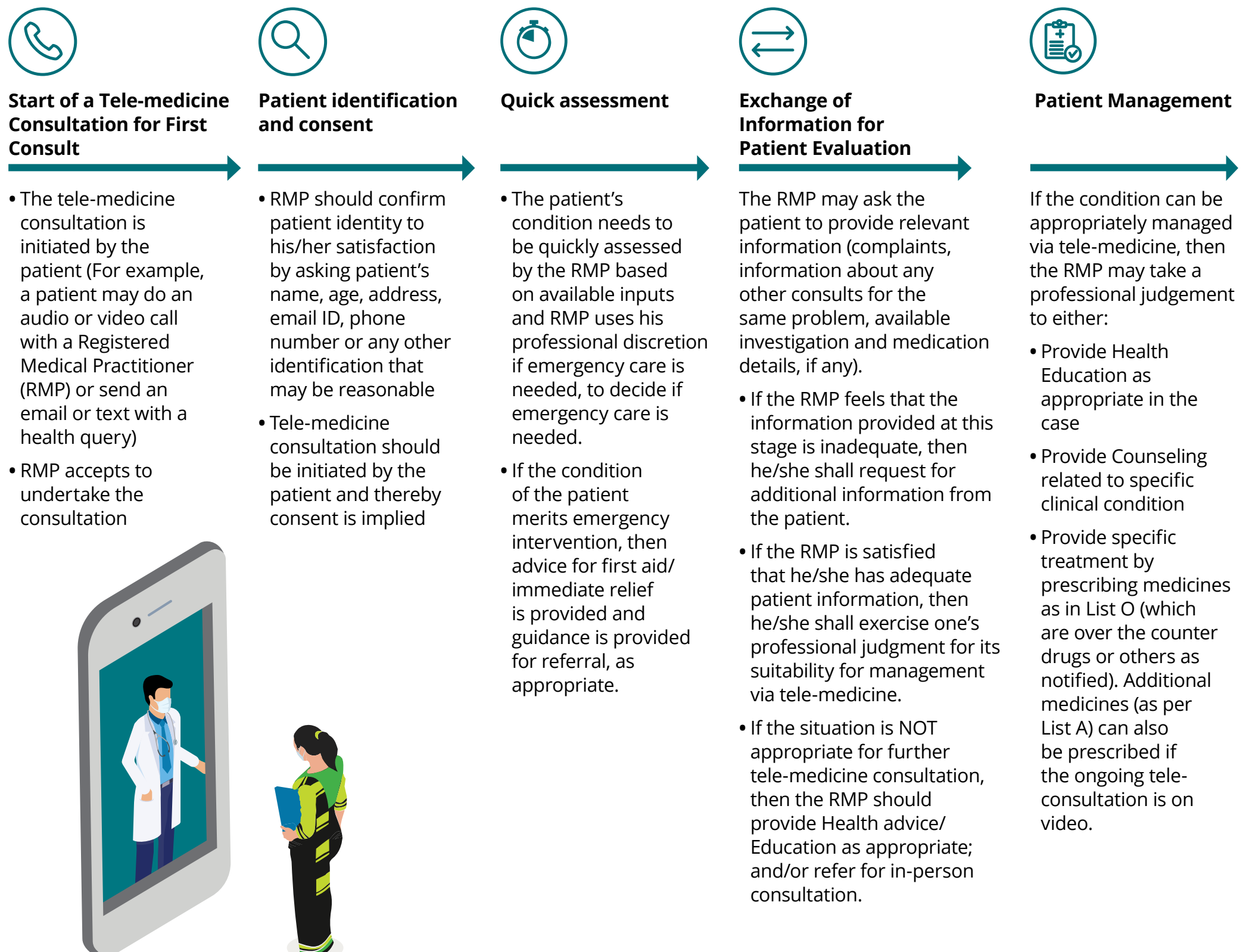
If the patient does not respond, the patient/patient's care giver would be contacted

4

If the team is not able to contact the patient, a doorstep visit will be made

Appendix 2: Tele-consultation guidelines

The Medical Council of India in partnership with Niti Aayog has produced Tele-medicine practice guidelines, keeping in mind the rapid increase in the usage of Tele-medicine to provide care to patients under home isolation due to SARS-CoV-2.



Abbreviations

Term	Full form
ANMs	Auxiliary Nurse Midwives
APP	Application
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy
BLS	Basic Life Support
BP	Blood Pressure
CAB	COVID Appropriate Behaviour
CHC	Community Health Centre
COVID 19	Coronavirus disease 2019
CT	Computed tomography
CBO	Community Based Organization
DH	District Hospital
E2E	End to End
GIS	Geographic Information System
GoI	Government of India
HDU	High Dependency Unit
ICCC	Integrated Command and Control Centre
ICMR	Indian Council of Medical Research
ICU	Intensive Care Unit
ID	Identification
ILI	Influenza-Like Illness
INSACOG	Indian SARS-CoV-2 Genomics Consortium
IVIG	Intravenous Immunoglobulin
IVR	Interactive Voice Response

Term	Full form
L	Litre
List A	Additional Medicines
List O	Over the counter or others
M.B.B.S	Bachelor of Medicine and Bachelor of Surgery
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
NGO	Non-Governmental Organization
NITI Aayog	National Institution for Transforming India
OC	Oxygen Concentrator
PHC	Primary Health care Centre
PII	Personally Identifiable Information
PPE	Personal Protective Equipment
PSA	Pressure Swing Adsorption
RMP	Registered Medical Practitioner
RRT	Rapid Response Team
RT - PCR	Reverse Transcription–Polymerase Chain Reaction
SARI	Severe Acute Respiratory Infection
SMS	Short Message Service
SOP	Standard Operating Procedure
SpO2	Oxygen saturation
STOT	Short-Term Oxygen Therapy
TV	Television
WHO	World Health Organization

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