India's Preparedness and Response towards COVID-19 Management as per WHO Health Emergency and Disaster Risk Management Framework

CONTENTS

BACKGROUND

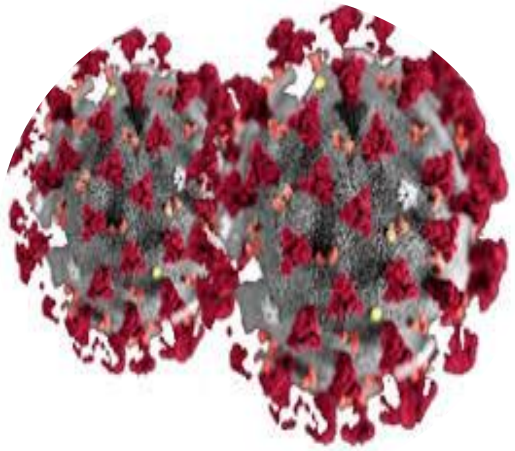
COVID-19

A disease caused by SARS COV-2 Virus

Coronavirus disease or COVID-19 is a respiratory disease which spreads from person to person.
It was first identified in Wuhan, Hubei Province, China in December 2019

Symptoms

- **Fever**
- **Cough**
- **Difficulty Breathing**
- **Muscle Pain**
- **Tiredness**



Prevention

At Individual Level

- Wearing of mask at crowded places
- Frequent Hand Washing
- Avoiding contact with sick

At Country Level

- Travel Restrictions
- Complete or Partial Lockdown
- Social Distancing
- Home isolation
- Closing offices and educational institutes

Transmission

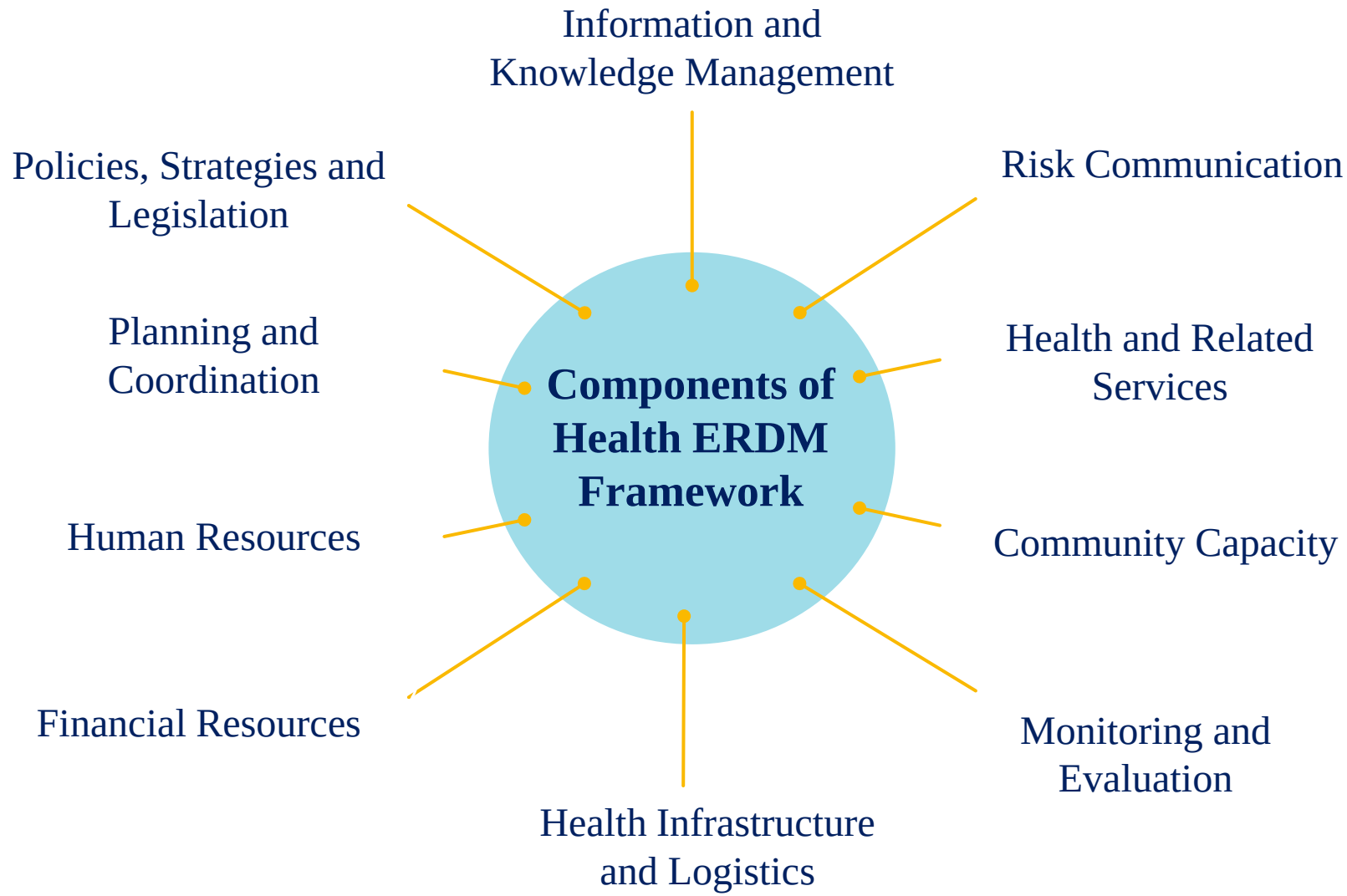
Through direct contact with infected person.

Incubation Period

2 to 14 days

RATIONALE

This study analyses secondary data and literature review in order to see the current situation of pandemic and preparedness and response of India towards managing COVID -19 according to WHO Health Emergency and Disaster Risk Management Framework.



RESEARCH QUESTION AND OBJECTIVE

Research Question

- What is the current situation of COVID-19 in India and globally ?
- How is the preparedness and response of India towards managing COVID -19 when studied according to WHO Health Emergency and Disaster Risk Management Framework?

Objective

- To perform the situational analysis of India for COVID-19
- To describe India’s preparedness and Response approach on the parameters of WHO Health Emergency and Disaster Risk Management Framework

METHODOLOGY

The study is based on the descriptive secondary research taking the baseline of WHO Health Emergency and Disaster Risk Management Framework.

- A detailed situational analysis of the country has been performed by reviewing the database available on government official sites, relevant articles and publications.
- The country Preparedness and response for COVID-19 management has been studied on the parameters of WHO Health Emergency and Disaster Risk Management Framework by a case study formation.
- Search Terms: COVID 19,SARS CoV2,planning,surveillance,lockdown,daily statistics etc.
- Time Period of Study – March 22,2020 – June 16,2020
- Data collection – Google Scholar, PubMed, IJMR, Lancet, MoHFW, WHO etc

FINDINGS

SITUATION ANALYSIS

As per the latest report of WHO, following is the statistics of cases for the pandemic as of 16th June 2020:

Globally: 7 941 791 confirmed (118 502 new) and 434 796 deaths (3 255 new)

South East Asia Region: 486 673 confirmed (15 281 new) 13 409 deaths (482 new)

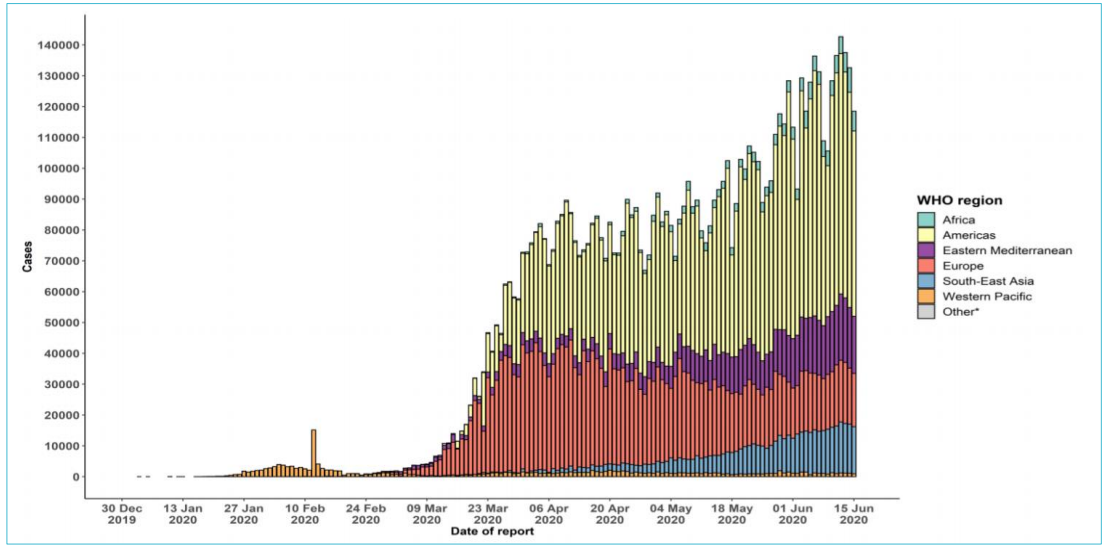
The case fatality rate in COVID-19 documented to be 3.4% as mean (in age >80 as high as 14.8%), as compared to 10% of SARS-CoV1 and 35% of MERS-CoV.

For its laboratory diagnosis, CDC has developed a new laboratory test kit, called as “CDC 2019-nCoV Real-Time Reverse Transcriptase (RT)-PCR Diagnostic Panel. This test is said to be 70% sensitive.

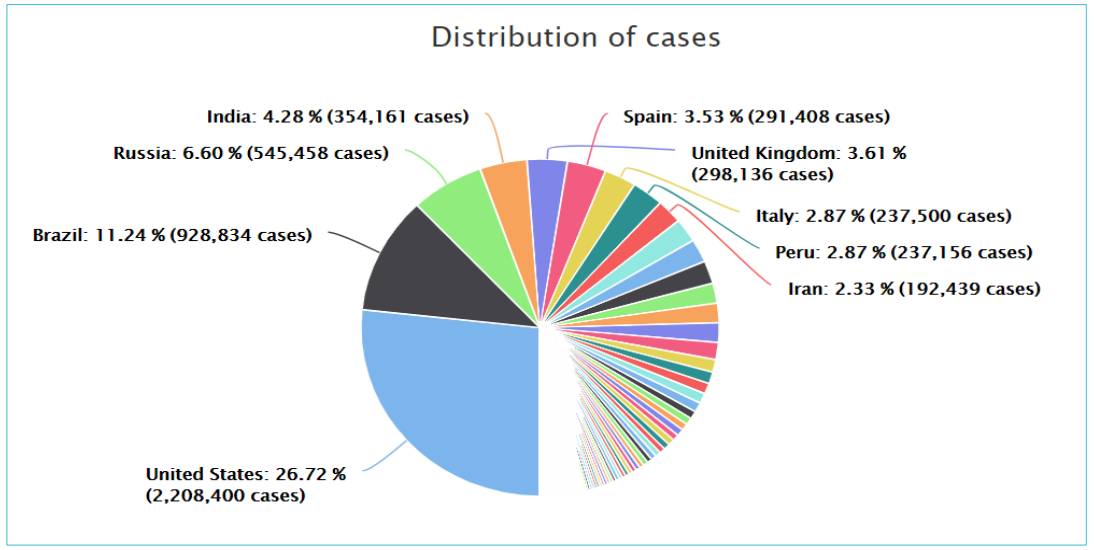
Till date no specific pharmacological therapy has been identified. Patients have been treated with symptomatic therapy of Oxygen, multivitamins and antiviral preparations while hydroxychloroquine also shows some promising results lately.

The mainstay of the control strategies for communities at large, is non-pharmacological measurements namely ‘suppression’ and ‘mitigation’ strategies.

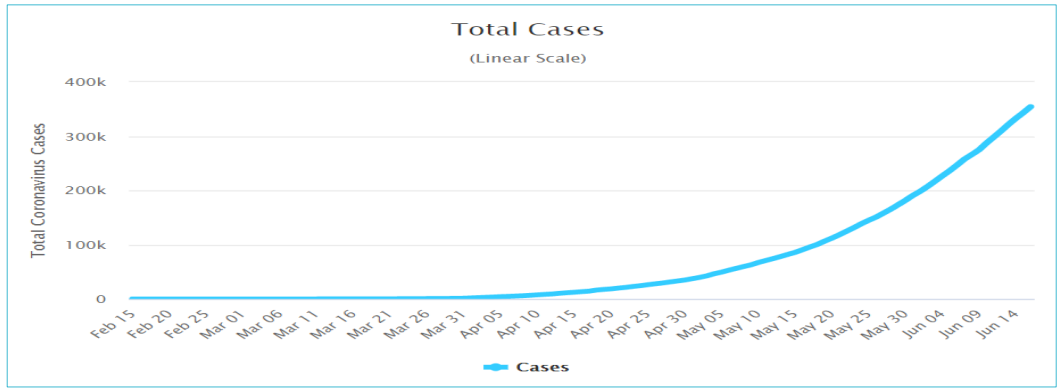
The worst affected countries are United States, Brazil, Russia, India and UK in relation to the case distribution.



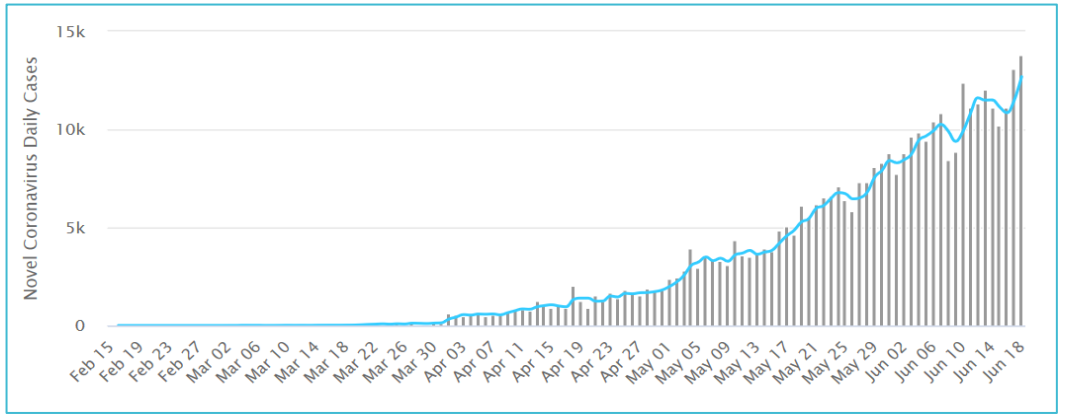
Epidemic curve of confirmed COVID-19, by date of report and WHO region ,16 June 2020



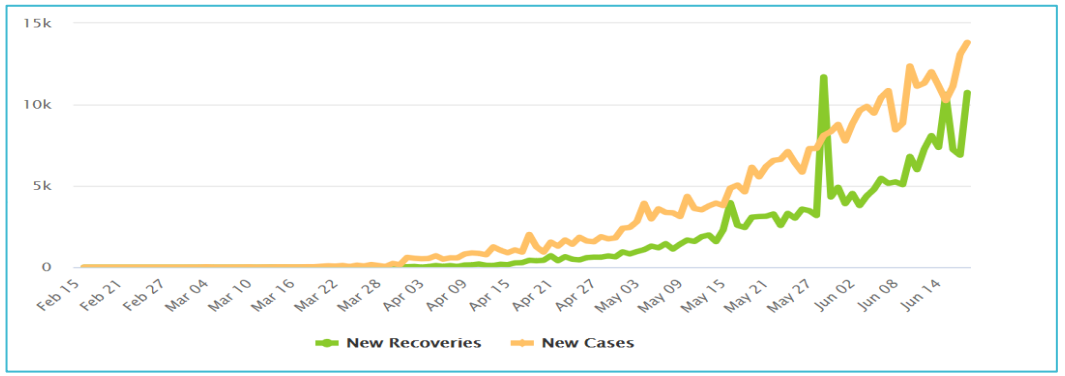
Country wise case distribution highlighting worst affected countries



Increase in total COVID 19 cases in India as of June 14, 2020



Increase in number of daily new cases in India with 3 days moving average.



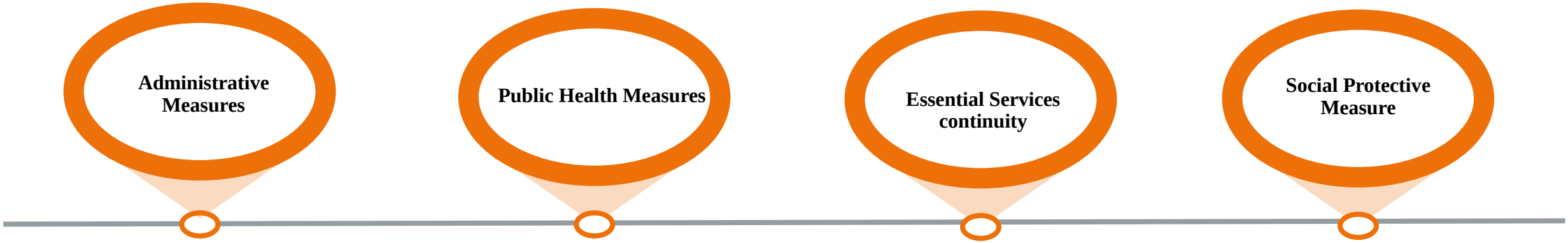
New cases v/s New Recoveries per day in India.

WHO Health Emergency and Disaster Risk Management Framework

Component 1 : POLICIES, STRATEGIES AND LEGISLATION: Development of strategies for strengthening Health EDRM capacities and defining roles and responsibilities of government.

India's Response

India's central strategy in the fight against COVID-19 is the "cluster containment strategy" to contain the disease within a defined geographic area by early detection of cases, breaking the chain of transmission and thus preventing its spread.



- Creating COVID-19 task force
- Advising foreign returnees to report any symptoms to 24*7 call-center
- Issuing order for government access to private hospitals and non-government healthcare institutions
- Suspending inter-state and inter-district transport services.
- Releasing assistance to districts

- Intensifying street-level vigil to prevent the spread of COVID-19
- Disseminating rapid information on preventive measures
- Assessing the capacity of hospitals and isolation facilities
- Defining framework for establishment and operations of COVID facilities
- Engaging Anganwadi workers, ASHA and SHG members to sensitize people in rural areas

- Determining critical and essential activities to be continue
- Providing a lockdown relaxation period
- Operating call centers to take complaints about price hike or hoarders
- Defining essential industries and services that will function during the lockdown
- Creating state monitoring unit for goods and services

- Door-step delivery of pension
- Ensuring full payment to workers during lockdown period by government and private sector
- Providing food for sick, destitute and indigent in rural areas
- Asking employers not to terminate jobs or reduce wages

Strategic Actions by some Indian States

01 Kerala

- Aggressive contact tracing and publishing route map of infected persons.
- Excellent inter-department coordination at all levels (state, district and, village panchayats)
- Daily address by Chief Minister for risk communication
- Building shelters for migrant workers with provision for food.
- Launched a mobile app, GoK Direct, to check the spread of fake information
- CoronaSafe Network has been created, with two major components: The Corona Literacy Mission and the Corona Care Centre to create awareness on COVID-19 and for converting educational institutions into hospitals to offset for shortages.

02 Odisha

- Cyclone shelters being used to house migrant workers from other states
- First Indian state to impose full lockdown and first to announce the extension of lockdown.
- First to announce exclusive COVID-19 hospitals. Now every district to have one.
- First state to devise an incentive program by offering INR 15, 000 for all foreign returning people to declare themselves on a government portal developed within 11 hours.
- Created temporary shelters for migrant workers.
- Involved Shakti Self Help Groups (SHGs) in making masks in bulk to prevent shortage.

03 Rajasthan

- Strict imposition of full lockdown and sealing of borders.
- Door to Door mass health screening to detect influenza like symptoms.
- Contract Mapping
- Identification of clusters
- Ensuring home quarantine with the help of community health workers.
- Readying more than 6000 hostel and hotel rooms in which patients could be quarantined

WHO Health Emergency and Disaster Risk Management Framework

Component 2 : PLANNING AND COORDINATION - Emphasizes on effective coordination mechanisms for planning and operation of Health EDRM.

India's Response

- Government has set up **Empowered Groups** for coordination with private sector, NGOs and international organizations for COVID-19 related response activities.
- This group are responsible for identifying problem areas, formulating effective solutions and delineate policy and plans.
- The empowered groups have shared with all stakeholders the government's response so far, need for capacity building, facilitating logistic and supply chain management for medical supplies, medical emergency management plan, availability of quarantine facilities, disease surveillance, communication and public awareness while also connecting various stakeholders for identification of gaps and providing recommendations.
- These committees will ensure the availability of medical supplies for healthcare workers and that coordination between government and medical fraternity is worked out for state and district level implementation of all coronavirus-related guidelines by MoHFW and World Health Organization.

WHO Health Emergency and Disaster Risk Management Framework

Component 3 : HUMAN RESOURCES – Includes Planning for staffing, education and training across the spectrum of Health EDRM capacities at all levels, and the occupational health and safety of personnel.

India's Response

Nationwide Database – Covidwarriors

- It is a nationwide database of healthcare professionals and volunteers which provides state and district wise availability of human resources from various to help states and Union territories to make their crisis management plans based on the available manpower.
- This database has been set up following the recommendation of the officers of empowered group on improving human resources and capacity building for various COVID-19 related activities.
- There is an availability of 1.24 crore COVID warriors, including 9.27 lakh MBBS doctors, 17.48 lakh nurses, 2.17 lakh dentists, 11.25 lakh pharmacists and 25.43 lakh anganwadi workers, according to the database.
- It can be accessed to utilize the services of volunteers for various activities, including enforcement of social distancing at banks, ration shops and mandi, and providing help to the elderly, the disabled and orphans.

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Integrated Govt. Online training' (iGOT)

- To cater to the training needs of the frontline workers, the Government of India has launched a training module for management of COVID-19 portal called iGOT on Ministry of HRD's DIKSHA platform for the capacity building of frontline workers to handle the pandemic efficiently.

- The portal provides anytime onsite delivery of training material/ module through any device including mobile phone, laptop and desktop that can be delivered at scale for the workforce needed to tackle the pandemic.
- Some of the training courses on this portal include basics of COVID, infection prevention and control, use of PPE, quarantine and isolation, management of COVID 19 cases, laboratory sample collection and testing, ICU care and ventilation management.

WHO Health Emergency and Disaster Risk Management Framework

Component 4 : FINANCIAL RESOURCES - Supports implementation of Health EDRM activities, capacity development and contingency funding for emergency response and recovery.

India's Response

Rs 15,000 Crores allocated for 'India COVID-19 Emergency Response and Health System Preparedness Package' to for development of dedicated treatment facilities and setting up laboratories among others.

The government created Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) on 28 March 2020 following COVID 19 pandemic in India. This fund is being used for containment and relief efforts against the coronavirus outbreak and similar outbreak situations in future. The first allocations from the fund was announced on 13th May in which approx. Rs. 2,000 crores were allocated for the purchase of 50,000 ventilators, Rs. 1,000 crores for the support of migrant workers and ₹100 crore was to support the funding of a vaccine for COVID-19.

Testing and treatment for COVID-19 free of cost for Ayushman Bharat beneficiaries at private laboratories and empaneled hospitals, according to National Health Authority (NHA) covering over 50 Crores citizens eligible under the health assurance scheme.

The Finance ministry announced a medical insurance of Rs.5 million per healthcare worker with the aim of providing around 2 million healthcare workers with the benefit of the insurance.

WHO Health Emergency and Disaster Risk Management Framework

Component 5 : INFORMATION AND KNOWLEDGE MANAGEMENT - Includes risk assessment, surveillance, early warning, information management, technical guidance and research.

India's Response

Integrated Disease Surveillance Programme (IDSP)

- A decentralized disease surveillance mechanism to monitor disease trends and to detect and respond to outbreaks in early rising phase.
- Its currently being used for close monitoring and contact tracing of possibly infected patients especially foreign returns.
- Under IDSP has created dashboard has also been created which captures live data on logistics, isolation beds, PPEs, resources and manpower.

AarogyaSetu App

- First participatory disease surveillance model for any disease in India.
- The core function of the app is risk assessment, contact tracing and syndromic mapping.
- It uses the phone's location data and Bluetooth to assess the proximity from a person infected with COVID-19 by looking through databases created by the government of lab-confirmed COVID-19 cases. The app scores the risk status of the individual as low, moderate, or high.

WHO Health Emergency and Disaster Risk Management Framework

Component 6 : HEALTH INFRASTRUCTURE - Focuses on safe, sustainable, secure and prepared health facilities and critical infrastructure to support Health EDRM.

India's Response

Human Resource

- Expedite filling up existing vacancies
- Redeploying staff from non-affected areas and facilities.
- Utilizing fit retirees for non-COVID services roles.
- Mobilising resources from Railways, PSUs, ESIC etc.
- Utilize web-based platforms to provide key trainings Utilising AYUSH doctors in delivery of non COVID essential services
- Requisition of non-governmental, and private sector health workforce capacity

Labs and Logistics

- A total of 907 laboratories – 659 and 248 in the government and private sectors, respectively, across the country are conducting tests of around three lakh swab samples a day.
- India has also set up its first mobile testing laboratory that can be deployed at remote and inaccessible areas in the country.
- Regular updating and monitoring of Drugs and Vaccine Distribution Management System and similar portals to ensure that there are no stock outs

Health Facilities

- Categorized into - Dedicated COVID Hospital (DCH), Dedicated COVID Health Centre (DCHC) and Dedicated COVID Care Centre (DCCC).
- DCH offer comprehensive care primarily for those who have been clinically assigned as severe, DCHC offer care for moderate cases, DCCC offers care for mild cases.
- DCCC are makeshift facilities set up by the states/UTs in hostels, hotels, schools, stadiums, lodges etc, both public and private.

WHO Health Emergency and Disaster Risk Management Framework

Component 7 : RISK COMMUNICATIONS - Recognizes that communicating effectively is critical for health and other sectors, government authorities, the media, and the general public.

India's Response

India adopted a comprehensive communication and behavior change interventions strategies involving stakeholders from various backgrounds and disciplines. The primary focus of this communication was on addressing social distancing measures, such as avoiding large social gatherings and lockdown.

The government has been actively using Social Media and messaging platforms to improve communication outreach amongst all sections of the community.

But the risk communication by the Central government in the initial days of the outbreak in India lacked clarity.

States like Kerala and Maharashtra, implemented a comprehensive and holistic crisis communication strategy by constantly engaging with its citizens by clearly dishing out official statistics and addressing uncertainty of the situation. They also announced precautionary measures to be observed and conveyed the respective governments' action plans through various media channels.

Kerala implemented a three-tier communication system, to take directives quickly downstream the organization and execute an action plan. These interactions, though repetitive at times, ensured timely and maximum outreach and, as far as possible, minimized the scope for any undue panic among the public.

WHO Health Emergency and Disaster Risk Management Framework

Component 8 : HEALTH AND RELATED SERVICES - Recognizes the wide range of health-care services and related measures for Health EDRM.

India's Response

MoHFW released the guidelines on Enabling Delivery of Essential Health Services during the COVID 19 Outbreak for provision of essential services.

- Identification of essential Non COVID services
- Utilization of Mobile Medical Units for service delivery esp. follow up care.
- Continuity of delivery of essential non COVID-19 services in Remaining facilities/ blocks
- Involving not-for profit/private sector in the provision of non COVID essential services, particularly for secondary and tertiary care to supplement public sector capacity.
- Utilization of tele-platforms to determine the need to visit a health facility.
- Modification of outreach programs in rural areas to limit spread of infections.
- Optimization of Home Visits by ASHA for follow up care by beneficiaries.

WHO Health Emergency and Disaster Risk Management Framework

Component 9 : COMMUNITY CAPACITIES FOR HEALTH EDRM- Focuses on strengthening local health workforce capacities and inclusive community-centred planning and action.

India's Response

The Women self-help group in India is one such example of community participation which has risen to the challenge of COVID 19 pandemic.

Self Help Group

Community Participation

In over 90 % of India's districts, SHG women are producing facemasks, running community kitchens, delivering essential food supplies, sensitizing people about health and hygiene and combating misinformation. SHGs women who also work as banking correspondents have emerged as a vital resource. These *bank sakhis* have continued to provide doorstep banking services to far-flung communities, in addition to distributing pensions.

State SHGs

States of Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala, Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal were first to involve SHGs.

Currently 14,522 SHGs involving 65,936 members in 399 districts, spread across 24 states of India are involved in making cotton masks and running community kitchens

Spreading awareness

SHGs are using their vast networks to curb misinformation and rumors. In Kerala, Kudumbashree is spearheading the government's Break the Chain campaign by raising awareness about hand hygiene and social distancing through mobile phones, IEC materials and weekly meetings. In Bihar, Jeevika - the state's SHG platform – is spreading the word about hand washing, quarantine and self-isolation through leaflets, songs, videos and phone messages.

WHO Health Emergency and Disaster Risk Management Framework

Component 10 : MONITORING AND EVALUATION - Standardized indicators to monitor risks, capacities, and programme implementation are all necessary.

India's Response

Globally, geotagging has emerged as an important technological tool, as countries battle the lethal spread of COVID-19.

In states like Kerala, contact tracing of COVID-19 patients involves "virus detectives", ground-level human workers who go door to door tracing the movements of positive patients, besides using CCTV footages for clues.

Other states like Karnataka and Telangana, and large municipalities are deploying technology, including Smartphone apps with geotagging features to ensure strict observance of home quarantine. Telangana is also using its TSCop app to geotag houses of foreign returnees, linking it to its patrolling officers

In Bangalore (and in Hyderabad), the use of the selfie feature, is in addition to the hand stamping done by the BBMP for passengers upon arrival or post-facto, for tracing of any primary or secondary contacts of COVID-19 positive patients.

The department of health in Karnataka has also tied up with Infosys to develop an interactive voice response system (IVRS), with daily calls, going out to those quarantined at home.

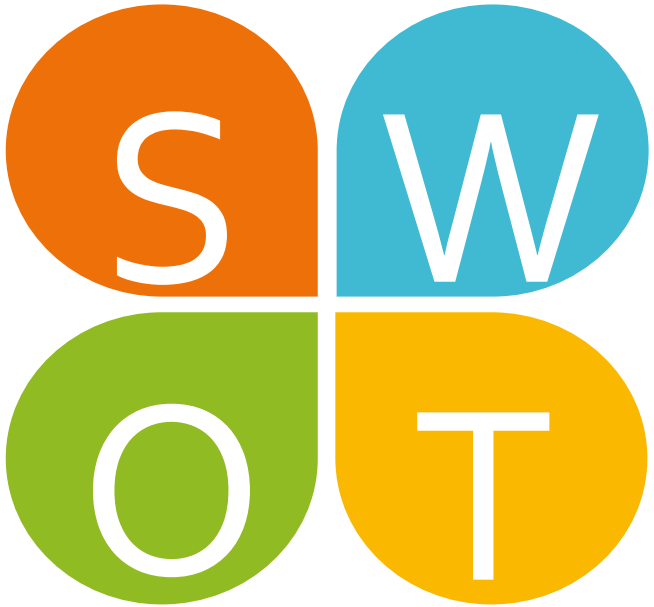
CONCLUSION

Strengths

- Rapid Measures undertaken to contain spread of virus
- Presence of a strong pharmaceutical industry for research, manufacturing and export of drugs.
- Development of strategies for availing adequate health infrastructure, manpower and logistics to prevent shortages.
- Leveraging innovation and technology to improve health outcomes

Opportunities

- Development of strong third-tier governance system
- Creating intellectual repository to fight the crisis into the post-pandemic world.
- Making use of start-ups, MSMEs and Indian labs for the productions of PPEs, testing kits, ventilators, etc.
- Making use of R&D ecosystem for rapid development of COVID-19 vaccine/antidote



Weaknesses

- Testing rate is low
- Dependence on import for testing kits and relief materials.
- Unclear Risk Communication by government.
- Shortage of emergency health infrastructure and human resource
  - Doctor to patient ratio: 1:1445
  - Hospital beds to people ratio: 0.7:1000
  - Ventilators to population ratio 40000: 1.3bn

Threats

- Failure in contact tracing may lead to worsening of the present situation and increase in the probability of being hit by the second wave of covid-19.
- Higher chances of frontline workers contracting the disease and thus crumbling the already fragile manpower availability.
- Breach of lockdown protocols and social-distancing norms

“Prevention and preparedness is the heart of public health. Risk management is our bread and butter.”

Dr. Margaret Chan, WHO- Director General (2012)

Presented by – Annie Tauro
Roll No.- 0721