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KERALA.HEALTH

Govt. Medical College Konni



Pandemic Management Plan 2026

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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
Government of Kerala

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Purpose of the document

To establish a structured proactive strategy for anticipating, detecting and mitigating the impact of pandemic diseases. This document serves to guide the institutional-level actions, ensure equitable access to resources, strengthen the surveillance system and also define clear responsibilities for timely and efficient crisis response.

Abbreviations

GMC	Government Medical College
FMG	Foreign Medical Graduate
PHEIC	Public Health Emergency of International Concern
RRT	Rapid Response Team
OMU	Outbreak Monitoring Unit
DHS	Directorate of Health Services
DME	Directorate of Medical Education
LSGD	Local Self-Government Department
ICU	Intensive Care Unit
PPE	Personal Protective Equipment
KPI's	Key Performance Indicators
PPRC	Pandemic Preparedness Action Plan
IPC	Infection Control Practices
HOD's	Heads of Departments
HICC	Hospital Infection Control Committee
IP	In-patient
OP	Outpatient
AMC	Annual Maintenance Contracts
HDU	High Dependency Units
HFNC	High-Flow Nasal Cannula

1. Introduction & contextual analysis

Government Medical College (GMC), Konni is located in a geographically remote, hilly area at Anakuthi, Konni in Pathanamthitta district, approximately 5 km away from the national highway. The institution is a 300-bedded hospital spread across 50 acres of land and primarily caters to a predominantly rural population. It is the only Government Medical College in Pathanamthitta district, making it a crucial tertiary healthcare facility for the region. The nearest medical college is Government Medical College, Kottayam, situated about 72 km away. The closest district hospital is Government Hospital, Pathanamthitta, at a distance of 15 km. Other major healthcare institutions in the vicinity include Medical College Thiruvananthapuram (105 km), Taluk Hospital Konni (6 km), Government Hospital Adoor (30 km), and Taluk Head Quarters Hospital, Punaloor (36 km).

The institution has a total strength of approximately 63 faculty members across various departments. The clinical services are supported by 29 faculty members across major departments, including Anaesthesiology, Dermatology, Otorhinolaryngology, General Medicine, General Surgery, Obstetrics and Gynaecology, Ophthalmology, Orthopaedics, Oral and Maxillofacial Surgery, Psychiatry, Pulmonary Medicine, and Transfusion Medicine. In addition to clinical departments, all essential preclinical and para-clinical departments are functioning effectively, including Anatomy, Biochemistry, Community Medicine, Forensic Medicine, Microbiology, Pathology, Pharmacology, and Physiology. At present, super-specialty departments are not available at the institution.

A total of 22 junior residents, around 50 FMGs are also available here and 65 Nursing staff also are present. However, still the major limiting factor identified here is **manpower availability** which is barely sufficient for routine work. So any surge situations such as pandemics may need immediate influx of more resources mainly manpower.

1.1 Background & Purpose

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

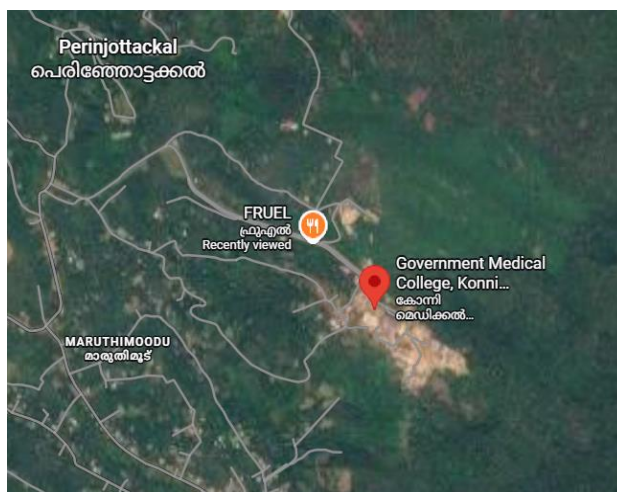
Objectives

Hence considering the potential public health impact of pandemics and the strategic importance of GMC Konni in the regional healthcare delivery system, a **Pandemic Preparedness Action Plan** has been developed. This plan includes clearly defined protocols and flow charts to enable **early detection, streamlined patient flow, effective clinical management, infection control, and coordinated referral mechanisms** during a pandemic situation.

Objectives of the pandemic preparation policy are:

1. Enable early detection of pandemics and other disasters in our centre
2. Effective communication mechanism to all stakeholders (RRT and OMU)
3. Effective Triage mechanism
4. Ensuring streamlined patient flow
5. Protocol-based clinical management
6. Prompt activation of hospital infection control mechanisms
7. Coordination of referral mechanisms
8. Post-pandemic evaluation and development of preventive strategies

1.2 Institutional Geography:



Nearest town: **Konni (~4 km)**

- Nearest district headquarters: **Pathanamthitta (~15–20 km approx.)**
- Nearby important towns:
 - Adoor
 - Thiruvalla

Air Transport

- Nearest airport: **Thiruvananthapuram International Airport (~90–110 km approx.)**
- Alternative: **Cochin International Airport (~130–150 km approx.)**
- Travel involves: **Road + Rail combinations**

Rail Connectivity

- No railway station at Konni
- Nearest major stations:
 - **Chengannur**
 - **Thiruvalla**
 - **Kottayam**

Road Connectivity

- Accessible via **state highways and district roads**
- Connected to:
 - Pathanamthitta
 - Adoor
 - Thiruvalla
- Terrain: **hilly but motorable roads**

1.3 District-Specific Risk Profile:

Pathanamthitta District

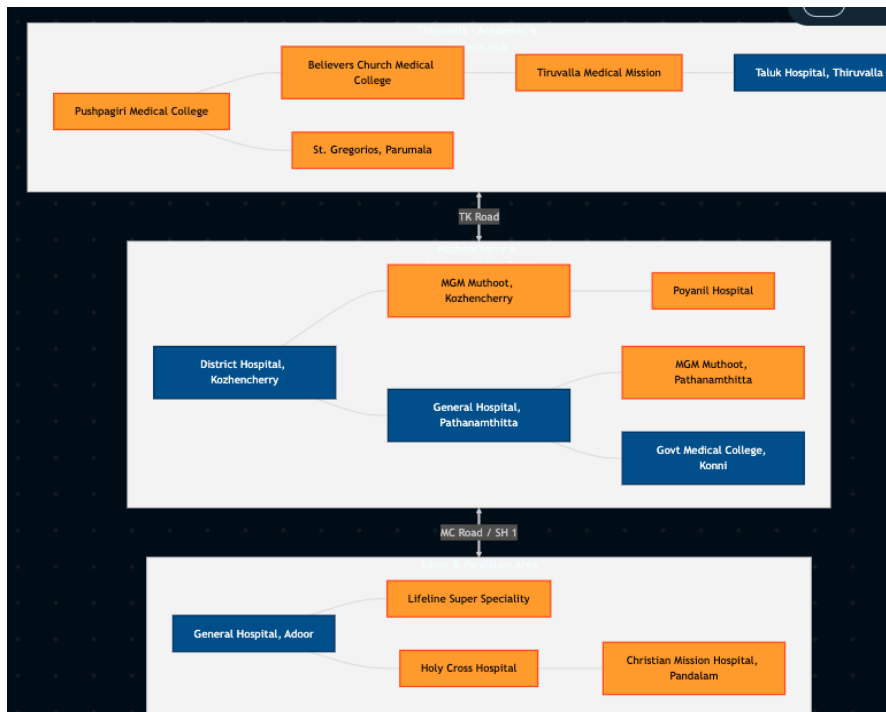
Population -1197412 (2011)

Rural area 90%

Elderly >60 Years :18%

Children -0 to 6 yrs: 8%

Specific diseases: Dengue, Leptospirosis, Rabies, Hepatitis A, Avian Influenza



1.4 Scope & Objectives

This framework outlines a comprehensive approach to pandemic preparedness focusing on early warning systems, intersectoral coordination, and mortality mitigation.

It includes:

Public health authorities under the Directorate of Health Services (DHS)

Medical education and tertiary care institutions under the Directorate of Medical Education (DME)

District administration, including the Collectorate and allied departments

Private healthcare sector and laboratories

Community-level stakeholders, including local self-governments and outreach workers

Objectives

1. Strengthening Early Warning Systems

- Establish integrated disease surveillance using real-time data from hospitals, laboratories, and community reporting systems in coordination with DHS institutions from Pathanamthitta, Adoor and Kozhenchery
- Enable rapid detection and communication of unusual health events and clusters
- Ensure timely risk communication and escalation protocols

2. Enhancing Intersectoral Coordination

- Develop a unified command and control structure linking DHS, DME, and District Administration
- Define clear roles and responsibilities across sectors during the pandemic

Establish coordination mechanisms for:

- Resource allocation (beds, oxygen, blood, drugs, other essentials)
- Workforce mobilization and redistribution
- Information sharing and joint decision-making
- Conduct regular joint drills and simulation exercises

3. Mortality Mitigation and Clinical Preparedness

- Strengthen capacity for early diagnosis, triage and isolation
- Ensure availability of critical care infrastructure (ICU beds, ventilators, oxygen supply)
- Standardise clinical management protocols across institution.

- Implement risk stratification to prioritise high-risk populations
- Strengthen blood transfusion services and supply chains during crises

4. Health System Resilience

- Maintain continuity of essential non-pandemic healthcare services
- Build surge capacity in hospitals and laboratories
- Ensure supply chain resilience for medicines, PPE, and diagnostics
- Integrate public and private sector response

5. Community Engagement and Risk Communication

- Promote community awareness and behavioural interventions
- Counter misinformation through transparent communication
- Engage local self-governments and community leaders
- Strengthen home-based care and referral linkages

6. Monitoring, Evaluation, and Adaptive Response

- Establish key performance indicators (KPIs) for preparedness and response
- Conduct real-time data analysis and periodic review meetings
- Enable adaptive policy modifications based on evolving evidence
- Document lessons learned for future preparedness

2. Governance & command structure

2.1 Pandemic Preparedness & Response Committee (PPRC): Leadership Roles

Principal (Chairperson)

- Provides strategic leadership and policy direction
- Ensures alignment with Government directives (DHS/DME)
- Leads intersectoral coordination with the Collectorate
- Approves resource allocation and emergency procurement
- Chairs review meetings and ensure accountability

Medical Superintendent (Operational Head)

- Executes all PPRC decisions
- Leads hospital preparedness and response operations
- Oversees clinical services, logistics, HR deployment, and IPC
- Maintains real-time coordination with departments
- Ensures reporting to district/state authorities

2.2 Multidisciplinary Team:

Medical Board-daily medical bulletin*

Medical care team- clinical care and duty roster Management

Nursing care team- Nursing care and duty roster Management

Communications team- with DME/ DMO/DHS

RPEID cell- data management and daily reporting

Logistics and Supplies team- Drugs, reagents, consumables and others

Safety and security team- patient and HCW safety

Ambulance and transportation team- Referral and back referral

Research team- innovation

Roles & Responsibilities of Key Functionaries in Pandemic Response

I) Heads of Departments (HODs)

a) HOD – General Medicine (Clinical Lead)

- Lead clinical case management for admitted patients
- Develop and update treatment protocols in line with national/state guidelines
- Supervise triage, ward care, referral pathways and discharge
- Conduct daily clinical audits and mortality reviews
- Guide rational use of antimicrobials, antivirals, and supportive therapy

b) HOD – Pulmonary Medicine

- Lead management of respiratory complications
- Oversee oxygen therapy protocols (HFNC, NIV, ventilatory strategies)
- Support ICU teams in ventilator management
- Develop protocols for escalation of respiratory support

c) HOD – Anaesthesiology & Critical Care

- Oversee ICU preparedness and functioning
- Ensure availability and optimal use of ventilators and critical care equipment
- Train staff in airway management and critical care protocols
- Lead ICU triage and ethical allocation of resources
- Oversee transfer in and out

d) HOD – Microbiology (Diagnostic & Surveillance Lead)

- Establish and supervise laboratory testing strategies
- Ensure quality assurance of diagnostics (RT-PCR, serology, etc.)
- Provide early warning signals based on lab trends
- Coordinate with surveillance units and report to authorities
- Guide infection trends and antimicrobial resistance patterns

e) HOD – Community Medicine (Public Health Lead)

- Coordinate surveillance, contact tracing, and outbreak investigation
- Liaise with DHS and District Surveillance Units
- Conduct risk assessment and epidemiological analysis
- Support containment strategies and field-level interventions

f) HOD – Transfusion Medicine

- Ensure adequate blood and component availability
- Develop donor mobilisation strategies during pandemics
- Maintain safe transfusion practices and inventory management
- Coordinate with external blood centres if needed

II) Hospital Infection Control Committee (HICC)

- Develop and enforce Infection Prevention & Control (IPC) protocols
- Monitor hospital-acquired infections and outbreak clusters
- Conduct regular IPC audits (PPE use, hand hygiene, zoning)
- Train healthcare workers on biosafety practices
- Regular sanitary inspection rounds
- Advise on isolation, cohorting, and biomedical waste management

III) Nursing Superintendent

- Oversee nursing workforce deployment and training
- Ensure adequate nurse-patient ratios, especially in the ICU
- Supervise adherence to IPC protocols at the bedside
- Coordinate patient care, documentation, and ward management
- Address staff welfare, fatigue and burnout management, and safety concerns

IV) Biomedical Engineering Department (Shared with GMC Kollam) only one staff

- Ensure functionality and maintenance of:
 - Ventilators
 - Oxygen delivery systems

- Monitors and critical equipment
- Coordinate installation and calibration of new equipment
- Maintain equipment inventory and downtime logs
- Support oxygen pipeline systems and alarm mechanisms

V) Oxygen War Room Management Team

- Monitor real-time oxygen consumption and stock levels
- Maintain dashboard for:
- Bulk oxygen supply
- Cylinder availability
- Pipeline pressure and flow rates
- Forecast demand based on case load and ICU occupancy
- Coordinate with suppliers and district authorities
- Ensure uninterrupted oxygen supply across all wards
- Activate contingency plans (backup cylinders, concentrators)

VI) Public Relations Officer (PRO) / Communication Lead

- Act as the official communication channel of the institution
- Disseminate accurate, timely information to the media and public
- Coordinate with district/state communication teams
- Counter misinformation and rumours
- Facilitate patient communication and grievance redressal
- Support risk communication strategies and public advisories

VII) All Stakeholders

- Participate in daily review meetings and reporting systems
- Ensure adherence to standard treatment and IPC protocols
- Maintain accurate documentation and data reporting
- Support interdepartmental coordination and teamwork
- Uphold ethical standards and patient-centred care

VIII) Coordination Mechanism

All functionaries report to:

- ☐ Medical Superintendent (Operational Head) for execution
- ☐ Principal (Chairperson) for policy and strategic decisions

Integrated communication through:

- ☐ Control room/command centre
- ☐ Digital dashboards
- ☐ Rapid response groups

Role of The Security In-Charge

(Critical for crowd control, access regulation, and safety during pandemics)

Key Responsibilities:

a. Access Control & Zoning

- Regulate entry and exit points of the hospital
- Enforce restricted access to isolation wards, ICUs, and high-risk zones
- Ensure implementation of zoning (green, yellow, red areas)

b. Crowd Management

- Prevent overcrowding in OPDs, emergency areas, and waiting zones
- Manage patient attendants as per institutional policy
- Ensure physical distancing in all public areas

c. Support to Triage & Screening

- Assist in maintaining orderly flow at screening and triage points
- Prevent unauthorised entry by bypassing screening protocols

d. Staff & Facility Safety

- Ensure the safety of healthcare workers, especially in high-risk areas
- Manage incidents of violence, aggression, or panic situations
- Coordinate with local police if required

e. Enforcement of Protocols

Ensure compliance with: Mask usage, Visitor restrictions, Movement control within hospital premises

f. Emergency Response Support

- Assist in evacuation procedures if required
- Support ambulance movement and emergency pathways
- Facilitate rapid access for critical patients

2.3 Outbreak Monitoring Unit (OMU)

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

Formation Of Outbreak Monitoring Unit (OMU)

An **Outbreak Monitoring Unit (OMU)** was constituted on 31/12/2025 to oversee preparedness, response, and coordination activities related to pandemics.

Composition of the Outbreak Monitoring Unit:

The OMU consists of the following senior faculty members and administrative officers:

- **Dr. Praveen P, Associate Professor, Department of Medicine**
- **Dr. Mary James, Associate Professor, Department of Paediatrics**
- **Dr. Asha K.P, Professor and Head of Department of Community Medicine**
- **Dr. Rethesh K H, Regional PEID Cell coordinator**
- **Dr. Sheeba K Thomas, Associate Professor, Department of Microbiology and Central Laboratory In-charge**
- **Dr. Ashida M Krishnan, Associate Professor, Department of Pathology**
- **Dr. Saritha S. R, Professor, Department of Forensic Medicine**
- **M/s Mallika K, Nursing Superintendent**

Along with:

- **Dr. Nisha R. S, Principal, GMC Konni**

- **Dr. Devakumar V. K, Vice Principal**
- **Dr. Shaji A, Medical Superintendent**
- **Dr. Shaiji P. S, Deputy Superintendent**
- **Dr. Neena Devasia, Resident Medical Officer (RMO)**
- **Dr Thomas Antony, Casualty Medical Officer**
- Other relevant stakeholders as required

It was also decided that, depending on the nature of the pandemic, more temporary members may be added.

Functions of the OMU

- Continuous monitoring of outbreak/pandemic trends
- Implementation and updating of protocols
- Coordination with District and State Health Authorities
- Supervision of hospital preparedness and resource utilisation

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

Comparison of existing vs. required IP/OP blocks, negative pressure rooms, and dedicated infectious disease blocks.

Infrastructure

Domain	Existing Infrastructure (What We Have)	Identified Gaps	Action Required
Building	Separate OP & IP blocks	No fully earmarked pandemic block	exclusively during pandemics
Inpatient Beds	300 total beds (8 wards functional + no pay wards)	Limited surge isolation beds	Convert Ward 4 into full isolation ward
Oxygen Beds	300	Oxygen surge planning not mapped	Oxygen mapping & cylinder augmentation
ICUs	4 ICUs, 38 beds	Limited functional ICU beds during surge	Operationalise all ICUs + surge ICU
Ventilators	38 available, 21 functional	Non-functional ventilators	Repair & AMC activation
Fever ICU	No Fever ICU	Limited capacity for severe cases	Expand using HDU/ICU beds
Operation Theatres	4 functional OTs 6 under construction	No negative-pressure OT	Temporary conversion of EOT near Casualty
Patient Monitors	15 monitors	Missing ECG leads, SpO ₂ probes	Procure accessories to make all monitors functional

HFNC	Not available	Not currently in use	Training & commissioning
PPE & N95	Previously trained staff	PPE & N95 out of stock	Emergency procurement & buffer stock
Ambulances	1 ambulances	Limited during the surge	Networking with district ambulance services

3.2 Human Resource Pool

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

Human resources

Category	Existing Strength	Gaps Identified	Management Strategy
Doctors	63 doctors, 50 House Surgeons	ICU & surge duty exhaustion	Shift-based duty & team rotation
Nursing officers	65 staff nurses	Severe shortage during surge	Recruitment plan via HDS / NHM
ICU-trained Staff	Limited	Not adequate for full surge	Rapid ICU orientation training

Support Staff	89 housekeeping staff	Increased sanitation demand	Additional contractual staff
Staff Welfare	Informal arrangements	Burnout, accommodation issues	Pay wards for HCWs, rest areas

Sl No	Category	Sanctioned	Present	Gaps	Mobilization Strategy
1	Faculty (Clinical)	36	29	5	Call back from leave; redeploy from non-critical depts.
2	Residents (SR/ Academic JR/ NAJR)	25	23	2	Recruit additional temporary doctors through HDS/schemes.
3	Nursing Staff (Permanent)	75	69	7	Shift-based duty (6-8 hr shifts); cancel all leave.
4	Nursing Staff	--	-	-	Recruitment of emergency temporary nursing staff.

	(Contract)				
5	ICU/Transplant Trained Nurses	Nil			Prioritize for Level 3 (Crisis) ICU surge.
6	Nursing Assistants	20	15	5	Deploy for high-touch surface cleaning and food delivery.
7	Hospital Attendants (Gr 1 & 2)	10 GRADE 1 32 GRADE 2	10 35	20 20	Training on 1% hypochlorite use and trolley disinfection.
8	Kudumbasree / Cleaning Staff	18	18	20	Focus on waste management and environmental cleaning.
9	Ancillary (Lab, Rad, Pharm)	LT 15 PHARMACISTS 5	8 3	7 2	Maintain a standby duty roster for 24/7 coverage.
10	Security & Transport Staff	10	10	10	Lead "Red Channel" movement and patient data entry.

11	Volunteer / Reserve Pool	Nil			Identify retired HCWs and those in non-clinical roles.
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3.3 Equipment & Logistics:

Sl.no	Item	Quantity / Description
1	Total oxygen beds	250 beds
2	Oxygen beds before 2016	0
3	ICU beds and ventilators	10 & 10
4	ICU convertible areas with beds	60 + Surgical ICU
5	ICU escalation plan	4 Ventilators for pandemic response
6	Entry and exit	Red channel ENTRY --- Casualty—LIFT---1 st Floor wards- EXIT---Central Lift (for cured/non-infective patients)
7	Lab facilities	Central Lab: Routine tests, LFT, RFT, Serology & microscopy HR- 8/15 filled LT posts, VTM available
8	Drug procurement plan	KMSCL, Vendor contract
9	Experience from last pandemic	COVID-19 pandemic- IP care
10	Duty staff with escalation protocol	Clinical Faculty- 29 Non-clinical faculty- 34 Non-academic Junior residents- 22 FMG House Surgeons- 51 Nursing staff- 65
11	Doctors- total available, deployable for duties	Clinical Faculty- 29 (partially deployable) Non-clinical faculty- 34 (partially deployable) Non-academic Junior residents- 22 (Fully deployable)
12	Oxygen sources and capacity. Total average consumption per day or month	Oxygen Plant- 10KL in hospital campus Total cylinders- 154 / Per cylinder 7m3 Avg Consumption in 2026y= 6860kg

4. Graduated Response Framework (Three-Tier Model)

4.1 Escalation Trigger

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

Pandemic trigger levels

Status	Level	Trigger Condition	Primary Action
GREEN	Standard OPs	Routine patient load; adequate reagents; staff at 90%+ strength.	Maintain routine elective surgeries and OPDs.
YELLOW	Scenario 1	Suspected cases reported; isolation ward activated; PPE consumption spikes.	Cancel non-urgent leaves; activate the 2 Isolation Wards; initiate daily reagent monitoring.
ORANGE	Scenario 2	Confirmed cases > 50% ward capacity; reagents for < 7 days; transport delays.	Suspend elective surgeries; convert general wards to isolation; request emergency staff from neighbouring districts.
RED	Scenario 3	Bed occupancy 100%+; oxygen/drug stock-outs; staff absenteeism > 20%.	Crisis Standards of Care: Triage for life-saving only; shift Surgical ICU to Casualty; halt all non-emergency services.

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.

Red Channel Protocol:

Step-by-step movement of positive patients, including lift blocking and security coordination.

A **Red Channel** will be established to ensure safe, rapid, and controlled movement of suspected or confirmed pandemic cases.

Red Channel Components

1. Information Desk

- Established at the hospital entry point

- Pandemic-related guidelines and instructions to be prominently displayed

2. First Contact Point

- Patients identified as suspected cases at entry

3. Patient Assignment

- Patients directed immediately to Casualty Isolation area or designated OP receiving area as per protocol

4. Patient Transport

Red Channel -Patients, bystanders and attending personnel should use protective gears and transported through casualty lift- directly to the second floor- to the isolation wards.

This system aims to minimize cross-infection and ensure prompt triage and management

Suspected Cases directly transported to Isolation ward in Second Floor in the Hospital block
ONLY THROUGH CASUALTY LIFT

Sample Collection and Transport

Current Status

- Viral Transport Media (VTM) and Bacterial Transport Media are available.

Sample Referral Protocol

- **Suspected viral infection samples:** Sent to NIV, Alappuzha
- **Bacterial infection samples:** Sent to Medical College Hospital, Thiruvananthapuram

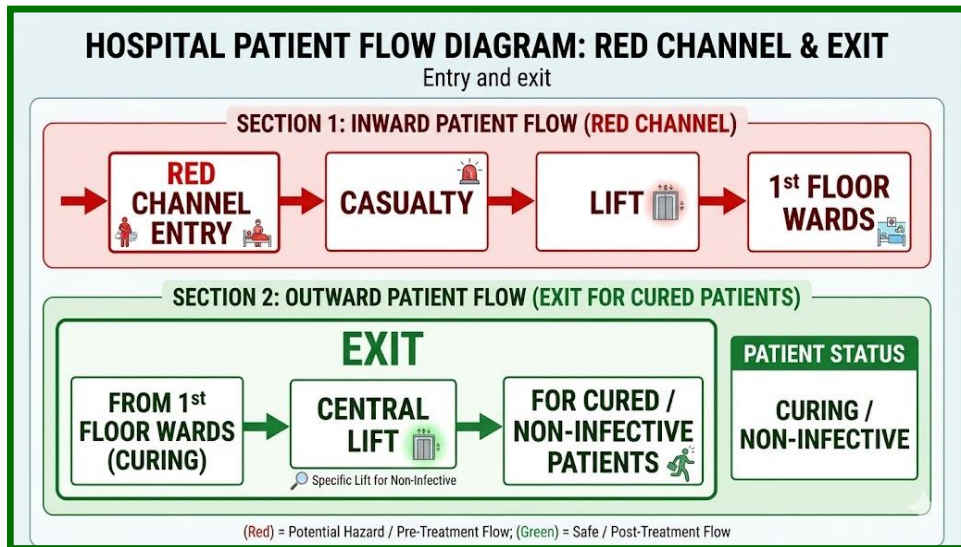
Identified Constraints

- Only **one ambulance and one driver** are currently available which cannot be spared for sample transport

- Sample transport may increase the turnaround time for result

Proposed Measures

- Additional transport facilities to be provided during pandemics; pooling with health service facilities may be considered
- In emergency situations, **Point-of-Care diagnostic facilities** may be initiated at GMC Konni if feasible by upgrading the Central Laboratory with adequate resources.



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., 2 WARDS EARMARKED IN 2 ND FLOOR) 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/O ₂ constraints beginning.	Logistics: Fill 100% of oxygen reserve capacity and look for potential sources of capacity enhancement.

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.

5. Operational Standard Operating Procedures (SOPs)

5.1 Triage & Red Channel Protocol

Dual-stream triage (Green/Red zones), dedicated transport routes, and lift/trolley disinfection with 1% hypochlorite.

- **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.

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 are 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):

Infection control training conducted for staff in which standard operational procedures, hand hygiene, cough etiquette, personal protective equipments, donning/doffing, needle

stick injuries & its prevention, sterilization and disinfection methods, biomedical waste management were discussed. IPC Manual yet to prepare.

5.4 Environmental & Engineering Controls:

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 $\geq 2.5\text{Pa}$
- 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:

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

Convert new SICU theatre

6. Specialized service guidelines

6.1 Dialysis Units

No dialysis unit available

6.2 Management of Deceased

Handling protocols (Standard Precautions), plugging orifices, 1% hypochlorite bag disinfection, and family counselling.

Standard Precautions to be followed by health care workers while handling dead bodies during Pandemic

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 (water resistant apron, goggles, N95 mask, gloves).
 - All tubes, drains and catheters on the dead body should be removed.
 - Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed with impermeable material.

- Apply caution while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharps container.
- Plug Oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members
- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in bio-hazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.
- All medical waste must be handled and disposed of in accordance with Bio-medical waste management rules.
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.
- Provide 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.
- **Embalming**
 - Embalming of dead body should not be allowed
- **Autopsies on dead bodies**
 - Autopsies should be avoided.
 - If autopsy is to be performed for special reasons, the following infection prevention control practices should be adopted:
 - The Team should be well trained in infection prevention control practices.
 - The number of forensic experts and support staff in the autopsy room should be limited.
 - The Team should use full complement of PPE (coveralls, head cover, shoe cover, N 95 mask, goggles / face shield).
 - Round ended scissors should be used
 - PM40 or any other heavy-duty blades with blunted points to be used to reduce prick injuries
 - Only one body cavity at a time should be dissected
 - Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand
 - Negative pressure to be maintained in mortuary. An oscillator saw with suction extraction of the bone aerosol into a removable chamber should be used for sawing skull, otherwise a hand saw with a chain-mail glove may be used
 - Needles should not be re-sheathed after fluid sampling – needles and syringes should be placed in a sharps bucket.

- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue
- After the procedure, body should be disinfected with 1% Sodium Hypochlorite and placed in a body bag, the exterior of which will again be decontaminated with 1% Sodium Hypochlorite solution.
- The body thereafter can be handed over to the relatives.
- Autopsy table to be disinfected as per standard protocol
- 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.
- **At the crematorium/ Burial Ground**
 - The Crematorium/ burial Ground staff should be sensitized about the Infectious disease.
 - The staff will practice standard precautions of hand hygiene, use of masks and gloves.
 - Viewing of the dead body by unzipping the face end of the body bag (by the staff using standard precautions) may be allowed, for the relatives to see the body for one last time.
 - Religious rituals such as reading from religious scripts, sprinkling holy water and any other last rites that does not require touching of the body can be allowed.
 - Bathing, kissing, hugging, etc. of the dead body should not be allowed.
 - The funeral/ burial staff and family members should perform hand hygiene after cremation/ burial.

- The ash does not pose any risk and can be collected to perform the last rites.
- Large gathering at the crematorium/ burial ground should be avoided as a social distancing measure as it is possible that close family contacts may be symptomatic and/ or shedding the virus.

6.3 Maternal & Child Health

Specific admission/transfer rules if both mother and child are admitted.

7. Logistics & Ancillary Services

7.1 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 Services (Care for the dead)

7.2 Linen & Laundry:

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

Double-layered yellow bags, dedicated "X Waste" labeling, and separate record keeping
COORDINATION WITH KEIL

7.4 Support Services

Dietary coordination with LSGD, psychological support (Psychiatry dept), and social work teams.

8. Communication, Monitoring & Research

8.1 Surveillance Systems

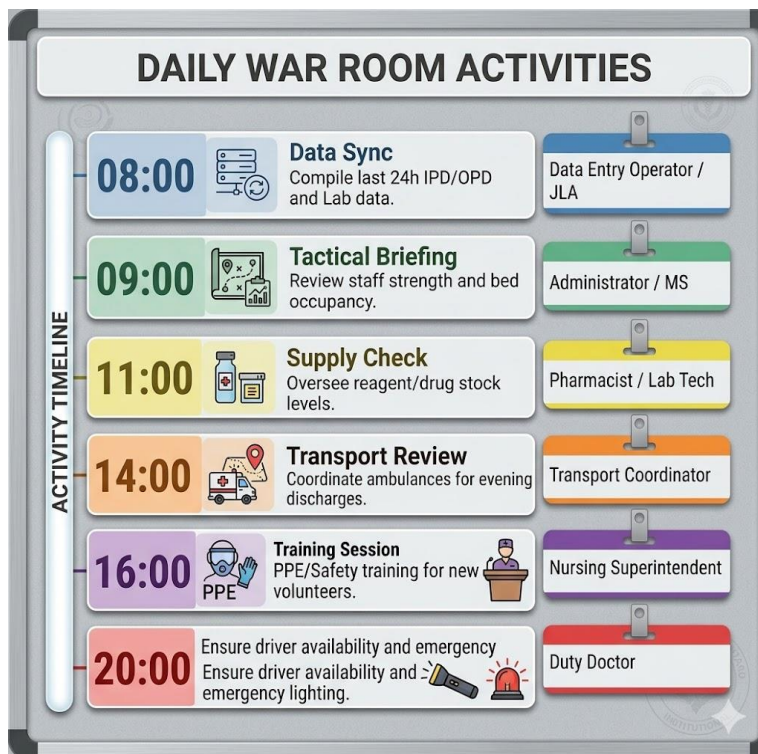
Surveillance system is functioning through RPEID cell. No facility for AI-assisted epidemiological modelling.

8.2 Media & Risk Communication

Designated spokesperson, accurate status reports, and designated locations for media updates.

8.3 Control Room Operations

Coordination of patient arrivals, duty roster management, and daily review meetings.



8.4 Research Collaboration

In 2024, three faculty research and 12 Undergraduate research were done after IRC & IEC approval. In 2025, twelve faculty research reviewed by IRC.

9. Recovery & De-Escalation

9.1 Discharge & Back Referral:

- 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. Paediatric 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

Policy audits and post-pandemic evaluations for iterative improvement.

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.
- **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

- **AIIR 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" labeling.
- **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

- **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.
- **Management of the Deceased:** Disinfection of body bags with 1% hypochlorite and plugging of orifices.

References

1. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/covid-19-critical-items?mc_cid=b6c6054319&mc_eid=5b4b5dadee
2. <https://www.who.int/news-room/questions-and-answers/item/pandemic-prevention--preparedness-and-response-accord>
3. <https://www.who.int/activities/preparing-and-preventing-epidemics-and-Pandemics>
4. *Government of India . 2020. Covid-19: Guidelines on Dead Body Management. 1st Ed. New Delhi, India: Government of India, Ministry of Health and Family Welfare, Directorate General of Health Services (EMR Division) 7 p.*
URL: https://www.mohfw.gov.in/1584423700568_COVID19GuidelinesonDeadbodymanagement.pdf

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