



May 2026

An aerial photograph of the Universiti Kebangsaan Malaysia (UKM) campus. The main building is a long, multi-story structure with a prominent red-tiled roof and white walls. It is situated on a green hillside. In the background, a large, modern white building with a grid-like facade is visible. The foreground shows a paved road and some greenery. The overall scene is a mix of urban development and natural landscape.

PANDEMIC MANAGEMENT PLAN
Govt Medical College Iduki



KERALA.HEALTH

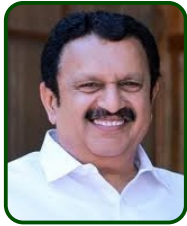
Govt. Medical College Iduki



Pandemic Management Plan 2026

KERALA.HEALTH

Message



Kerala Health has consistently recognised that pandemic preparedness is no longer a standalone activity limited to the health sector, but an essential component of public safety, governance resilience, and sustainable development. The experiences of NIPAH outbreaks, COVID-19 pandemic, emerging zoonotic threats, climate-sensitive diseases, and increasing global interconnectedness have clearly demonstrated that future public health emergencies require continuous preparedness, rapid response systems, and strong institutional coordination. In this context, the preparation of comprehensive Pandemic Preparedness Plans by the Department of Health and Family Welfare marks an important landmark towards strengthening Kerala's health security framework.

Today, pandemic management plans must be viewed through the broader lens of the One Health approach, which recognises the interconnectedness of human health, animal health, environmental systems, and ecological balance. Emerging infections are increasingly influenced by environmental degradation, climate variability, urbanisation, migration, and changing human-animal interactions. Therefore, effective preparedness requires coordinated action not only from the Health and Family Welfare Department, but also from departments including Animal Husbandry, Forests, Local Self Government, Disaster Management, Revenue, Education, Transport, Police, Water Resources, and Civil Supplies. Such interdepartmental convergence is critical for surveillance, risk communication, outbreak containment, logistics management, and continuity of essential services during emergencies.

Kerala has always demonstrated exemplary leadership in responding to public health challenges through timely action, scientific decision-making, community participation, and decentralised governance. The integration of pandemic management with disaster management systems further strengthens our capacity to respond to multiple emergencies simultaneously, including outbreaks occurring during floods, heat waves, or other natural disasters. The development of structured protocols, surveillance mechanisms, escalation frameworks, surge planning systems, infection prevention strategies, and institutional coordination models reflects the state's commitment to building a resilient and future-ready health system.

I am informed that Keralam is the only state where the pandemic preparedness plans have been prepared to such a depth right from the Panchayath level to District

and at institutional level upto Medical Colleges. I place on record my sincere appreciation to all those who worked on this endeavour. The dedication, technical expertise, and coordinated efforts demonstrated by the state and district teams are truly commendable. I am confident that these plans will further strengthen Kerala's capacity to effectively prevent, detect, and respond to future public health emergencies while ensuring the safety and wellbeing of our people.

Shri. K Muraleedharan

Minister for Health and Family Welfare and Devasom,
Government of Kerala



Foreword

Kerala Health has been taking efforts to strengthen the Medical Education. Out of various initiatives such as documentation on Medical College developments giving all the details, preparation of Fact Sheets of DME and MCH giving information regarding the outputs and outcomes, Standard treatment protocol, standardization of the units in the Medical Colleges, one more initiative was taken regarding preparedness for health emergencies such as communicable diseases which could transform into an epidemic/ pandemic. COVID has taught us many lessons. But the moot question is, “What learnings have we taken away from the Pandemic, and its aftermath?” Have we understood those learnings and worked on developing the systems for future scenarios?

And now, I say with immense pride that through Kerala Health, every Medical College has excellent pandemic management plans in place.

This preparation of pandemic management plans started with the thought of “What new systems do we need to develop across the State?” The Director of Medical Education and senior Doctors from Community Medicine and other Departments took up the challenge of preparation of plans. An elaborate process was followed by conducting state level meetings. Dr Aravind was asked to prepare a template for the Medical Colleges Plans. That template was validated in the state meeting and shared to all the Government Medical Colleges in the State. After that step, a workshop was conducted at Ernakulam Medical College involving all the teams from Medical Colleges as well as from Apex Cancer Centres. Post this workshop, all the institutions took a series of meetings at their level and completed this commendable work.

It is noteworthy to mention here that after Alappuzha, Thrissur also prepared a comprehensive Pandemic management Plan and Festival management Plan. Unfortunately, during this year's Thrissur Pooram preparations, there was a massive fire accident, but the Thrissur MCH team put the Management Protocol in practice and in a short span of time within 8 minutes, they took care of the fire disaster victims and provided exemplary services. While they were handling the incident, thanks to timely preparation and awareness, they were handling hundreds of emergencies not relating to the disaster during that period. This has clearly demonstrated to all that well-prepared planning and capacity building is the key to mitigating problems.

The Kerala Health program has to keep up with changing times, and so, along with the aforementioned initiatives, we discussed with the Digital University of Kerala

(DuK) to develop Kerala Pandemic Management System. This system envisages end-to-end solution for pandemic management. This will make things easy for the functionaries in the health institutions as well as the field functionaries to update the information. Once the pandemic management plans and Festival management plans are done, the teams will begin developing plans for calamities, other disasters and major accidents.

We are also planning mock drills so as to build the capacities of various teams. This way all the Medical Colleges teams will be well trained to manage any eventuality.

I am confident that all Medical Colleges shall institutionalize updating of plans on a yearly basis, skill building, analysis of any emergency handled and based on the analysis do modifications in the plans. This way it will be a dynamic plan of the Medical College.

For any Health System it is very important to have a system to handle any health emergency, and it is with sense of pride one can say that with the coordinated team work, this huge work was done in exemplary way. It also demonstrates that with shared vision and having 'thinking teams' at state, institution and field level can work on many challenges and deliver results. Therefore, these officers who worked on this project hands-on are mentioned right on the cover page! It is a big achievement for the Kerala Health to lay the foundation of Pandemic Management upon which further developments can be easily done.

I wholeheartedly appreciate the work done by one and all for preparing Pandemic Management Plans.

I am confident that all our Medical Colleges will become centre of excellence and earn recognition for their works. I wish all the success for the future endeavours.

Dr Rajan Khobragade IAS

Additional Chief Secretary
Health & Family Welfare and
AYUSH Department
Govt of Kerala.



Message

The health system of Kerala is defined by a mindset of proactive vigilance, a compassionate attitude toward the most vulnerable, and a historic legacy of resilience in the face of public health crises. Our motto for preparedness is simple: to be prepared and proactive is to safeguard the stability and prosperity of our people. This Pandemic Preparedness Plan is not just a technical manual; it is a shared commitment fuelled by the lessons learned from our past encounters with Nipah and COVID-19. These experiences have taught us that rapid mobilization and early detection are our most effective tools in preventing a public health emergency of international concern.

We have designed this strategy to be agile, moving from routine care to emergency surge levels based on real-time data such as ICU occupancy, staff availability, and disease epidemiology. By utilizing advanced diagnostic tools and regional surveillance cells, we aim to identify threats early, ensuring that life-saving interventions begin the moment a patient reaches our doors. Central to this plan is the safety of our workforce; we are committed to providing the training, equipment, and psychological support necessary to prevent burnout and ensure no healthcare worker faces these challenges alone.

Even in the height of a pandemic, our mission to provide essential care for mothers, children, and emergency cases will not waver. Through seamless coordination with district authorities and the private sector, we are building a networked response that maximizes resources for the benefit of every citizen. I am deeply grateful to the faculty and staff whose expertise shaped this document, and I am confident that by following these protocols, we will continue to lead with competence and compassion.

Dr. K. V. Viswanathan

Director of Medical Education
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Definitions

- **Dual-Track System**

- This system minimises the risk of nosocomial transmission by ensuring complete physical and operational separation between infectious and non-infectious patient flows.
- Dedicated staff teams are assigned to each track to avoid cross-deployment and reduce contamination risk.
- Signage, physical barriers, and security personnel are deployed at entry points to strictly enforce track segregation.
- Screening protocols, including symptom checks and exposure history, are conducted at the entry of the Pandemic Track to ensure early identification and containment.

Color-Coded Zoning

- Movement between zones is strictly regulated, with controlled access points and mandatory PPE requirements based on zone classification.
- Each zone has designated healthcare workers, equipment, and waste disposal systems to prevent inter-zone contamination.
- Transition areas (donning/doffing zones) are strategically placed between zones to ensure safe PPE handling.
- Environmental cleaning protocols vary by zone, with Red Zones requiring the highest frequency and level of disinfection.

Red Channel Protocol

- The Red Channel is activated prior to patient movement, with prior intimation to all relevant departments to ensure preparedness.
- Healthcare personnel involved in transport must wear full PPE, including N95 masks, face shields, gowns, and gloves.

- Non-essential staff and patient movement are temporarily restricted during Red Channel use to maintain isolation integrity.
- After transport, a defined downtime is observed following disinfection to ensure adequate contact time for the disinfectant.

1. Introduction & Contextual Analysis

1.1 Background & Purpose

Objectives for rapid response within the first week to prevent a PHEIC.

Purpose of Document: To establish a structured, scalable and evidence based institutional pandemic preparedness and response framework for Government Medical College, Idukki.

1.2 Institutional Geography:



Government Medical College, Idukki is located in a geographically challenging high-range region of Kerala characterized by hilly terrain, forest areas, wildlife corridors, landslide-prone zones, and seasonal heavy rainfall. The institution serves as the only tertiary Government Medical College in Idukki district and caters to:

- Predominantly rural and tribal populations
- Plantation workers and migrant labourers
- Seasonal tourist population
- Interstate movers from Tamil Nadu border regions

The difficult terrain and long travel times to higher centres make GMC Idukki a critical stabilization and definitive care centre during pandemics. Nearest referral linkages typically include: Government Medical College, Kottayam, Government Medical College, Ernakulam, Rajiv Gandhi Centre for Biotechnology and institute of Advanced Virology-IAV Trivandrum

(advanced diagnostics support if required). Given transport constraints and weather-related access limitations, self-sufficiency and surge preparedness are critical for GMC Idukki.

1.3 District-Specific Risk Profile:

- District profile – Idukki



- **Idukki district – Key Statistics**

Parameter	Data
Total Area	~4,358 sq. km (Largest district in Kerala)
Population (Census 2011)	~11 lakh
Population Density	~254 persons/sq. km (lowest in Kerala)
Rural Population	>95%
Scheduled Tribe Population	~5% (one of the highest in Kerala)
Major Economic Activities	Plantation (tea, cardamom), agriculture, tourism
Terrain	Hilly, forested, landslide-prone
Border	Shares interstate border with Tamil Nadu
Climate	Heavy monsoon rainfall; occasional road disruptions

- **Idukki specific vulnerability indexing regarding pandemic preparedness**

Flood prone areas	Presence of 20 dams, with near proximity of Cheruthoni, Idukki and Kulamavu dams
Clinical vulnerability	Tribal areas, remote and hilly areas people

Endemic diseases vulnerability	The endemicity of cases like leptospirosis, scrub typhus, dengue
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- **Pandemic-Relevant District Risk Factors**

1. Low population density but wide geographic spread
2. Difficult terrain → delayed referrals
3. Landslide-prone monsoon season
4. Tourist influx (Munnar, Thekkady)
5. Interstate labour mobility
6. Tribal and remote settlements with late health-seeking behaviour
7. Limited tertiary care options within district

1.4 Scope & Objectives:

1.4.1 Scope of the document

- Aligned with Kerala State Pandemic Preparedness Strategy, IDSP, ICMR, and WHO emergency response framework
- Serves as a state-level reference and operational guide for pandemic preparedness and response
- Applicable across all tiers of healthcare and governance systems in Kerala
- Covers policy, surveillance, clinical care, logistics, and coordination mechanisms
- Integrates public, private, and community health sectors
- Ensures standardised protocols and coordinated response across institutions
- Guides preparedness, response, surge management, and recovery phases
- Supports interdepartmental coordination and multi-sectoral collaboration
- Acts as a unified framework for all stakeholders involved in pandemic management

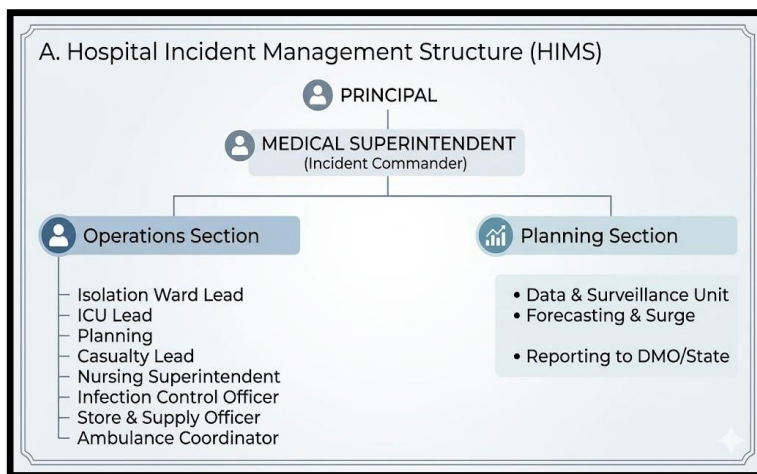
1.4.2 Objectives

1. Early detection of emerging infections
2. Rapid triage, isolation, and treatment
3. Protection of healthcare workforce
4. Maintenance of essential hospital services
5. Efficient resource and surge management
6. Integrated coordination with district & state systems

2. Governance & Command Structure

2.1 Pandemic Preparedness & Response Committee (PPRC)

PPRC is led by the Principal and Medical Superintendent.



2.2 Multidisciplinary Team:

Role	Key Responsibilities	Assigned Person	Deputy
Incident Commander	Overall leadership, intersectoral coordination	Principal/Medical Superintendent	RMO
Operations Lead	Clinical services, wards, ICUs, triage	Professor & Head – General Medicine	Professor Anesthesiology/pulmonology
Logistics Lead	Oxygen, PPE, equipment, transport	Deputy Medical Superintendent	ARMO

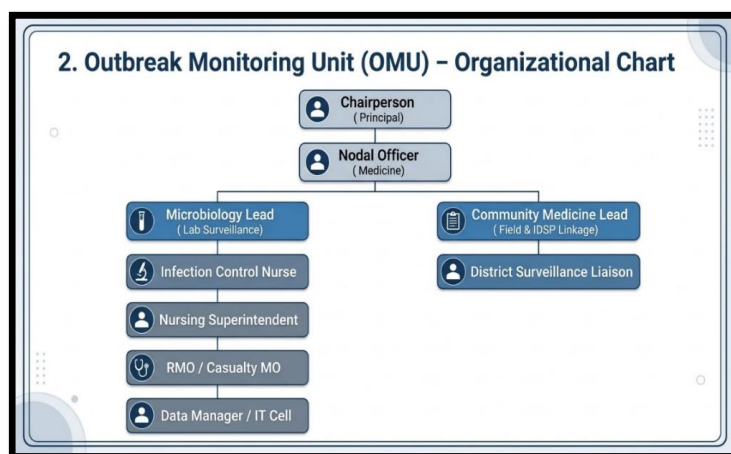
Planning Lead	Surge forecasting, bed expansion	Professor & Head – Community Medicine	RPEID cell Coordinator
Finance Lead	Emergency procurement, budgeting	Accounts Officer	Senior Accounts Assistant

2.3 Outbreak Monitoring Unit (OMU)

Specialized cell for identifying emerging/re-emerging infections, triaging, and multiplex PCR diagnostic platforms.

An Outbreak Monitoring Unit (OMU) comprising of:

- i. Principal – Chairperson
- ii. Medical Superintendent – Incident Commander
- iii. Professor and HOD Community Medicine
- iv. RPEID Cell Coordinator
- v. Associate Professor Paediatrics
- vi. Associate Professor General Medicine
- vii. Associate Professor Surgery



Functions of OMU:

- Continuous disease surveillance
- Liaison with District Surveillance Unit & State PEID Cell
- Monitoring PPE, oxygen and drug consumption
- Updating treatment and infection control protocols

2.4 Institutional Medical Board:

Chair: Medical Superintendent

Convenor: HOD General Medicine/ HOD Paediatrics

Members: HODs from Pulmonary Medicine, Critical Care Medicine/ Anaesthesiology/ HOD General Surgery, RPEID cell Coordinator

Functions:

- Daily case load review
- Clinical decision-making
- Bed & oxygen allocation
- Staff deployment
- Surge activation decisions
- Coordination with district administration

3.Situational Analysis & Resource Mapping

3.1 Infrastructure Audit:

Domain	Existing	Identified Gaps	Action
Isolation Wards	One isolation ward and one isolation room	No dedicated pandemic block	Pre-identify 1 ward for conversion in emergency
ICU	ICU beds-16	Surge ICU space limited	Convert HDU to ICU during surge
Oxygen	Central oxygen supply-130 bed	Mapping not surge-validated	Oxygen line mapping & backup cylinders
Ventilators	Functional ventilators-11	Maintenance gap	AMC + standby units
Negative Pressure-ICU	Nil	No dedicated isolation ICU	Portable HEPA units
Ambulances	4 Ambulances available, provide by local LSGS	Hilly terrain delays	Tie-up with district ambulance network
Lab	Functional microbiology-1	Reagent exhaustion risk	Buffer stock 3 months

3.2 Human Resource Pool

Mapping of sanctioned vs. present staff (Professors to temporary staff) and a three-tiered staffing plan (core, reserve, volunteer).

Sl No	Category	Sanctioned	Present	Gaps	Mobilization Strategy
1	Faculty (Clinical)	83	66	17	Call back from leave; redeploy from non-critical depts.
2	Residents Academic, NAJR, SR/JR	84	70	14	Recruit additional temporary doctor through HDS/schemes.
3	Nursing Staff (Permanent)	11	11	0	Shift-based duty (6–8 hr shifts); cancel all leave.
4	Nursing Staff (Contract)	53	48	7	Recruitment of emergency temporary nursing staff.
5	ICU/Transplant Trained Nurses	-	-	-	Prioritize for Level 3 (Crisis) ICU surge.
6	Nursing Assistants	30	28	2	Deploy for high-touch surface cleaning and food delivery.
7	Hospital Attendants (Gr1& 2)	20	20	0	Training on 1% hypochlorite uses and trolley disinfection.

8	Kudumbasree / Cleaning Staff	2	2	0	Focus on waste management and environmental cleaning.
9	Ancillary (Lab, Rad, Pharm)	20	20	0	Maintain a standby duty roster for 24/7 coverage.
10	Security & Transport Staff	16	16	0	Lead "Red Channel" movement and patient data entry.
11	Volunteer / Reserve Pool	-	-	-	Identify retired HCWs and those in non-clinical roles.

Human resource strategy

Category	Strategy
Doctors	Team-based rotation (14-day cycle)
Nurses	Cross-training ICU + Isolation
Interns/Residents	Pandemic duty roster
Housekeeping	Enhanced sanitation contracts
Staff Welfare	Rest rooms, counselling & accommodation

Gap analysis (Idukki-Specific Risks)

Category	Key Constraint	Pandemic Impact
Terrain	Landslides, forest routes	Referral delays
Transport	Limited ambulances	Sample delay
Workforce	Limited specialists	ICU overload
Tourism	Seasonal surge	Sudden case spike
Tribal Areas	Access issues	Late presentation
Oxygen Supply	Transport dependency	Stock-out risk

Pandemic trigger levels

Level	Trigger	Action
GREEN	Routine load	Normal services
YELLOW	Suspected clusters	Activate isolation ward
ORANGE	>50% isolation occupancy	Cancel elective surgeries

RED	100% occupancy + oxygen strain	Crisis standards of care
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Escalation Matrix (District-Linked)

Level	Action	District Role
YELLOW	Isolation ward activation	Inform DMO
ORANGE	Elective suspension	Request additional staff
RED	Crisis standards	State-level intervention

4. Graduated Response Framework (Three-Tier Model)

A structured proportionate response strategy ensuring that hospital adapts capacity to demand while maintain routine functionality as long as possible

4.1 Escalation Triggers

Defined by disease epidemiology, ICU occupancy, bed availability, and staff absenteeism.

Primary Escalation Triggers

- Disease epidemiology: Basic reproduction number [Ro]
- ICU occupancy
- Isolation Bed availability
- Staffing levels
- Resource Strain

Escalation strategy overview

Response	Scenario	ICU occupancy	Emerging infection cases	Response
Conventional response	Best case scenario	<70%	<50/day reaching ER	Conventional – Tier 1 <i>Business as usual</i> Operate within normal facility standards Minor adjustments to space and staff Standard care fully

Contingency response	Moderate case scenario	70-90%	50-100/day	Contingency- Tier 2 <i>Functionally equivalent</i> Adapt space, staff and supplies Surge annexes activated Care is functionally equivalent to standards
Crisis response	Worst case scenario	90%	>100/day	Crisis- Tier 3 <i>Sufficiency of Care</i> Extreme resource scarcity Maximize population benefit Crisis standards of care active

Pandemic response level

	Level 1 Conventional	Level 2 Contingency	Level 3 Crisis
Definition	Usual standard of care	Demand exceeds standard resources	Resource severely depleted
Function	Hospital functions within designed capacity with minor adaptations	Adaptive spaces/staffing used to maintain equivalent outcomes	Focus shifts to population-based outcomes.

			Crisis standards of care (CSC) activated
Key metrics	ICU occupancy $\leq 70\%$ Supply days ≥ 30 Absenteeism $< 10\%$	ICU occupancy 70-90% Supply days 7-29 Absenteeism 10-20%	ICU occupancy 90-95% Supply < 7 Absenteeism $< 20\%$
Operational status	Elective surgery ongoing Standard staff ratios Normal visitor policy	Emergency Medicine boarding > 4 hours Surge annexes activated Electives prioritized/paused	O2/ ventilator constrain Crisis standard of care active Non-traditional spaces

4.2 Tier 1 – Conventional (Best Case)

Standard facility standards, minor staff adjustments, and full maintenance of elective services.

Operational Goal: Maintain standard of care without dilution of expertise while maximizing routine elective services.

Trigger Points	Institutional Action Points
Cases: No confirmed local cases OR sporadic imported cases without local transmission.	Surveillance: Activate ILI/SARI screening at entry points and mandatory IHIP reporting.
Admission: Baseline hospital and ICU admission levels.	Infrastructure: Identify "Red Channel" entry points and start planning for expansion of oxygen beds and ICUs by 20% .

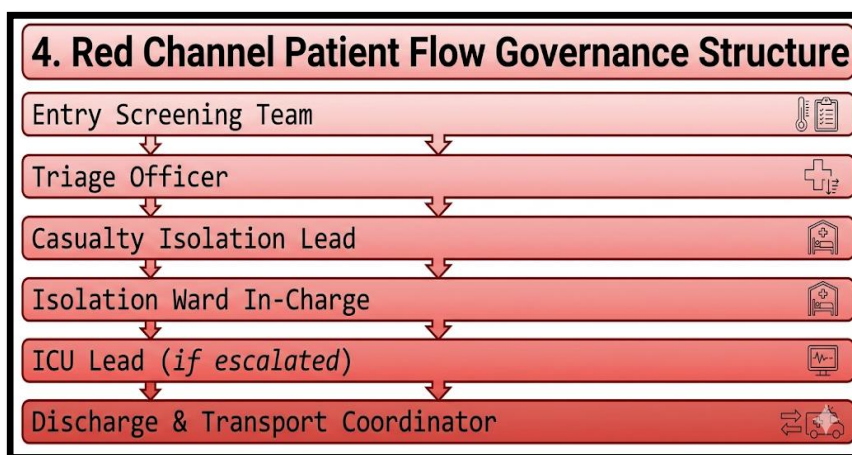
Staffing: Absenteeism <10%.	Training: Conduct refresher training on IPC, PPE donning/doffing, and simulation mock drills.
Logistics: PPE and drug supply days >30.	Logistics: Assess and enhance centralized/decentralized Liquid Medical Oxygen (LMO) to full reserve capacity.

Floor Plan Allocation

Area	Function
Main OPD Entry	Screening Desk (ILI/SARI)
Casualty	Separate Fever Triage Corner
Isolation Ward (Existing)	Mild/Moderate suspected cases
ICU	Routine ICU with earmarked 2-3 beds
Laboratory	Standard sample processing
Designated Route (Red Channel - Passive)	Marked but not activated

Key Notes

- No disruption to elective services
- Mock drills and signage installation
- Floor zoning markings (Green vs Red) to be completed



4.3 Tier 2 – Contingency (Moderate Case)

Containment Activation of surge annexes, prioritizing/pausing electives, and adaptive staffing.

Operational Goal: Adapt space, staff, and supplies to maintain care functionally equivalent to standard care.

Trigger Points	Institutional Action Points
Cases: Confirmed local transmission and rising suspected cases in OP/IP departments.	Hospital Reorganization: Activate surge annexes (e.g., Ward 9/10 or Pay wards) and create barricaded triage areas.
ICU Occupancy: 70–90%.	Clinical Operations: Regulate non-pandemic care and pause/reduce non-urgent elective surgeries .
District Load: Hospital admissions due to the pandemic reaching 10% of total district admissions.	HR Strategy: Implement shift-based duties (6–8 hours) and deploy float pools or tiered staffing models.

Logistics: PPE supply days 7-29; ventilator/O2 constraints beginning.	Logistics: Fill 100% of oxygen reserve capacity and look for potential sources of capacity enhancement.
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Floor Plan Allocation

Area	Function
Separate Entry Gate (if feasible)	Dedicated Pandemic Entry
OPD Block (Partial)	Fever Clinic + Screening Expansion
Casualty	Fully functional Red Triage Area
Ward 9/10 / Payward	Converted Isolation Oxygen Beds
HDU	Converted to Step-down ICU
ICU	Dedicated COVID/Pandemic ICU block
Dedicated Lift & Corridor	Activated Red Channel Transport
Waiting Areas	Converted to Observation Units

Zoning Plan

- **Green Zone:** Non-pandemic services (restricted)
- **Yellow Zone:** Suspect holding areas
- **Red Zone:** Confirmed cases

Key Notes

- Controlled patient flow enforced
- Security deployment for movement restriction

- Oxygen pipeline load validation required

4.4 Tier 3 – Crisis (Worst Case)

Activation of Crisis Standards of Care (CSC), extreme resource scarcity, and use of non-traditional spaces.

Operational Goal: Maximize population benefit under extreme resource scarcity; activation of Crisis Standards of Care (CSC).

Trigger Points	Institutional Action Points
Cases: Surge in confirmed admissions; OP load crosses the threshold level.	OP/IP Reorganization: Stop general OP services; convert waiting or non-patient areas into makeshift wards.
ICU Occupancy: >90% (System Overwhelmed).	Critical Care: Activate earmarked pandemic beds in private institutions for government-referred patients.
District Load: Pandemic admissions reaching 25% of total hospital admissions in the district.	Services: Switch to emergency non-pandemic care only ; discharge all stable/recovering patients.
Staffing: Absenteeism >20%.	HR Strategy: Large-scale recruitment of temporary staff; redeployment of non-clinical/academic staff to clinical work.
Logistics: PPE supply <7 days; spare ventilator capacity <10%.	Networking: Full district ICU pooling and activation of field hospitals/CSLTCs.

Floor Plan Allocation

Area	Function
Main OPD Block	Converted to Isolation Wards
Casualty (Entire)	Pandemic Emergency Unit
All General Wards	Oxygen-supported beds
Halls/Auditorium	Makeshift Wards (mild cases)
Corridors (if needed)	Triage overflow
ICU + HDU + OT Recovery	Expanded Critical Care Units
External Facilities (CSLTCs)	Mild/step-down care
Private Hospitals (Networked)	ICU pooling

Red Channel – Full Activation

- Dedicated entry, lift, corridors
- No cross-movement allowed
- Security-controlled zones

Zoning Plan

- Entire hospital becomes **Red Zone dominant**
- Minimal Green Zone (only essential services like labour room, dialysis)

Key Notes

- Field hospitals may be activated
- Triage prioritization protocols implemented
- Ethical triage committees activated

Tier 1–3 Trigger Plan & Functional Floor Plan

Government Medical College, Idukki



Tier 1 – Conventional Level (Baseline Preparedness)

S

Trigger: Sporadic cases

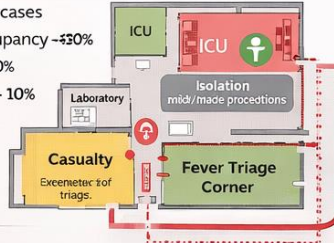
- Isolation bed occupancy <30%
- ICU occupancy <70%
- Staff absenteeism – 10%

Triggers: Plac:

- ▲ Standard triage
- ▼ Vapour screening
- ▼ Routine elective services

Key operations:

- ▶ Standard triage & screening
- ▶ Routine elective services, mock drills
- ▶ Main entry, signage



Legend

- Green Zone (General Areas)
- Yellow Zone (Suspected)
- Red Zone (Confirmed Case)
- Red Patient Flow Channel

- S** Main Entry / Screening
- P** Dedicated Pandemic Entry
- Triage/Testing Area
- Isolation Ward
- COVID ICU/Critical Care
- Makeshift Ward
- Suspected Holding
- - - - - Red Corridor

Tier 2 – Contingency Level (Moderate Surge)

P

Trigger: Local transmission

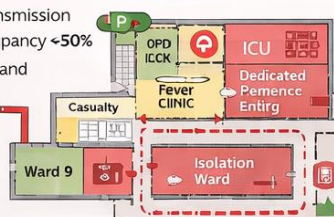
- Isolation bed occupancy <50%
- High oxygen demand

Trigger: Expand

- Fever Clinics
- Expanded ring
- Local alerts

Key operations: Expand fever clinics, programmes

- ▶ Routine elective care



Triggers: Full occupancy

- ▶ General factors
- ▶ Isolation bed shares

Trigger: Full hospital reconfigure-

- ▶ CSC priorities
- ▶ Field hospital activates

Tier 3 – Crisis Level (Severe Surge/System Overload)

R

Trigger: Full occupancy

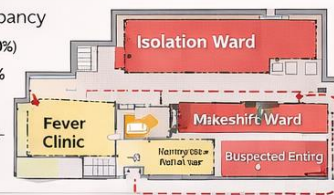
- Isolation (wards) 100%
- Oxygen strain <20%

Triggers: Full

- hospital reconfigure-
- Full hospital inlets

Key operations: Expand, Fever clinics: Mock drills

- ▶ Dedicated pandemic entry
- ▶ Floor Zoning



Schematic Flow

- Entry → Screening
- Fellow → Isolation Ward
- Triage → Allocation
- Confirmed → Image
- White, OC will
- ICU
- - - - -

Entry → Screening → Triage → Allocation →

Green Pathway

Yellow Pathway

Red Channel



OPD / General Ward



Suspect - Holding Area



Isolation - Ward → ICU

5. Operational Standard Operating Procedures (SOPs)

5.1 Triage & Red Channel Protocol:

- **Dual-stream triage System: -**

- *Pandemic track with separate entrance* - Dedicated screening clinic Isolation triage area.
- *Routine Track :-* Trauma, Emergency surgeries, non-communicable disease (NCD) care Outcome: Zero cross-contamination.

- **Red channel – pandemic patient flow**

Components:

1. Screening Desk at Entry
2. Fever Triage Area
3. Casualty Isolation Bay
4. Dedicated Lift/Pathway to Isolation Ward
5. Restricted Bystander Policy

Objective: Prevent cross-infection and protect non-pandemic services.

- **Sample collection & transport**

- VTM availability
- Referral to:
 - National Institute of Virology, Alappuzha
 - Government Medical College Hospital, Thiruvananthapuram
 - Institute of Advanced Virology, TVM

- **Idukki-Specific Action:**

- Pre-identify backup transport routes
- Coordinate with district disaster management authority

- Patient transport protocol during pandemics

Category	Intra-Hospital Transport	Inter-Hospital Transport
Follow RED CHANNEL Protocol		
Protocol	• Transport from Emergency to GW or ICU; transport from GW to ICU • Transport for radiology scans	For advanced ICU services, e.g. ECMO
Patient Safety	• Early transfer of deteriorating cases to ICU • Minimize need for scans (use bedside ultrasound)	• Early transfer of deteriorating cases • Clear thresholds for transfer and workflows for non-ECMO centres
Pre-Transport	Assess deteriorating patients for intubation prior to transport	• Assess need for intubation prior to transport (preferably in ICU under controlled settings with PPE and PAPR)
During Transport	• Accompanied by at least a doctor and nurse trained for emergencies • Continuous monitoring (BP, pulse, SpO₂) • End-tidal CO₂ monitoring in intubated patients • Transport monitor with defibrillation function or separate defibrillator	• Prepare equipment and drugs for emergencies (e.g. cardiovascular collapse, hypotension). • Gentle bagging with BMV fitted with HEPA filter to reduce aerosolization.

Safety of HCW & Staff	• All staff mask-fitted for N95 respirators • Full PPE prior to transport • Patient to wear surgical mask • Avoid open breathing circuits, HFNO, or non-invasive positive pressure • Add HEPA filters to ET tubes if bagging via BMV • Add HEPA filters to expiratory limbs of ventilators • Avoid unnecessary circuit disconnections • Scans preferably at end of day for terminal cleaning	• All staff mask-fitted for N95 respirators and trained in PAPRs • Full PPE and PAPRs if available • Spare battery packs for PAPRs • Add HEPA filters to ET tubes and ventilator expiratory limbs • Minimize ET tube disconnections • Wind down ambulance windows if possible
Bystander Safety	Dedicated transport route planned Security team clears route ahead, wearing surgical masks	Same as intra-hospital
Rescue Contingency Plans	—	• Intubation best done in ICU under controlled settings • Physician in PPE and PAPR • Emergency preparedness for collapse/hypotension • Gentle bagging with HEPA filter
Post-Transport Decontamination	—	• Housekeeping team in PPE performs terminal cleaning of route/elevator • Staff doff PAPRs/PPE at destination

		• PAPRs disinfected with alcohol wipes • Staff don new PPE for return journey • PPE doffed in nearest clinical area (e.g. ambulance bay) • Terminal cleaning of ambulance upon return
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5.2 Patient Care Equipment:

- Dedicated instruments must be used for suspected patients and confirmed cases.
- Staff on duty must check the availability of the equipment in each shift.
- Proper cleaning and disinfection is necessary.
- Thermometer, stethoscope, glucometer, BP apparatus, Pulse oximeter etc. to be the dedicated patient care equipment
- The HCW must wear PPE properly while reprocessing instruments.
- Disposable items must never be reused.
- Heat stable items after decontamination using 1% bleach solution for 10min, clean with water & detergent and sterilize by autoclaving. Heat sensitive items can be sterilized by ETO sterilizer or Sterrad.
- All medical/surgical/dental devices must be sterilized according to manufacturer's instructions.

5.3 Infection Prevention & Control (IPC):

Published

- A pandemic-specific IPC preparedness manual.

Planned

- Patient admission
- Patient management

- Patient discharge/back referral
- Bystander management-Restrict visitors (if indicated) and maintain a log of all visitors with their address for tracing if need arises
- Communication
- Dead body management
- Maintain a log of all health care personnel providing care

5.4 Environmental & Engineering Controls

HEPA filtration, negative pressure maintenance and 12 Air Changes per Hour (ACH) for AIIRs.

Hospitals usually have sub-optimal facilities to provide airborne infection isolation for large numbers of patients with airborne infectious diseases presenting in a short time period. Heating, ventilation, and air conditioning (HVAC) expertise is essential for proper environmental management when planning control of airborne infectious disease outbreaks

Engineering controls

- These are physical or mechanical measures used to reduce the risk for transmission of airborne infectious diseases. It includes ventilation, filtration, ultraviolet germicidal irradiation, AIIRs, local exhaust ventilation devices etc.
- The time required for removing a given percentage of airborne particles from a room or space depends on the number of air changes per hour (ACH).
- Filtration reduces the risk for transmitting airborne infectious agents. Filters for clinical spaces should be able to remove at least 90% of particles (0.5 microns in size and larger)
- Poorly designed or maintained ventilation systems can increase the risk of health-care-associated infections transmitted by airborne pathogens due to incorrect airflow and poor maintenance of the system. A higher ventilation rate can provide a higher dilution capability and consequently potentially reduce the risk of airborne infections. Mechanically ventilated areas In health-care facilities where a mechanical ventilation system is available, negative pressure should be created to control the

direction of airflow. The ventilation rate should be 6-12 ACH, ideally 12 ACH for new constructions, with a recommended negative pressure differential of ≥ 2.5 Pa

- For patient care areas in hospital without adequate natural or mechanical ventilation-Installation of exhaust fans will be helpful.

Installation of high-efficiency particulate air (HEPA) filters: HEPA filters (either ceiling mounted or portable) can be effective in reducing/lowering concentrations of infectious aerosols in a single space. Health-care facilities that choose to use HEPA filters should follow the manufacturer's instructions, including on recommended cleaning and maintenance procedures for HEPA filters

- Respiratory infections like COVID-19 positive patients and patients with COVID-19 related symptoms are to be accommodated in designated "Airborne Infection Isolation Rooms (AIIR)" in hospitals to control spread of the disease. However due to the surge in the number of such patients, healthcare facilities may not have adequate number of "AIIR" rooms to accommodate all such patients. Hence, healthcare facilities would need to convert their existing patient rooms or ICUs into COVID-19 patient rooms or COVID-19 ICUs to avoid risk to other patients as well as HCWs.
- AIIRs are single-patient rooms at negative pressure relative to the surrounding areas, and with a minimum of 6 air changes per hour (12 air changes per hour are recommended for new construction or renovation). Air from these rooms should be exhausted directly to the outside or be filtered through a high-efficiency particulate air (HEPA) filter directly before recirculation.
- To convert an existing patient room or ICU into a COVID-19 patient area, it is first necessary to convert the room into a non-recirculatory system (100% once through system) ie, the room should be negatively pressurized in relation to the corridor. On an emergency basis, this can be achieved by blanking (blocking) off the return air vents in the COVID-19 patient room. An independent exhaust blower shall be provided to extract the room air and exhaust out into the atmosphere
- The recommended air exchange rate for AIIRs is 12 air changes per hour (ACH). The

position of the extract air in the room shall be just above the head of the patient's bed. The exhaust air is most likely to contain particles carrying a viral load and hence a suitable technique should be deployed to prevent the spread of infections. Treatment of exhaust air can be done preferably by HEPA filtration. In diagnostic dept. ventilation rate required is 10 air change /hour. In operation room temperature of 23 to 25°C, 50% humidity and 15-20 air change per hour is required.

Heating, ventilation and air-conditioning (HVAC): HVAC has a pivotal role in determining infection rates in the intensive care unit (ICU). Essential functions of HVAC system include heating (adding heat to raise or maintain temperature), cooling (removing heat to lower or maintain temperature), humidifying (adding water vapour), dehumidifying (removing water vapour) in order to maintain the moisture content of the air, filtering (removing dust particles, biological contaminants like bacteria, viruses and fungi), ventilating (air change rates between outdoor) and air distribution (velocity, flow pattern, direction of movement and distribution patterns). These functions result in air conditioning, which aid in the prevention of contamination and cross-contamination and environmental protection along with operator protection. Airborne diseases have been linked to poorly functioning HVAC system: improper function of temperature control, humidity control, air distribution and filtration of HVAC systems.

Temporary Negative Pressure Isolation (TNPI)

TNPI is considered when airborne infection isolation is needed and there is insufficient AIIRs when an outbreak of an airborne infectious disease with large numbers of communicable patients seeks admission. So temporary isolation is designed to protect patients and staff from contracting or transmitting highly infectious diseases. HEPA filter is used to exhaust room air outside through the window. HEPA machine in this application is to clean contaminated air and induce negative pressure in the room. To prevent pulling air from return air system, the exhaust/return grilles should be sealed with tape.

5.5 Makeshift Isolation Enclosures

Guidelines for temporary cubicles/tents with localized negative pressure.

In crisis care scenario in healthcare settings, several COVID-19 patients may be required to be admitted to a single large room. This presents a significant risk to the health care workers as well as a possibility for environmental spread of virus laden particles. For such instances, a make-shift patient isolation enclosure could provide the necessary protection. This could be a temporary makeshift cubicle or tent constructed out of a skeleton structure (of plastic or metal) and plastic sheet or canvas covering. The tent shall be covered on all sides excepting the front, where PVC strip curtains can be provided. Arrangements for light and a fan inside the tent can be provided for the comfort of the patient, as necessary. The tent shall be provided with an exhaust blower to extract the air inside the enclosure and exhaust out into the atmosphere after suitable treatment.

In case of air-conditioned patient rooms where exhaust blowers cannot be fixed, the Isolation enclosure can be installed inside the patient room with HEPA filtered exhaust air. The exhaust air, after HEPA filtration can be discharged inside the room. This provides a localized negative pressure zone inside the room and helps control infection spread and offers protection to the healthcare workers.

5.6 COVID/Pandemic Operation Theatre

Converting re-circulatory HVAC to 100% once-through systems with independent exhaust blowers.

- Airborne infection isolation requirements (AIIR) have to be strictly enforced
- The most important factor in COVID -19 pandemic is to ensure that the virus laden airborne particles do not leak out of the rooms occupied by COVID-19 patients to control the spread of infections and also to protect the healthcare workers
- In normal practice, most of the OTs would be served by a Heating, Ventilating, Air Conditioning (HVAC) system that would be of a re circulatory type, wherein the air from the OT is taken back to the air handling unit (AHU) for thermal conditioning and brought back
- If a COVID-19 patient has to be operated in such an OT, it will present a significant risk of the virus laden particles spreading out from the designated COVID OT

- If operation theatres are not negatively pressurized, the positive pressure system and central air conditioning must be turned off.
- To convert an existing OT into a COVID OT, it is first necessary to convert the OT into a non-re circulatory system (100% once through system)
- On an emergency basis, this can be achieved by blanking (blocking) off the return air vents in the OT. Additionally, an independent exhaust blower shall be provided to extract the room air and exhaust out into the atmosphere, preferably, after suitable “exhaust air treatment”
- The exhaust air quantity should be greater than the supply air quantity so that a negative pressure of minimum 2.5 Pa (preferably >5 Pa) is achieved in the room. The supply air quantity should provide a minimum of 12 air changes per hour. The position of the extract air duct in the OT should be just above the head of the patient
- As a next best possible option, the COVID OT can have stand-alone room air-conditioners. Room air conditioners re-circulate air within a single occupied zone. Two split air-conditioners of 2 tons refrigeration capacity per OT are usually required. Recirculation of cool air by room air conditioners, must be accompanied by outdoor air intake through slightly open windows and exhaust by natural exfiltration.
- Set the room temperature between 24°C and 30°C. Maintain relative humidity between 40% and 70%.
- Negative pressure could be created by putting up 2-3 exhaust fans which will drive air out of the room. However, exhaust fans can lead to significant noise pollution and some compromise in OT sterility
- Treatment of exhaust air can be done preferably by high efficiency particulate air (HEPA) filtration.
- Suitable renovation/modification should be carried out in this regard so that there is no mixing up of the air between COVID and non-COVID operation theatres

6. Specialized Service Guidelines

6.1 Dialysis Units:

GUIDELINES FOR DIALYSIS UNITS DURING PANDEMICS

[PROTOTYPE COVID 19]

Chronic kidney disease (CKD) patients on dialysis such as maintenance hemodialysis (MHD) or continuous ambulatory peritoneal dialysis (CAPD) are vulnerable to get COVID-19 infection because of their existing co-morbidities, repeated and unavoidable exposure to hospital environment and immunosuppressed condition. IPC measures to be followed includes:

- All standard precautions must be strictly followed.
- All staff must be trained for cough etiquette, hand hygiene and proper use and disposal of PPE.
- All patients who are routinely coming for hemodialysis must be tested for COVID once in 10 days and a register should be maintained. Rapid antigen test may be used for this purpose
- Ensure that the rapid antigen test for COVID is also done along with other viral markers for cases requiring emergency HD.
- All patients undergoing HD must wear a triple layer mask and face shield. Either patient can use their own face shield or decontaminated permanent shield provided from the department. Also ensure that they are wearing these properly during dialysis .
- Hand sanitizer must be placed in all dialysis cots, should strictly follow hand hygiene before handling any patient and in between two patients.
- Symptomatic health care worker must be tested and refrain from duty till the test report is obtained.
- Thorough cleaning of surfaces and floor must be done with 1% hypochlorite solution. High touch surfaces like bedside tables and lockers, dialysis machines, door knobs,

light switches, counter tops, handles, phones, keyboards, toilets sinks etc. must be cleaned two hourly.

- Separate stethoscopes, thermometers, Oxygen saturation probes and blood pressure cuffs between patients with appropriate cleaning and disinfection should be done in between shifts.
- Dialysis tubings used for COVID positive patient must be disposed according to BMW management rule.
- Dialysis staff should use of all personal protective equipment (PPE) for proven or strongly suspected patients of COVID-19 suspected or positive COVID-19 patients should properly wear disposable three-layer surgical mask throughout dialysis duration. Patients should follow cough etiquettes, hand hygiene etc.

6.2 Management of Deceased:

PROTOCOL FOR HANDLING OF DECEASED DURING PANDEMICS [PROTOTYPE-COVID 19]

The main driver of transmission of COVID-19 is through droplets. There is unlikely to be an increased risk of COVID infection from a dead body to health workers or family members who follow standard precautions while handling body. But in case of diseases like Ebola, Marburg, CCHF etc HCW can get infections from the deceased as well. Only the lungs of dead COVID patients, if handled during an autopsy, can be infectious. Standard Precautions to be followed by health care workers while handling dead bodies of COVID. Standard infection prevention control practices should be followed at all times.

These include:

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

5. Disinfect linen. Clean and disinfect environmental surfaces.

Training in infection and prevention control practices

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

Removal of the body from the isolation room or area

- The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (gloves, N95 mask, goggles, water resistant apron).
- All tubes, drains and catheters on the dead body should be removed.
- Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed with impermeable material.
- Apply caution while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharps container.
- Plug oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite solution. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in biohazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.

- All medical waste must be handled and disposed of in accordance with Biomedical waste management rules.
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.
- Provide counselling to the family members and respect their sentiments.
Environmental cleaning and disinfection All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.) should be wiped with 1% Sodium hypochlorite solution; allow a contact time of 30 minutes, and then allowed to air dry.
- Handling of dead body in Mortuary
 - Mortuary staff handling dead body should observe standard precautions.
 - Dead bodies should be stored in cold chambers maintained at approximately 4°C.
 - The mortuary must be kept clean. Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Hypochlorite solution.
 - After removing the body, the chamber door, handles and floor should be cleaned with sodium hypochlorite 1% solution.

Transportation

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

7. Logistics and ancillary services

7.1 Logistics, Infrastructure, and Supply Chain Management

Supply chain resilience is central to preparedness. Hospitals must maintain buffer stocks of essential consumables, drugs, oxygen, and PPE, with automated inventory systems for real-time tracking. In Kerala, the integration of hospital logistics with the Kerala Medical Services Corporation (KMSCL) ensures rapid procurement and equitable distribution during crises. Biomedical equipment maintenance schedules must remain updated, and contingency plans should address disruptions in power, communication, and waste management systems. Setting up modular field hospitals or isolation extensions should be a pre-approved measure for extreme surges.

Essential ancillary services

Staff involved in these services should be alerted about the pandemic

- Laboratory Services
- Radiology Services
- Blood Bank
- Pharmacy
- Mortuary

7.2 Instructions for safe use of linen

Packing and transporting linen and laundry from isolation areas

- Place soiled linen directly into containers or bags in the isolation room or area.
- Contain the soiled linen in a manner that prevents the containers or bags from opening or bursting during transport.
- One layer of packing is adequate, provided that the soiled linen can be placed in the bag without contaminating the outside of the bag. Double-bagging is unnecessary.
- Ensure that all persons who handling the soiled linen must use Standard Precautions, and perform hand hygiene after removing PPE.

- Heavy-duty tasks (e.g. cleaning of the environment) require more resistant PPE (e.g. rubber gloves and apron, and resistant closed shoes). Best practices for linen (and laundry) handling
- Always wear reusable rubber gloves prior to handling soiled linen (e.g., bed sheets, towels, curtains).
- Never carry soiled linen against the body. Always place it in the designated container.
- Carefully roll up soiled linen to prevent contamination of the air, surfaces, and cleaning staff. Do not shake it.
- If there is any solid excrement on the linen, such as feces or vomit, scrape it off carefully with a flat, firm object and put it in the commode or designated toilet/latrine before putting linen in the designated container
- Place soiled linen into a clearly labelled, leak-proof container (e.g., bag, bucket) in the patient care area. Do not transport soiled linen by hand outside the specific patient care area from where it was removed.
- Reprocess (i.e., clean and disinfect) the designated container for soiled linen should be reprocessed after each use
- If reusable linen bags are used inside the designated container, do not overfill them, tie them securely, and launder after each use Always use and maintain laundry equipment according to manufacturer's instructions. Always launder soiled linens from patient care areas in a designated area, which should:
 - Be a dedicated space for performing laundering of soiled linen
 - Have floors and walls made of durable materials that can withstand the exposures of the area (e.g., large quantities of water and steam)
 - Have a separation between the soiled linen and clean linen storage areas, and ideally should be at negative pressure relative to other areas
 - Have hand washing facilities
 - Have Structured Operating Protocols (SOP) and other job aids to assist laundry staff with procedures

7.3 Biomedical Waste Management [BMW] Protocols in Isolation

wards:

- Healthcare Facilities having isolation wards need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;
- Keep separate bins/bags/containers (yellow colour) in isolation wards and maintain proper segregation of waste as per BMW Rules, 2016 as amended and Central Pollution Control Board (CPCB) guidelines for implementation of BMW Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste from isolation wards so as to ensure adequate strength and prevent leaks;
- Collect and store biomedical waste separately prior to handing over the same to Common Biomedical Waste Treatment and Disposal facility (CBWTF).
- Use a dedicated collection bin labelled as “X” to store infectious waste and keep separately in temporary storage room prior to handing over to CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- In addition to mandatory labelling, bags/ containers used for collecting biomedical waste from isolation wards, should be labelled as “X Waste”. This marking would enable CBWTF is to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- Mixing of X waste with the biomedical waste from other wards, general waste etc. should be avoided.
- General waste other than biomedical waste should be disposed as per Solid Waste Management (SWM) Rules, 2016 only after proper disinfection.
- Maintain separate record of waste generated from X isolation wards. - Use dedicated trolleys and collection bins in isolation wards. A label “X Waste” to be pasted on these items also.

- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution.

7.4 Support services

- Hospital Dietary Services (Kitchen) through collaboration with LSGD
- Sanitation Services
- Hospital Laundry and Sterile Supply

8. Communication, Monitoring & Research

8.1 a) Surveillance Mechanisms

- RPEID Cell activation
- Syndromic surveillance (OP, Casualty, ICU)
- Mandatory departmental reporting

b) Priority Alerts

- SARI / ILI
- AES
- Hemorrhagic fevers
- Unknown clusters

c) Data Integration

- Daily reporting to IDSP
- District Surveillance

8.2 Integrated Data Flow Model

Casualty → Lab → Data Entry → War Room → DMO → State Surveillance

Daily Reporting:

- Bed occupancy
- Oxygen utilization
- Drug consumption
- Mortality
- Staff availability

8.3 Institutional war room

Composition

- Incident Commander (MS)
- Nodal Officer (Medicine)

- Nursing Superintendent
- Lab Coordinator
- Data Manager
- Ambulance Coordinator
- Infection Control Nurse

Daily Schedule of activities

Data review (IP/OP/Lab)

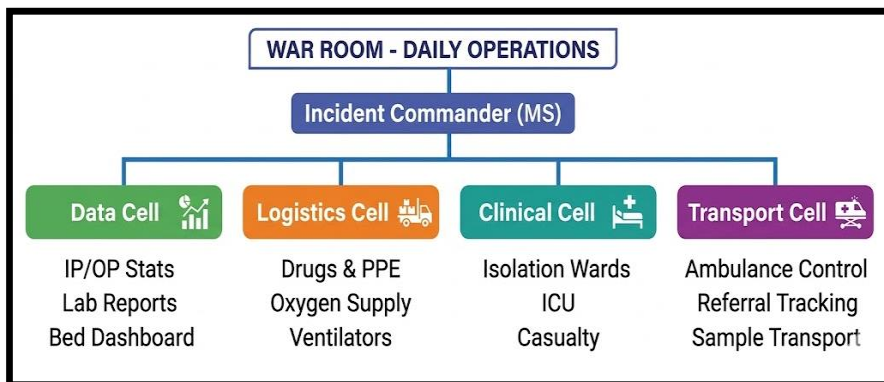
ICU & Oxygen bed & Oxygen availability

Stock review- Medicines, PPE kit, other consumables

Ambulance coordination

Training and briefing

Night readiness review



9. De-escalation strategy

9.1 De-escalation strategy- COVID 19 as hypothetical model

- During Pandemics tertiary care centres should have a de-escalation plan especially during contingency response and crisis response.
- Should identify District Hospitals, General Hospitals, Taluk Head Quarters Hospitals etc for shifting mild to moderate cases.
- Priority cases include
 - 1.Hemodialysis
 - 2.Pregnancy
 - 3.Paediatic cases

9.2 Financial Plan:

A dedicated emergency fund will be a critical financial safety net during the pandemic. Establishment of such special financial packages for all activities, from surveillance to research will aid in effective preparedness and response to any future outbreak, epidemic, pandemic or public health crisis.

9.3 After-Action Reviews:

Establish a continuous monitoring mechanism by establishing a monitoring group and they shall regularly monitor the progress of each step during the preparedness and guide the system to make necessary changes as and when required

Post-pandemic review

- Mortality audit
- Drug consumption audit
- Oxygen utilization audit
- Staff burnout assessment
- Policy revision

10. Index of Standard Operating Procedures (SOPs) & Guidelines

This section serves as a repository of all mandatory protocols.

10.1 Clinical & Triage Protocols

- **Dual Stream Triage:** Segregation of ILI/SARI cases from general patients at entry.
- **Red Channel Protocol:** Step-by-step movement of positive patients, including lift blocking and security coordination.
- **Patient Admission & ID Banding:** Mandatory ID bands and registration of bystanders/vehicle details.
- **Testing Strategy:** 10-day testing cycle for routine dialysis patients and use of Rapid Antigen Tests (RAT).

10.2 Infection Prevention & Control (IPC)

- **Donning & Doffing:** Mandatory refresher training for all staff levels, including housekeeping and drivers.
- **Hand Hygiene & Cough Etiquette:** Standardized practices as per the Institutional IPC Manual.
- **Environmental Cleaning:** Two-hourly cleaning of high-touch surfaces (switches, handles) with 1% hypochlorite.
- **Patient Equipment Reprocessing:** Sterilization of heat-sensitive (ETO/Sterrad) and heat-stable (Autoclave) items.

10.3 Engineering & Infrastructure SOPs

- **AIR Conversion:** Guidelines for blocking return air vents and achieving 12 Air Changes per Hour (ACH).
- **Operation Theatre (OT) Modification:** Converting to 100% once-through HVAC systems for pandemic surgeries.
- **Makeshift Enclosures:** Setting up temporary cubicles or tents with localized HEPA filtration.

10.4 Logistics & Waste Management

- **Biomedical Waste (BMW):** Use of double-layered yellow bags and specific "X Waste" labelling.
- **Linen & Laundry:** Protocol for leak-proof containers and avoiding double-bagging to reduce waste.
- **Oxygen War Room:** Real-time oxygen mapping and reserve capacity enhancement.

10.5 Specialized & Support Service Guidelines

- **Dialysis Unit SOP:** Use of dedicated tubings for positive patients and face shield requirements.
- **Management of the Deceased:** Disinfection of body bags with 1% hypochlorite and plugging of orifices.
- **Psychological Support:** Counselling for families and staff to manage burnout and anxiety.
- **Food & Dietary Services:** Coordination with Local Self-Government Departments (LSGD) for timely patient meals.
- **Maternal & Child Health SOP**

Index of Annexures

All the major institutions shall keep the following Annexures with all details ready at their respective institution level. The SoPs shall be updated / modified as per the research and information available regarding the respective pathogens..

1. Triage and Red channel protocol
2. Patient transport protocol during pandemics
3. SOP for Patient care equipment
4. SOP Hand hygiene
5. SOP Cough etiquette
6. Personal safety measures and PPE use
7. SOP for environmental cleaning
8. Environmental and Engineering controls
9. SOP for Makeshift Isolation enclosures
10. SOP for pandemic operation theatre
11. Guidelines for Dialysis units
12. Protocol for handling of deceased
13. Guideline on dead body management in context of COVID 19
14. SOP for Safe Linen Use
15. Biomedical Waste Management [BMW] Protocols in Isolation wards:
16. Medical Board Constitution
17. SOP for transporting a Suspect/ Confirmed case
18. CPCB Guidelines – Biomedical Waste Management
19. Mapping of laboratories
20. Infection Prevention and Control Manual-GMCH

Contact Details

Name of college	Contact Points	Contact Number
GMC Trivandrum	Information counter	4712528225
	General enquiry	4712528083
	Duty PRO	8281529159
GMC Kollam	Control Room	4742575050
GMC Konni	Control Room	4682344888
GMC Alappuzha	Control Room	4772281000
	Duty PRO	8281002947
GMC Kottayam	Control Room	9188528533
GMC Idukki	Casualty	04862232444
	Control Room	4862232555
GMC Ernakulam	Control Room	04842754000 04842751001 8075774769
	Duty PRO-	9778082825
GMC Thrissur	Control Room	04872472002 8075011853
	Duty PRO-	9383400082
GMC Manjeri	Control Room	8078253515
GMC Kozhikode	Control Room	4952350349
	Duty PRO-	9497669040
	IMCH Control room	4952350395
GMC Wayanad	Duty PRO-	8129428785
GMC Kannur	Control Room	04972882200, 8078041358
	General enquiry-	4972882100
	Duty PRO-	04972882390 9048600970
GMC Kasaragod	Control Room	8289908320