सत्यमेव जयते

NITI Aayog

HOME-BASED MANAGEMENT OF COVID-19

BEST PRACTICES ADOPTED BY STATES

Home-based Management of COVID-19: Best Practices Adopted By States

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GOVERNMENT OF INDIA

NITI Aayog

Message, Vice Chairperson, NITI Aayog

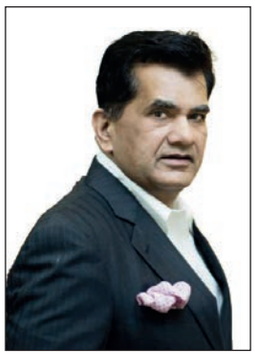
Over the past two years, the country has been facing an unprecedented public health crisis in the form of COVID-19. Since the onset of the pandemic, our state governments have responded with various innovative measures to contain the spread of the virus. The unprecedented challenges caused by COVID-19, was managed collectively by both governmental and non-governmental support. The changing dynamics of the COVID-19 infection called for an early identification, remote monitoring and appropriate referral mechanism in order to reduce the number of severe cases and deaths. This called for formulation of 'Home-based care model for COVID-19.' During these testing times, the management models adopted at the national and at the state level were recognized globally.

The innovative and reliable models of home-based care created ample opportunities for provision of care and support needed for recuperation. These customized and state specific models were successful due to the coordinated efforts between various state departments and Community Based Organizations (CBOs). The intervention focused on setting up of district control rooms for monitoring, enhancing community engagement, updating clinical guidelines, mobilizing appropriate resources and addressing the psycho-social needs of vulnerable populations that kept the disease in control. The COVID-19 response control rooms set up by various states were well equipped with the tracking systems and digital facilities for providing real time situation analysis and imparting immediate response to the critical patients. The home-based care models supplemented the government's efforts in monitoring the patients under home isolation.

This compendium aims to provide information focused on sustainability and scalability of home-based care models adapted by various states of India. I am hopeful that this document will act as an essential knowledge resource for the stakeholders from other Low- and Middle-Income Countries (LMICs) across the globe and this will go a long way in strengthening our battle against COVID-19 and similar pandemics in the future.

Dr Rajiv Kumar
Vice Chairperson
NITI Aayog
Government of India
New Delhi, India

Foreword, CEO, NITI Aayog



The COVID-19 pandemic has highlighted the importance of public health response during health emergencies. State governments responded quickly and innovatively to face this unprecedented crisis despite structural limitations imposed by limited resources. One such critical innovative practice was providing home-based care to a large number of patients. In collaboration with Government of India, home based care guidelines, SOPs for identification, treatment and referral were adapted by states to spread awareness and prepare innovative home care models.

Home-based care can significantly augment health systems capacity with the help of digital tools. Treatment and care provided at home can significantly reduce complications, improve recovery, reduce spread of infection, and reduce hospital admissions. There was seamless integration of digital tools with health system delivery in providing care at home. In almost all states/UTs, Integrated control and command centres became the nerve centre which connected patients at home with doctors and health care workers, through telemedicine and connected them to ambulances and higher-level facilities when needed. eSanjeevani, the national telemedicine helpline and eOPD, was a boon for many recovering at home. Patients and families felt psychologically more stable at home.

This document presents various home-based care models adopted by states and summarizes basic principles and practical recommendations. Several of these successful strategies can be replicated and scaled. It is intended that adaptation of this resource material will be used for guidance by decision-makers and strategic direction for sustainability at national and subnational levels.

Amitabh Kant

Chief Executive Officer
NITI Aayog
Government of India
New Delhi, India

Preface, Member, NITI Aayog

The states in India were quick to recognize the threat of COVID-19 and introduced a series of strategies to contain the virus transmission. They successfully implemented the concept of home-based care as a viable and effective health care delivery mechanism. In view of the changing needs of the pandemic and to curb the spread of the virus, Government of India released telemedicine guidelines in March 2020, which led to the implementation of telemedicine and home healthcare services in India. Home healthcare, along with remote monitoring and telehealth technologies, played a critical role in COVID-19 management.

Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), issued guidelines and released SOPs on medical and social eligibility criteria for home isolation. These SOPs included self-monitoring and guidelines on when to seek medical care for patients under home isolation.

The states also came up with home care solutions managed through multidisciplinary teams assigned for supervision, periodic assessments and linking the patients to medical/ nursing care in case of need. Home based care became a safe and socially acceptable alternative to hospitalization for patients with mild symptoms and asymptomatic cases. This in turn resulted in availability of beds for the severe and critical patients. Thus, making more beds available for symptomatic/ more critical patients.

During first wave of COVID-19, patients did not opt for home isolation due to the high fear factor among family members and community. However, during the second wave, with the unprecedented surge in cases, patients went to the hospital only when needed. Patients and families felt psychologically more stable and safer at home and preferred monitored treatment at home or closer to home. Seeing the impact of first wave and second wave, home-based care under supervision of medical officers and health workers with decentralized and digital management became a reliable solution. This provided timely and appropriate healthcare and averted many deaths.

States developed various innovative models on home-based care. Many civil society organizations, SHGs and private sector aided the government in these initiatives. They adopted a multipronged approach covering an array of services, such as teleconsultation, IVRS helplines, various self-monitoring applications, providing medicines, arranging ambulance services, arranging doctor visits and follow-ups, and IT and logistical support to ensure prompt and smooth management of COVID-19.

NITI Aayog initiated the task of developing a comprehensive compendium that documents the various decentralized models of home-based management of COVID-19 patients across the country with an aim to promote cross-learning and sharing of valuable experiences. In July 2021, an email was issued to all states and union territories (UTs) requesting them to share their COVID-19 management practices and models. A format was shared within a pre-structured criteria/categorization to ensure uniformity in the documentation of the models. The email was followed up with phone calls to the nodal officers from the health departments in states and UTs. Thorough literature and web study review were conducted to strengthen this document.

This compendium provides information on the various practices and models implemented by Indian states, districts, and cities to manage COVID-19 patients under home isolation and home quarantine. Section A of this compendium highlights the states that formally provided the information, while Section B highlights the states wherein information was obtained through a detailed literature review and data collection from informal resources.

Case studies/reports/papers highlighting good practices/models implemented by state or in collaboration with civil society, private sector, and international organizations and non-governmental groups that assisted state and local governments have been annexed.

Dr Vinod K Paul
Member, NITI Aayog

Acknowledgements

The compendium of state specific Home-Based Care models during COVID-19 has been prepared to showcase the commendable work done by the states during the first and second wave of COVID-19, with the inputs from respective states and development partners.

We would like to especially thank all the states' health departments for sharing their interventions, success stories and learnings to make this compendium a reality. We are deeply thankful to all those who reviewed the compendium and shared inputs for improvisation.

The document was designed and conceptualised under the guidance of Dr Vinod K Paul, Member, NITI Aayog and Mr Amitabh Kant, CEO, NITI Aayog.

We appreciate the support from USAID-NISHTHA/Jhpiego team in editing and designing the document.

We are hopeful that this document will aid in showcasing the various home-based care interventions during these testing times and help in cross learning between states.

CONTENTS

LIST OF ABBREVIATIONS

HbA1C	Glycated Hemoglobin
AC	Assistant Commissioner
ALS	Advance Life Support
AMO	Administrative Medical Officer
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWW	Anganwadi Workers
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy.
BBMP	Bruhat Bengaluru Mahanagara Palika
BDO	Block Development Officer
BiPAP	Bilevel Positive Airway Pressure
BLO	Booth Level Officer
BLS	Basic Life Support
BMC	Brihnamumbai Municipal Corporation
BP	Blood Pressure
BPL	Below Poverty Line
CAB	COVID-19 Appropriate Behavior
CBAC	Community Based Assessment Checklist
CBC	Complete Blood Count
CBNAAT	Cartridge-Based Nucleic Acid Amplification Test
CBO	Community Based Organization
CCC	COVID-19 Care Centers
CCCC	Community COVID-19 Care Centers
CCH	COVID-19 Care Homes
CCMT	Community COVID-19 Management Team
CDMO	Chief District Medical Officer
CFLTC	COVID-19 First Line Treatment Centers
CHC	Community Health Centre
CHIC	Community Home Isolation Centre
CHIK	COVID-19 Home Isolation Kits
CHO	Community Health Officer
CMO	Chief Medical Officer
COVID19	Coronavirus Disease 2019
CPHC	Comprehensive Primary Healthcare
CPMS	COVID-19 Patient Management System
CPTO	COVID-19 Patient Tracking Officers
CRP	C-Reactive Protein

LIST OF ABBREVIATIONS

CSR	Corporate Social Responsibility
CT	Computed Tomography
DCH	Diploma in Child Health
DCHC	Dedicated COVID-19 Health Centre
DDPO	District Development & Panchayat Officer.
DFY	Doctors for Your
DH	District Hospital
DNO	District Nodal Officer
DSO	District Surveillance Officer
EDD	Expected Date of Delivery
EMRI	Emergency Management and Research Institute
ENT	Ear Nose and Throat
FBS	Fasting Blood Sugar
GDMO	General Duties Medical Officer
GIS	Geographic Information System
GNCTD	Government of National Capital Territory of Delhi
GOI	Government of India
GP	Gram Panchayat
GPS	Global Positioning System
GPU	Gram Panchayat Units
HBCM	Home Based Care Management
HCAH	Health Care at Home
HCL	Hindustan Computers Limited
HDU	High Dependency Unit
HFC	Health Facility Centers
HFSV	Hand Wash- Facemask- Social Distance- Vaccine
HI	Home Isolation
HISP	Health Information Service Provider
HITAM	Home Isolation Treatment and Monitoring Protocol
HIV	Human Immunodeficiency Virus Infection
HMS	Health Management System
HQ	Headquarters
HR	Heart Rate
HSC	Health Sub Centre
HUL	Hindustan Unilever Limited
HWC	Health and Wellness Centre
ICCC	Integrated Command and Control Centre
ICMR	Indian Council of Medical Research
ICMS	Integrated COVID-19 Management System
ICU	Intensive Care Unit
IDSP	Integrated Disease Surveillance Project
IEC	Information Education and Communication

LIST OF ABBREVIATIONS

ILI	Influenza-Like Illness
IMA	Indian Medical Education
IVRS	Interactive Voice Response System
JNIMS	Jawaharlal Nehru Institute of Medical Sciences
JPHN	Union Public Health Nurses
KCGMCH	Kalpana Chawla Government Medical College
LDH	Lactate Dehydrogenase
LLTF	Local Level COVID-19 Task Force
LSG	Local Self Government
MBBS	Bachelor of Medicine and A Bachelor of Surgery
MD	Doctor of Medicine
MHIM	Manipur Home Isolation Management
MIS	Management Information System
MLHP	Mid-Level Healthcare Provider
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare.
MP	Madhya Pradesh
MPHW	Multi-Purpose Health Worker
MPW	Multi-Purpose Worker
MSF	Médecins Sans Frontières
NCC	National Cadet Corps
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
NHM	National Health Mission
NIC	National Informatics Centre
NICU	Neonatal Intensive Care Unit
NIMHANS	National Institute of Mental Health and Neuro Sciences
NIPI	National Iron Plus Initiative
NITI	National Institution for Transforming India
NMO	National Medicos Organization
NO	Nodal Officer
NSAID	Nonsteroidal Anti-Inflammatory Drugs
OPD	Out Patient Department
ORS	Oral Rehydration Solutions
PCR	Polymerase Chain Reaction
PHC	Primary Health Centre
PHSM	Public Health & Social Measures
PM-CARES	Prime Minister's Citizen Assistance and Relief in Emergency Situation
PPE	Personal Protective Equipment
PR,	Pulse Rate
PRI	Panchayati Raj Institutions
PTA	Patient Transport Ambulance

RAT	Rapid Antigen Test
RDRP	RNA Dependent RNA Polymerase
RGUHS	Rajiv Gandhi University of Health Sciences
RIMJS	Rajendra Institute of Medical Sciences
RRT	Rapid Response Team
RTPCR	Reverse Transcription Polymerase Chain Reaction
SARI	Severe Acute Respiratory Infections
SARS	Severe Acute Respiratory Syndrome
SDM	Sub-Divisional Magistrate
SHC	Sub Health Centre
SHG	Self Help Group
SIRD	State Institute of Rural Development
SNO	State Nodal Officer
SOP	Stand Operating Procedure
SPO2	Oxygen Saturation
SRFID	Specimen Referral Form Identification
STNM	Sir Thutob Namgyal Memorial Hospital
STOT	Short-Term Oxygen Therapy
TB	Tuberculosis
TOR	Terms of Reference
TV	Television
UNICEF	United Nations Children's Fund
UPHC	Urban Primary Health Centre
USAID	U.S. Agency For International Development
UT	Union Territory
VIC	Village Isolation Centers
VLTF	Village Level COVID-19 Task Force
WHO	World Health Organization
YMA	Young Mizo Association
ZNO	Zonal Nodal Officers

EXECUTIVE SUMMARY

Home-based care has emerged as an important pillar of pandemic management. Various home care best practices included in this document provided holistic support to patients and their families. Home-based care is a low-cost model and can reach many people at the same time with the help of digital tools such as telemedicine/call centres/apps etc. However, there could be some limitations if all services are not connected and integrated at all levels and if there are delays in referrals, transportation, and admissions. There is a risk of the spread of infection to family members if protocols are not followed properly. Clear standard operating procedures and triaging are therefore extremely critical for efficient home care. Hospitalization should be accessible at well-functioning referral facilities. The integrated command and facilitation centres should be flexible, adaptable, and resilient for use in COVID-19, and adaptable non-COVID-19 related services in a quiescent pandemic situation. Community engagement and management have contributed to the large-scale take-up of home-based care. Local efforts are essential for better case management and for reducing fear and stigma. Community preparedness can help in ensuring that no one is left behind. The practices on home-based care described in this compendium may be adopted, adapted, and replicated by the states/UTs for scale-up in respective contexts, building on their experiences.

Awareness and Communication

The most important factor in preventing the spread of COVID-19 is to empower people with the right information at the right time. With an aim to inform and educate communities on COVID-19 management, multiple awareness-raising strategies, methods and tools have been adopted by state governments and Union Territory administrations including use of job aids, posters, banners, videos on various aspects such as home isolation, proning, use of pulse oximeter etc. Health departments organized many campaigns and activities through Accredited Social Health Activists, Community Health Workers and Self-Help Groups who worked with community members to raise community awareness on home care protocols.

Frontline workers including community health workers/ Accredited Social Health Activists/ Anganwadi Workers/ Volunteers were enlisted to conduct house-to-house visits, identify and monitor cases, and provide home based care. To ensure that Accredited Social Health Activists worked efficiently in the field, they were trained and re-trained from time to time on Standard Operating Procedures and Guidelines that were issued by the Government of India, The Indian Council of Medical Research, Central Government Health Scheme and States.

To strengthen community surveillance, governments implemented a Community Surveillance Plan with the goal of identifying potential cases of Severe Acute Respiratory Infections/ Influenza-Like Illness / fever or other health conditions (malaria, diarrhea, dengue fever, etc.) with the support of local Accredited Social Health Activists. Community monitoring groups like 'Village Nigrani Samiti' encouraged community participation in managing COVID-19 positive and Influenza-Like Illness cases at home (in states of Rajasthan Uttar Pradesh). The home isolation guidelines outlined who was eligible to remain under home isolation, how to self-monitor and isolate at home. The patient's and caregiver's contact information were shared with the helpline numbers.

Awareness generation amongst community in Chhattisgarh

These protocols were endorsed with the help of village employees and block level officials. Young Mizo Association, medical personnel in the local level and volunteers created WhatsApp groups to track patients under home isolation via chats and phone calls. In Punjab, a house-to-house survey known as Ghar-ghar nigrani was conducted. In addition, the Panchayati Raj department in Sikkim provided advocacy and counselling services.

Many states adopted the test-track-treat concept and identified cases early on. However, at times, the test-track–treat protocol proved difficult to follow especially during the second wave. To combat this, track-treat was adopted to help people to be treated through a home-based care system.

Doctors and Health workers' visits and support

The COVID-19 pandemic and associated containment measures posed several challenges to medical treatment and consultations. During this public health crisis, patients under home isolation needed appropriate care and psychosocial support. In many cases, frontline workers and doctors visited rural areas to reach vulnerable communities which were difficult to reach, maintaining all protocols (Assam, Sikkim, Bihar, Chhattisgarh, Madhya Pradesh etc.). Frontline workers made visits to check patient's oxygen saturation level and enquire about other signs and symptoms for early identification of symptoms and referral. Dedicated ambulances were stationed near homes, facilities, block, districts and COVID-19 testing centers for immediate shifting of COVID-19 patients to Care Centers for providing intermediary care and hospital admission.

For instance, 'Doctors on Wheels' in Puducherry and 'Sanjivani van' with 'Doctors on call' in Gujarat were some initiatives that provided last mile delivery of healthcare. In Chandigarh, Rapid Response Teams visited homes for referrals services and provision of medical supplies.

Monitoring of patients under home isolation in Sikkim

Medical kits and Supplies

Almost all states proactively provided medicine kits to home isolated patients through front line workers, free of cost. These kits contained basic medicines (Paracetamol, Vitamins, Antibiotic), Ayush products (Arunachal, Assam, Chhattisgarh, Chandigarh, Goa, Jharkhand, Mizoram). Medical kits were provided to COVID-19 positive and Influenza-Like illness cases with an instruction leaflet for the patient and their family. Add-on facilities like COVID-19 kits containing Personal Protective Equipment and masks were provided in most states (Arunachal, Punjab, Assam, Goa, J&K, Chandigarh, Bihar, Manipur, Mizoram, Delhi, Nagaland, Meghalaya, Rajasthan, Tamil Nadu) and thermometers and pulse-oximeters were also provided on returnable basis in a few states like Nagaland and Assam. Nine different kits according to age, comorbidity and symptomatic condition were prepared and distributed, for example in Punjab, food kits were also provided to home isolated patients.

During the second wave, there was an unprecedented increase in demand for medicines and oxygen concentrators. Many districts set up oxygen concentrator banks for the distribution of oxygen concentrators to home isolated patients. The oxygen concentrators were made available to patients on a temporary loan basis against a nominal security deposit which was refunded upon return (Delhi, U.P, Nagaland, etc.). The Ola Foundation provided free oxygen concentrators to patients in quarantine in Chennai and Tamil Nadu.

Medicine kits at HWC in Durg, Chhattisgarh

Telemedicine and Helplines

During the surge in COVID-19, telemedicine emerged as an innovative and safe interactive system for patients and health workers. Many states and districts implemented call centers and telemedicine facilities to manage COVID-19 patients under home isolation and recorded their vitals in a database. Facilities such as assessing patients on call, daily monitoring by health workers, Doctor-on-call, COVID-19 Helpline, health and psychosocial counselling and nutritionist-on-call etc. were offered. Some of the helplines also assisted in facilitating visits of doctor/ nurses when required. States connected patients to doctors through dedicated telemedicine platforms, Interactive Voice Response System and helpline numbers.

Community Health Officer of Seikhazou HWC conducting teleconsultation in Nagaland

A few state governments also deployed interns from medical colleges to aid in on-call medical consultation in case of escalations (West Bengal, Punjab and Haryana). In Jharkhand, through the Swaraksha Portal, patients got video consultations of 4 kinds: Allopathic, Ayurvedic, Homeopathic, and Unani. Various apps were successfully implemented in many states such as CallDoc (Delhi), Swasthya Nidhi App (J&K), mDoc (Jharkhand), ChatBot (Punjab), NISHTHA Tele-Track (Arunachal Pradesh, Nagaland, Mizoram), NISHTHA COVID-19 Sanchar (Madhya Pradesh and Sikkim) and HIT App (Bihar).

A national level telemedicine platform called eSanjeevani was launched in April 2020 and was adopted by all 36 States/ Union Territories. It has provided 1 crore consultations as on August 24, 2021. 60,000 doctors and paramedics have been trained and over 430 online eOPDs have been made operational. The leading 10 States are Andhra Pradesh (2,751,271), Karnataka (19,39,444), Tamil Nadu (14,76,227), Uttar Pradesh (12,32,627), Gujarat (4,16,221), Madhya Pradesh (3,69,175), Bihar (3,43,811), Maharashtra (3,31,737), Kerala (2,37,973), Uttarakhand (2,26,436).

Home isolated patients were followed up through the 104-helpline number to take updates on their physical condition. Psychological support was given to patient as well as family members, as and when required. In Assam, all calls for home isolated patients were managed through the hub at the COVID-19 command room at the state HQ and were managed by Team SAMPARK doctors under the eSanjeevani telemedicine platform.

Several states received support from non-governmental organizations and NIMHANS to expand psychological counselling services to patients in home isolation by providing trained social workers and mental health professionals (West Bengal, Arunachal, Puducherry, Odisha, Madhya Pradesh).

Community Participation

Community-based management and community engagement have been the key factors that have contributed to the large-scale uptake of home based care. Local efforts are necessary and essential for better case management and to ensure a reduction in mortality rates. The community-based management of COVID-19 not only helped in reducing fear and stigma, but improved community preparedness for future re-emergence of infectious diseases and to ensure that no one is left behind.

Governments of many states (J&K, Kerala, Punjab, M.P, Odisha, Rajasthan) established COVID-19 care committees at all gram panchayats to monitor the overall operation of COVID-19 care homes (CCHs)/ Centers (CCCs). These gram panchayats were entrusted with the responsibility of isolating suspected cases. Sarpanch, the elected representative of Gram Panchayats was empowered to take decisions that worked best in their respective areas. Activities such as provision of medicine kits, food materials to home isolated patients etc. and transport to CCHs when needed were managed under his/her supervision.

Integrated control and facilitation centers

As part of the efforts to curb the spread of COVID-19, integrated control and facilitation centers were set up to provide all types of COVID-19 related data. Almost all states, including Assam, Delhi, Haryana, Kerala, Punjab, Madhya Pradesh, Manipur, Meghalaya, Rajasthan, Sikkim and Uttar Pradesh set up a control room, each with a team of doctors/ nurses/ volunteers and support staff. The team ensured that the space provided to patients at home had all the basic requirements for home isolation, based on guidelines issued by Ministry of Health and Family Welfare/ State Governments. These centers largely monitored home isolated and COVID-19 care center patients through phone calls, based on which swift follow up action was taken. These centers actively provided and arranged tele-consultations through eSanjeevani or other such other telemedicine platforms. They monitored quarantine facilities, provided self-monitoring app facilities to quarantined people and gave them support to track the health of suspected patients and their contacts under home quarantine. In some states, apart from teleconsultations, these integrated

Integrated Control and Command Center in Sikkim

centers also, provided real-time tracking of ambulances, disinfection services, and virtual training to doctors and healthcare professionals etc.

These command centers acted as a bridge between the field teams and district administrations and coordinated the various apps and helplines. The control rooms worked in close coordination with the ambulance management cell for timely provision of ambulance services. Bed availability was reflected on a real time basis so that patients could be connected when required. These centers also managed calls made to the 104 and 108 helpline numbers for ambulance, oxygen support and home quarantine facilities.

The technological features of the Integrated centers included an integrated technology platform, Integrated Voice Response System, mobile based monitoring of vitals and symptoms, triaging by certified doctors for severity assessment, teleconsultations and emergency response. There were dedicated tele-caller units with qualified Medical/ AYUSH/ Nursing background trained professionals, a pool of specialists with physicians, ENTs, mental counsellors, psychologists, nutrition counsellors and need-based super specialists such as pulmonologists, cardiologists etc. Counselling for health and well-being by trained counsellors was made available. Linkages with public health facilities were presented for drugs, diagnostics, ambulance & hospitalization.

In Bengaluru, these integrated centers operated 24x7 and mapped each COVID-19 positive case using GIS, and highlighted the containment plan using heat maps. The Tamil Nadu government launched a dedicated Twitter handle – @104_GoTN, through the integrated center for people seeking beds for COVID-19 patients. In Haryana, the integrated center proactively reached out to all the patients who tested positive for COVID-19 through various helplines/ chatbots/ apps. Patients could reach the district administration through the 1950 helpline number, specially created WhatsApp chatbot and the state government web portals.

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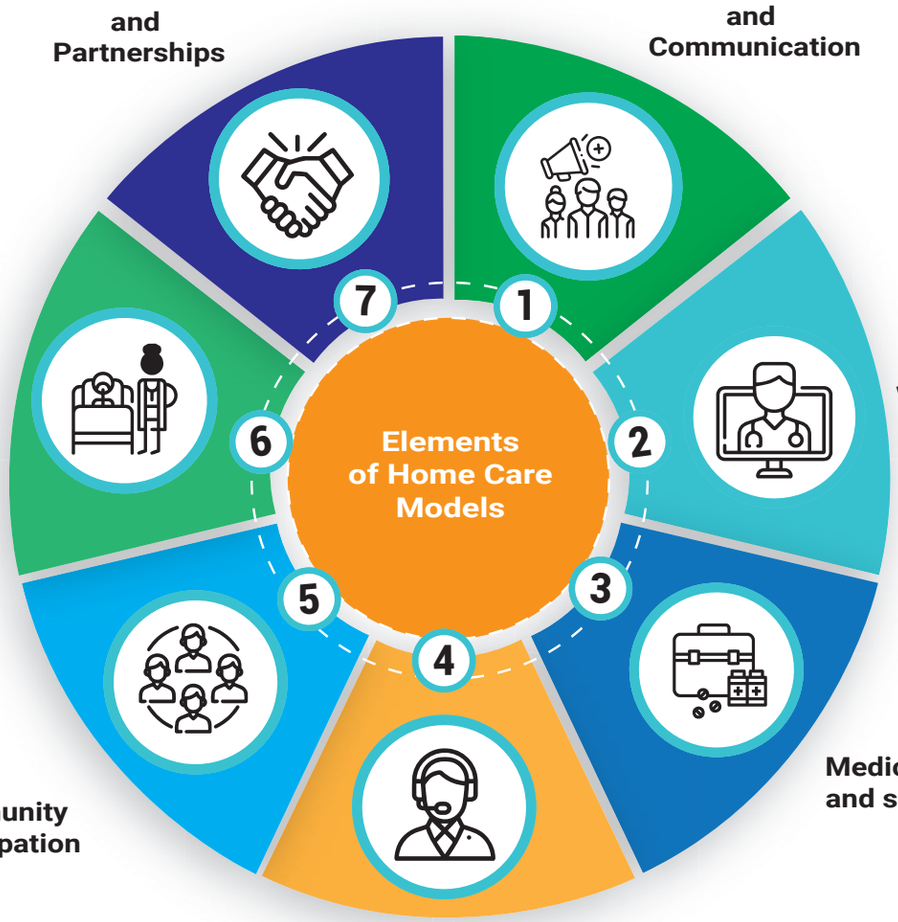
Collaborations and Partnerships

During the pandemic, collaborations and partnerships were important as they strengthened government's efforts and provided a full range of services and expertise to patients. The multi-sectoral approach and public-private partnerships, along with use of technology and robust monitoring systems was able to provide holistic supervised home care to COVID-19 patients.

USAID-NISHTHA, implemented by Jhpiego partnered and supported 13 state governments, with special focus on the North East region. StepOne, a volunteer network partnered and supported 16 state governments. Manipur involved Medicine Sans Frontier (MSF), state government of Haryana in partnership with Deloitte in Karnal launched 'Sanjeevani Pariyojana'. Norway India Partnership Initiative (NIPI) in Jammu and Kashmir, Sri Aurbindo Society in Puducherry, and Prakriti E-mobility in Delhi, were some of the prominent collaborations that supported states in rolling out home isolation models and strategies.

WHO, UN agencies and USAID developed courses for various groups focusing on training on COVID-19 management, and psycho-social training, etc. More than 1,80,000 doctors, nurses, paramedics, AYUSH, sanitary workers, police, frontline health workers, and volunteers were trained with the help of these agencies.


Collaboration and Partnerships
Awareness and Communication
Integrated control and facilitation centres
Doctor and Health worker visits
Elements of Home Care Models
Community Participation
Medical kits and supplies
Telemedicine and Helplines
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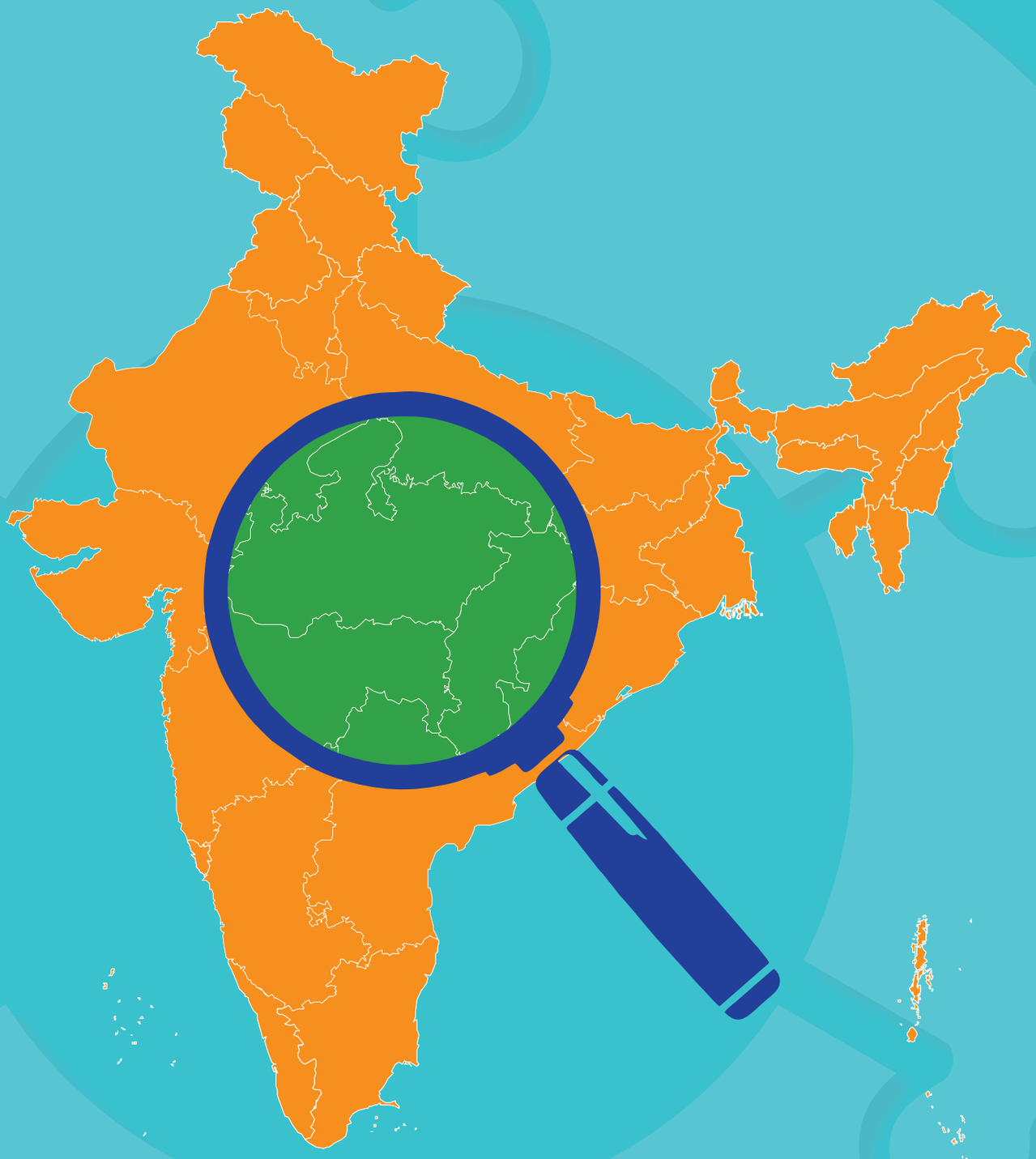


SECTION A

STATE PRACTICES

(Information shared by the states)

ARUNACHAL PRADESH

Overview

During the second wave, more than 80 percent of mild COVID-19 cases (either asymptomatic or had mild symptoms) were treated at home. Given the rapid increase in the magnitude of cases along with the shortage of facilities to manage the high caseload, mild and asymptomatic patients were actively monitored at home. In view of the overwhelming burden on the health systems and health care providers, Arunachal Pradesh partnered with USAID's flagship health system strengthening project NISHTHA, implemented by Jhpiego, to initiate a comprehensive technology-based model for home isolation known as 'NISHTHA Teletrack' This model was implemented in Itanagar Capital Complex and Papumpare Districts, which reported high caseloads. The state followed a Tele-caller home-based isolation monitoring model wherein a team under the District Surveillance Unit monitored, followed and responded to patients under home isolation.

The objective of this model was to regularly monitor patients under home isolation and identify early symptoms to enable and provide the right care at the right time. The platform acted as an enabler for effective monitoring and tracking of COVID-19 patients and also had functionalities for recording vitals of home isolated cases on a daily basis, provide regular & need based SOS telemedicine consultations with through a pool of physicians, digital reporting and with a generation of system alerts in case a patient developed symptoms and required referral. This ensured that immediate action was taken in case of worsening of patient's symptoms Further, through this platform accurate and timely information was disseminated and also addressed queries raised by the patients under home isolation.

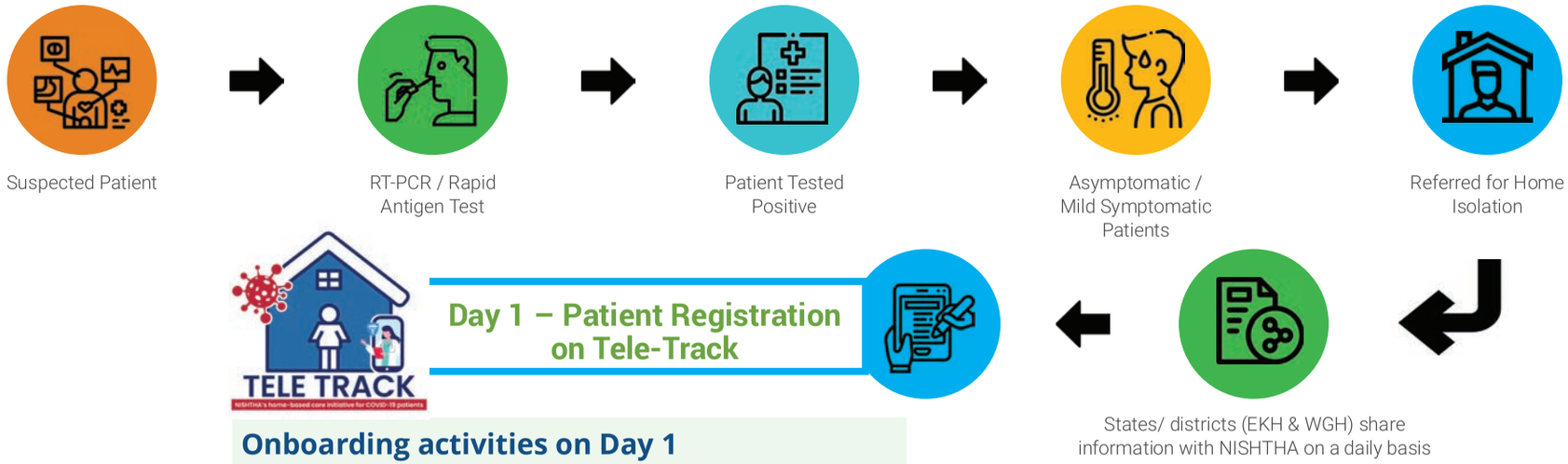
Inclusion and Eligibility Criteria

Patients who tested positive for COVID-19 through any confirmatory test (RT-PCR/ RAT/ TRUNAAT) based on the assessment by healthcare providers in Triage Centers/ Flu Clinics/ Checkpoints/ Gate of entry and were psychologically fit, were advised home isolation. In case of mild cases of COVID-19 with controlled comorbidities, availability of a caregiver at home was a pre-requisite

Intervention Details

As a first step, a series of awareness campaigns were conducted with all local leaders and community leaders through video conferencing to spread awareness on home isolation. Communication material, including posters and handouts on home isolation and NISHTHA tele-track application were developed, displayed and distributed to patients under home isolation. Given that this was a tech-enabled model, community workers like the Accredited Social Health Activists (ASHAs) were leveraged for mobilizing the community for testing, following up with NISHTHA tele-track patients under home isolation, reporting on Influenza-Like Illness (ILI) cases and responding or directing calls from the community to the tele-track platform.

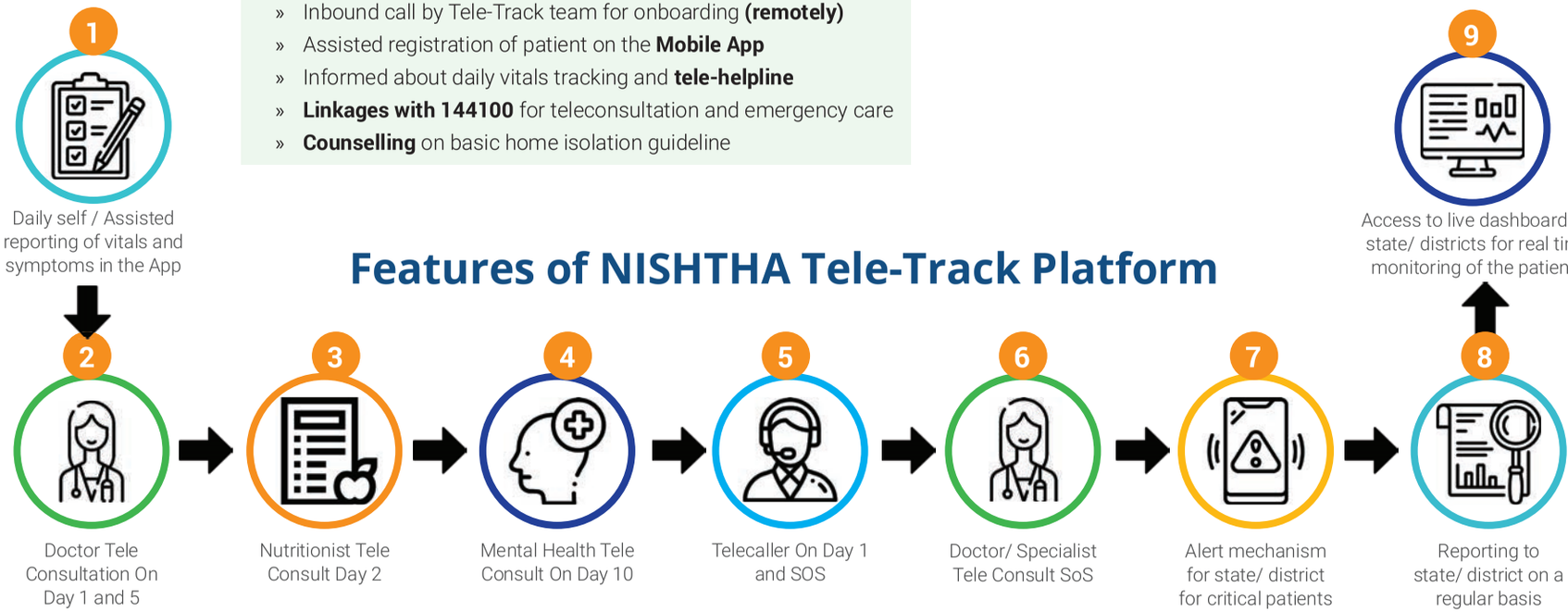
Comprehensive Tech Enabled Home Based Care Model



Onboarding activities on Day 1

- Inbound call by Tele-Track team for onboarding **(remotely)**
- Assisted registration of patient on the **Mobile App**
- Informed about daily vitals tracking and **tele-helpline**
- **Linkages with 144100** for teleconsultation and emergency care
- **Counselling** on basic home isolation guideline

Features of NISHTHA Tele-Track Platform



A district-wise protocol was devised and detailed information of individuals under home isolation was shared regularly with NISHTHA, Jhpiego. Following this, the NISHTHA team reached out to the patient and provided the scheduled services for ten days. Given below is a snapshot of the day-wise activities:

Day 0 - State to share daily data of both districts with NISHTHA

Day 1- Onboard COVID-19 cases through tele-caller from NISHTHA Tele-Track

Facilitate tele-consultation with Medical Officers (MOs) and counselling on basic home isolation guidelines

Day 2 to Day 10 – Self-tracking of vitals and symptoms by patients. Fixed tele-consultations organized as below:

- Day 2 - Nutritionist Tele Consult
- Day 5 - Tele-consultation with Medical Officer
- Day 10 - Tele-consultation with Mental Health Counsellor

Daily reports were shared with the district on a defined set of indicators, which includes the list of patients who could not be reached for three consecutive days. This enabled timely response by the District Rapid Response Teams (RRTs) to locate and contact them. In addition, alerts were raised on a WhatsApp group and Emails for all state and district officials and RRT team leads. As soon as the alert was raised, the RRTs of a respective ward/ block would respond and activate the team for physical assessment of the alerted patient. Based on the assessment the patient would either be referred to a higher facility or advised to continue home isolation. This was followed by distribution of home care kits containing a mask, oximeter, thermometer, basic medicines and AYUSH products. BLS Ambulances were kept on standby for any cases requiring referrals to higher facilities in case of emergencies.

Patients' counselling in process by Community Health Officers on use of tech-based platform, NISHTHA Tele-Track, for monitoring patients under home isolation in Arunachal Pradesh.

ASSAM

Overview

The COVID-19 pandemic has been a humungous healthcare challenge across the world including India. The state of Assam took this challenge head-on and has been managing the pandemic effectively through robust planning and quality implementation with a focus on multi-pronged strategies of 3Ts (TEST, TRACE, TREAT), encouraging COVID-19 Appropriate Behaviors (CAB) and COVID-19 vaccination. The state ensured maximum emphasis on promotion of healthy practices to strengthen preventive strategies against COVID-19. Assam adopted a multi-pronged strategy including awareness generation, tele-consultation services, provision of home isolation medical kits and Interactive Voice Response System (IVRS) based platforms for follow up and monitoring of patients.

The state aimed to strengthen management of COVID-19 at home, community and facility level awareness generation on Public Health and Social Measures (PHSM) for following CAB. The state ramped up testing to isolate positive cases to curb the spread of COVID-19. Contact tracing of COVID-19 patients using a snowball approach for early isolation and management of cases were done. The government provided treatment based on the triaging of COVID-19 positive cases at appropriate COVID-19 health facilities. Efforts were also made to increase uptake of COVID-19 vaccination by addressing myths and misconceptions on vaccines.

Inclusion and Eligibility Criteria

Persons who tested positive for COVID-19 either by Rapid Antigen Test (RAT) or RT-PCR test. In case the person tested negative for RAT, an RT-PCR test was done. For such cases, isolation was advised till the results of the RT-PCR test were known. For persons with comorbidities/ uncontrolled comorbidity/ vulnerable conditions, special care was provided from the beginning and these groups were advised to remain at home. Persons who were psychologically fit and willing to be under home isolation were allowed to, provided they satisfied the conditions based on the guidelines.

Intervention Details

Awareness generation and Community Engagement: The Assam Health Department undertook a mega campaign under community awareness on Public Health & Social Measures through Accredited Social Health Activists (ASHAs), who in turn had been working with community members for generating awareness on home care protocols with focus on CAB and voluntary testing of persons on a timely basis. ASHAs have played a critical role in reaching the last mile by spreading awareness on health messages including on COVID-19. To ensure that ASHAs were equipped with the right skills, the state government of Assam ensured that ASHAs were trained on a timely basis. Further, the state had devised need-based protocols on COVID-19 management, including home isolation protocols, which were revised based on inputs from the field and changing needs of the pandemic.

Provision of Home-Based Medicine Kits: The state also ensured that medicines were provided free of cost to all patients under home isolation. As part of this, frontline workers visited the homes of COVID-19 patients on a regular basis to check their oxygen saturation levels and other signs and symptoms to ensure early and timely referral and treatment based on their symptoms. As part of these visits, the frontline workers also distributed medical kits to patients. So far, more than 2.15 lakh COVID-19 positive patients under home isolation were under constant monitoring and more than 1.75 lakh home isolation patients were provided Medical Kits for COVID-19, since April, 2021.

Teleconsultation Services: To ensure availability of treatment and follow up while sitting at home, the health department of Assam initiated eSanjeevani teleconsultation from December 17, 2020 as 'SAMPARK' teleconsultation services for populations with comorbidities. Under SAMPARK, healthcare providers (specialists/ General Duty Medical Officers) were based at the hub and anyone in need of healthcare services could connect to these providers through the eSanjeevani app, which is downloadable on any android mobile phone. On contacting the hub, an e-prescription would be generated, which could be used at Health and Wellness Centers (HWCs) or at pharmacies to avail medicines. This enabled people to access healthcare from home except when a physical assessment was required. Assam was ranked 11th in providing teleconsultation among all states in the country. The state is also in the process of increasing the number of hubs to reach a wider population.

Interactive Voice Response System (IVRS) helplines and NISHTHA COVID-19 Sanchar: The state used the 104-call center to follow up with persons under home isolation wherein patients were checked on their physical status, as well as psychological support was provided through the helpline. To further strengthen the 104-call center initiative, the state partnered with USAID-NISHTHA/Jhpiego to launch an IVRS based remote monitoring model called NISHTHA COVID-19 Sanchar in Kamrup Metro district. NISHTHA COVID-19 Sanchar ensured regular monitoring and follow-up of patients under home isolation and ensures early identification of symptomatic cases. This was a hybrid model deployed by using the IVR technology, web-based google form, and tele-calling by trained human resources to ensure seamless follow-up of home isolated patients, which aimed to increase recovery rates and thereby reduce overall morbidity and mortality due to COVID-19.

Partnerships with private sector: Assam also partnered with private providers in addressing the COVID-19 crisis for different aspects, including COVID-19 treatment, maintaining non COVID-19 healthcare services and COVID-19 vaccinations. The government collaborated with private providers to reduce and standardize the rates of COVID-19 treatment across all facilities to ensure that everyone had access to quality healthcare.

Medical Support and Monitoring

As part of the teleconsultation services, all calls for home isolated patients were managed through the hub at the COVID-19 Command Room at the state headquarter, which was managed by doctors under SAMPARK as part of eSanjeevani telemedicine services. The performance of Team SAMPARK was monitored on a daily basis at the state headquarters and necessary instructions were issued to the districts and the 104 call center staff.

The state also ensured that medicines were provided free of cost to all patients under home isolation. As part of this, frontline workers visited the houses of COVID-19 patients on a regular basis to check their oxygen saturation levels and other signs and symptoms to ensure early and timely referral and treatment based on their symptoms.

COVID-19 screening in Assam

The state prioritized testing and initiated testing facilities at vaccination centers. Further, people who went for vaccination were also tested before getting vaccinated, which helped in identifying many more cases and deferring their vaccinations, as per guidelines. The state also emphasized on the need for surveillance at the community level. The government rolled out the Assam Community Surveillance Plan with an aim to list out potential cases of Severe Acute Respiratory Infections /Influenza-Like Illness/ fever or people with other health issues (malaria, diarrhea, dengue, MR, JE etc.) with help of the village ASHAs.

Scalability and Replicability

Since the state adopted a multi-pronged approach, all the approaches can be replicated and scaled based on the changing needs of the pandemic. The state also scaled up some of the initiatives implemented in the first wave during the second wave. Assam had implemented a scheme called 'DHANWANTARI', under which medicines were distributed at home (free up to Rs. 200) for even Non COVID-19 patients. However, during the second wave, with all medical shops open on a 24x7 basis, free COVID-19 medicines were provided only for patients under home isolation, thereby adopting an 'adaptive' and need based approach based on the changing needs of the pandemic for all home isolated COVID-19 patients only. So, the learning is that the system needs to be more 'adaptive' with the situation around and necessary actions need to be taken.

BIHAR

Overview

Home isolation of COVID-19 patients, who are asymptomatic or have mild symptoms, has been recognized as an important strategy as it reduces the burden on the healthcare establishments and results in efficient utilization of scarce resources for moderate and severe COVID-19 patients. Home isolation with appropriate guidelines provide some distinct benefits such as care in a familiar home environment, less stress on family, reduced burden on healthcare services, lower risk of healthcare associated infections/ nosocomial infect and reduced cost of care to the families.

Intervention Details

COVID-19 management in Bihar was handled by the Corona Control Team, which was divided into five sub-teams: containment, testing, isolation and medicine, training, and coordination (by IDSP cell). COVID-19 positive patients were confirmed using tests such as RT-PCR, NAAT, and RAT. Personal details such as name, address, phone number were noted for all COVID-19 positive patients and patients with mild symptoms were advised to undergo home isolation. The Bihar government engaged StepOne for effective tracking and monitoring of home isolated cases and the list of home isolated patients was shared with them on a regular basis. Awareness generation was also done through Information Education Communication (IEC), campaigns, Twitter and newspapers in the State. District-specific toll-free number for COVID-19 related information was also widely circulated.

Medical Support and Monitoring

The agency used an IVR system with five COVID-19 symptoms as IVRS options; if the patient's COVID-19 symptoms worsened, the IVRS server detected this fluctuation and volunteers were notified to conduct a tele-consultation session with the patient.

The agency shared lists of patients who may require hospitalization with the State control room, which then notified the respective district control rooms. If required the doctor from respective PHC would visit the home isolated patient for a check-up. If the patients' health deteriorated further, an ambulance service was made available to them. On an average 100 to 200 such case referrals were handled during the second wave.

Accredited Social Health Activists (ASHAs) provided medical aid through distribution of home isolation kits to the COVID-19 patients as per the State protocol dated 21/4/2021. Medicine kits were also made available for the home isolation patients. However, pulse oximeter or thermometer were not provided in the kits.

The Home Isolation Tracking (HIT) application was launched in five districts of Bihar initially and then scaled up to all the districts. Auxiliary Nurse Midwives (ANMs) visited the patients' homes and tracked

vitals such as temperature and oxygen saturation; the readings were entered into the HIT app on their tablets, and the patients' need for additional medical care/ hospitalization was reflected on the app.

Scalability and Replicability

Following successful implementation in pilot districts, all home-based care models used in Bihar were scaled up. However, death cases were not adequately recorded in home-isolated cases, resulting in skewed death case data for Bihar. If home-based care models are to be used, a mechanism for accurate reporting of death cases must be devised.

CHANDIGARH

Overview

Home care system for COVID-19 mitigation in Chandigarh was successful due to strong and coordinated activities among various departments of the Chandigarh Administration, including Health, Municipal Corporation, Transport Department, Red Cross Society, and others. The city was divided into five medical zones, each led by a Senior Medical Officer for effective home care management of patients under home isolation.

Intervention Efforts

Five medical zones and Rapid Response Teams (RRTs), consisting of trained Doctors and Paramedical staffs were constituted, who were responsible for screening and transporting COVID-19 cases as per the need. The roster and phone numbers were shared with the concerned persons who were seeking the services of the ambulances either for examination or transporting suspected COVID-19 cases to the health facilities. RRTs were made in charge of clinical assessment and further management of patients under home isolation, and all dispensaries doctors and staff were involved in day-to-day monitoring, assessment and record keeping.

All COVID-19 positive cases were verified by the RRTs to ensure that they adhere to the criteria as per the guidelines for home isolation. The SDM teams further ensured that home isolation was feasible for such patients. Field teams also confirmed the availability of separate rooms with an attached washroom for home isolation. In case of any limitations, field teams facilitated the transfer to the COVID-19 care centre. Patients with comorbidities and the elderly who required intensive care were immediately transferred to health facilities. Infants and younger children, as per MoHFW guidelines, were kept under supervision of parents/ guardians.

Parents/ caregivers were advised to keep patients hydrated and provide them with a nutritious diet. Older children and family members were encouraged to stay in touch via phone, video calls, etc. Wellness Kits were provided to home isolated patients, which included information on the dos and don'ts, as well as contact information for the Help Desk and relevant officials.

The Chandigarh Administration had also standardized rates for availing oxygen cylinders and refilling the Type B Cylinder. A press release and information on web portals were used to raise public awareness. The administration, in collaboration with the Red Cross, established an oxygen concentrator bank for the general public. Chandigarh has 32 ambulances (provided by Health Department UT Chandigarh, RED CROSS and NGOs) which were used for home visits by RRT, referral, distribution of medicines.

In addition to telephonic consultations, the Telemedicine Solution of eSanjeevani OPD was made operational, allowing patients to avail online consultations through this platform. In the second wave, mobile testing teams visited the doorsteps of positive case contacts to conduct testing. As a result, the contacts were tested and isolated right away rather than being transported in ambulances.

During the second wave, patients were regularly monitored by home visits by the RRT teams, daily telephonic/ video calls were done by dispensary medical officers and if the SpO2 of patient fell below 94, patients would be shifted to hospitals. The tele-consultation and help desks were expanded and a

greater number of telephone lines for tele-consultation were added for monitoring of home isolated and quarantined patients. The COVID-19 wellness kits were refined and augmented with provision of pulse oximeters (to all symptomatic, elderly and co-morbid patients), thermometers, triple layer masks, hand sanitizers, and Ayush medicines. Special card board boxes were developed for the distribution of above medicines. These boxes were used to provide IEC in the form of list of vaccination centres, COVID-19 appropriate behaviour, RRT zones Helpline numbers, and home monitoring instruction sheets. The RRT team ensured that those whose vitals were stable were allowed to isolate at home.

Scalability and Replicability

In Chandigarh, the COVID-19 mitigation model, through an effective Home Care system, was successful. The model is scalable as home care beds are an extension of hospital beds if there is a dedicated team of physicians, nurses, lab technicians, and ward servants available for home isolation.

It is critical to understand the management of patients under home isolation as the existing hospital infrastructure may fall short in the event of a future surge.

CHHATTISGARH

Overview

The state of Chhattisgarh has been fighting the pandemic head on with multiple on-ground innovations and approaches. Owing to the rapid increase in the number of cases in the state of Chhattisgarh and in-line with the Government of India's strategy, the option of home isolation was provided to asymptomatic and mildly symptomatic patients. The state adopted a patient feedback mechanism for persons under home isolation to ensure quality of care and adherence to home isolation guidelines. This feedback mechanism was rolled out with support from USAID-NISHTHA/ Jhpiego in co-ordination with other partners such as Indus Action, Samarthan and Piramal Health. The patient feedback mechanism was designed to strengthen quality of care for COVID-19 patients under home isolation, ensure accountability and quick decision making to improve patient responsiveness.

During the second wave, when physical verification and follow up was not possible, the state-initiated contact tracing telephonically. This initiative was also launched in partnership with USAID-NISHTHA/ Jhpiego. Under this, patients were remotely monitored to enable early identification of symptoms and were evaluated for 10 days based on a standardized checklist. On the seventeenth day, a final evaluation was done. Following this, feedback was collected from the patients through manual calls and web-link provided to the home isolated patients. The data was then analyzed and used to rank districts on quality of management of COVID-19.

The state highlighted Durg as a model district which was ranked highest in the feedback mechanism. Durg also set up 40 fever clinics to first monitor Influenza-Like Illness (ILI) patients.

Inclusion and Eligibility Criteria

Patients with Rapid Antigen Test (RAT) positive results were examined for symptoms and further investigation, while patients with negative RAT test results had to undergo RT-PCR testd. Decisions on allocation of asymptomatic or mildly symptomatic patients with co-morbidities were taken by a medical consultant.

Intervention Details

Under Durg's home care model, medicine kits were provided for patients and prophylaxis kit for family members at the fever clinics. Nine different kits according to age,

comorbidity and symptomatic condition were prepared and distributed. Durg district was divided into seven zones. In order to ensure that all zones had adequate staff, the district appointed one AYUSH medical officer for each zone along with 5-6 assistant consultants (AYUSH and Dental Interns) and four to five nursing staff in each zone. A dedicated round the clock ambulance service was made available for shifting patients in and out of the district. 15 ambulances (108) were dedicated for this service and five more private vehicles were recruited during the second wave.

Under the patient feedback mechanism, the model was developed in a robust and scientific manner focusing on domains of quality of care, as defined by the World Health Organization (WHO), such as - Safe, Effective, Patient-centered, Timely, Efficient and Equitable. Feedback was collected through a standardized questionnaire covering thirteen parameters. This helped in setting accountability systems, ensuring quality of care and adherence to home isolation guidelines. Given below is a snapshot of the process:

1

Home isolated patient details shared with telecallers

USAID-NISHTHA team receives details of home isolated patients from portal developed by state containing daily entries of district-wise patients and shares with tele caller

2

Tellecaller contacts home isolated patients for feedback

Tele caller calls patients under home isolation on Day 3 to collect feedback on quality of care based on a list of 13 questions

3

Patient feedback reports collected and analyzed

Feedback from 10 districts were collected by NISHTHA/Jhpiego while other 18 districts were covered through other partner organizations. The feedback information collected is shared with NISHTHA team who then analyze findings and create district-wise daily and weekly reports and rankings to share with State government.

4

Dissemination of reports by state government

The State government disseminates reports to public to ensure transparency and accountability and issues directives to districts for improvement

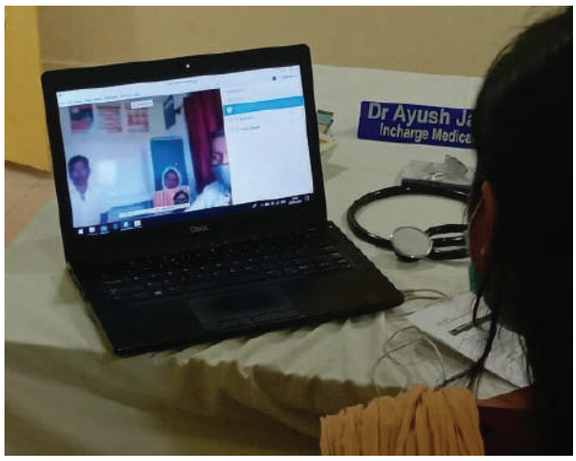
5

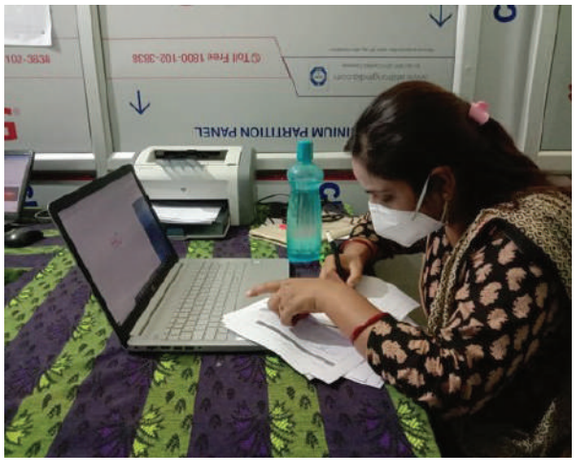
District level action based on state directives

Based on the directives and reports, districts make the required changes which help improve services. District-wise rankings also create a healthy competition between them

Medical Support and Monitoring

Daily telephonic monitoring was done by Assistant Medical Officers (AMO), interns and nursing staff on key vitals. The contact tracing team visited people's homes and conducted physical verification based on a checklist. The team also ensures distribution of medicine kits to COVID-19 positive patients after telephonic evaluation by medical consultant and AMOs. During the second wave, the state conducted telephonic contact tracing due to the surge in the cases. A few districts also adopted the telemedicine platform to reach patients. The Dantewada administration expanded Danteshwari telemedicine facility not only to hospitals but also to patients under home isolation. Patients were able to register themselves for the facility at their homes through the link provided or through the district website with their mobile phones. After the registration, the health consultation was given free of cost by doctors on the video link received on the patient's mobile phone.





Teleconsultation at HWCs in Surguja, Chhattisgarh

Sustainability and Replicability

The feedback mechanism for strengthening the quality of care for patients under home isolation intervention has been a model example in managing the pandemic effectively. It has clearly demonstrated the justified use of feedback mechanism from the beneficiary perspective to improve quality of care. While comparing baseline data of week 1 (10-16 April 2021) with the endline data of week 13 (05-11 July 2021), it is evident that the quality of care and adherence to home isolation protocols improved. The table below depicts domain wise improvement in the quality of care of home isolated patients. A total of 1,26,308 home isolation cases were followed up till July, 2021. Between September 5, 2020 and July 17, 2021, the state reported a total of 70,653 patients under home care of which 18 deaths were reported.

DELHI

Overview

The COVID-19 pandemic brought many challenges to the National Capital and the government made multiple efforts to combat the pandemic. In the first wave itself, Delhi witnessed tie-ups with private entities to enable home care of patients in the state, by providers such as Portea, StepOne, Prakriti E-mobility, CallDoc Application and Health Care at Home (HCAH). Home isolation was a big part of the capitals fight against the pandemic. The government also launched a dedicated website i.e. https://delhifightscorona.in which contained all COVID-19 related information collated in one place.

The emergency handling system for home isolation cases operated stage by stage in Delhi. It involved control room doctors, nurses in dispensaries, primary health nursing officers in subdivisions, doctors engaged by the government for home isolation and bureaucrats monitoring the system.

Inclusion and Eligibility Criteria

The patients who were clinically assigned as mildly symptomatic/ asymptomatic by the treating Medical Officer (MO) were advised for home care. Such cases needed to have the requisite facility at their residence for self-isolation and for quarantining family members. A caregiver and communication link between the caregiver and hospital was a prerequisite for the entire duration of home isolation. Elderly patients over the age of 60 and those with comorbidities such as Hypertension, Diabetes, Heart disease, Chronic lung/ liver/ kidney disease, Cerebro-vascular disease etc. were allowed home isolation after proper evaluation by the treating MO. Patients suffering with immunocompromised status (HIV, Transplant recipients, Cancer therapy etc.) were not recommended for home isolation. The caregiver and all close contacts of such cases were advised to take Hydroxychloroquine prophylaxis as per protocol and as prescribed by the treating MO.

Intervention Details

The Delhi model to fight the COVID-19 pandemic included digital and community level interventions. A dedicated website (delhifightscorona.in) was created and it provided access to detailed lists of testing centers, beds, teleconsultation leads with contact details of individual doctors, ambulance services etc. to citizens.

All patients were in regular communication with a treating physician and needed to inform in case of any deterioration. Patients were expected to continue the medications for other co-morbid illness after consulting the treating physician. In case of falling oxygen saturation or shortness of breath, patients would be hospitalized or were advised to get immediate consultation of their treating physician/ surveillance team. Patient's care givers kept monitoring their health. Immediate medical attention was provided in case of serious signs or symptoms such as difficulty in breathing, dip in oxygen saturation (SpO2 < 94 percent on room air), persistent pain pressure in the chest and mental confusion.

Centralized Accident and Trauma Services (CATS) an Autonomous body of Government of National Capital Territory of Delhi, provided 24x7 free ambulance services through a single toll-free number i.e. 102. Maximum rates for private PTA (Patient Transport Ambulance), Basic Life Support (BLS) and Advanced Life Support (ALS) were set by the government and strict actions were taken against violators.

Distribution of home care kits containing masks, oximeters, thermometers, Ayush products and basic medicines like paracetamol, Vitamin C and Zinc were done by the district teams.,

In the first wave, oxygen provision at home was not recommended for patients under home isolation. However, during the second wave, Oxygen concentrator banks were created, with 200 oxygen concentrators set up in each bank in every revenue district of Delhi. In case patients under home isolation required oxygen, the Delhi government's team ensured the oxygen concentrators would reach their homes within two hours. A technician also accompanied the team who explained to the family members how to use the oxygen concentrator. Patients who were not enrolled under home isolation could call 1031 and avail the facility. Domiciliary oxygen support was provided to all patients categorized as moderate to severe who recovered, were discharged from the COVID-19 designated facilities and were prescribed domiciliary oxygen support/short-term oxygen therapy (STOT) at home. For this purpose, a portal, on delhi.gov.in was launched in May 2021, through which patients requiring oxygen could apply with a valid photo ID, Aadhar card details, COVID-19 positive report and other documents like CT scan/ report, if available.

The government partnered with Prakriti E-mobility in April 2021 to provide transportation of COVID-19 positive patients to nearby healthcare facility via a sanitized vehicle through the Jeevan Seva App.

Many hotels were attached to private hospitals, which admitted COVID-19 positive patients as per the patient's medical condition and in case the patient's condition deteriorated during their stay in the hotel, they would be immediately transferred/ admitted to the attached private hospital at reduced rates set by the government.

Similarly, Honeywell established a COVID-19 critical center in the state that was equipped with beds, oxygen, personal protective equipment kits, and basic medical infrastructure. It also funded the donation of oxygen concentrators and N95 respirators to the facility.

Awareness campaign on home care protocols were done by districts through Munadi, Nukkad natak, distribution of pamphlets and through electronic media. Incentives were provided on per case basis to Accredited Social Health Activists (ASHAs) workers and Auxiliary Nurse Midwives (ANMs). The two-member teams were given incentives at the rate of Rs. 200 per patient visited i.e. Rs.100 per team member. Further, an additional Rs. 200 for two-member team was given for refreshments.

Medical Support and Monitoring

For teleconsultation purposes, list of doctors apart from private agencies were made available. Health officials posted in government dispensaries were part of the lowest rung of a multi-layered monitoring system that monitored home isolated patients. Emergency contact numbers were shared with each patient in home isolation. They had to either call up their nearest dispensary from where they received health check calls or call up the district control room. Dispensaries operated from 9am to 5pm. Beyond these hours, the control room was the only contact point in case of an emergency.

Round the clock teleconsultation was made available through doctors of Government of N.C.T of Delhi via the 1031 COVID-19 help line number. Medical support was provided to COVID-19 patients under home

isolation through District Surveillance Officer, Medical Officer in-charge of facility, ANM, ASHA. Patients were contacted at least once a day. A widespread network of government testing centers providing free testing was established in the State. The surveillance and contact tracing of family members was done by districts under supervision of DSO and was reported to state Integrated Disease Surveillance Project (IDSP).

Home Isolation Services were provided by Portea in partnership with Delhi government: Started in June 2020 by Government of Delhi, patients were monitored remotely through a comprehensive tracking system involving government doctors and experts from Portea for the entire mandated isolation period of 17 days. Portea also submitted regular reports on their condition flagging off any health complications. If required, the company arranged for a teleconsultation with Delhi Government doctors using its technology platform. For cases where hospitalization was needed, Portea notified the appropriate government agency for action on the ground. This arrangement was discontinued within a month due to unsustainable cost to the Government.

Monitoring: Health Care at Home (HCAH) and StepOne: This organization was engaged by Delhi government to provide remote monitoring services and was instrumental in reducing the burden on hospitals that were overcrowded. StepOne was another partnership which provided tele-consultation and counselling services to the patients.

StepOne is an empaneled partner for telemedicine consultations on Aarogya Setu Mitr, an ancillary service on the Aarogya Setu app that enables free teleconsultation for those with COVID19-like symptoms. A plasma bank initiative was also piloted in Delhi in partnership with StepOne. The government partnered with them for 24x7 free online medical consultation services through the CallDoc app for non-emergency medical needs. This was an alternative to in-person OPD. They had 100 doctors on board for this purpose.

Sustainability and Replicability

As per its home isolation policy during the first wave, the Delhi government monitored the condition of patients through teleconsultation facilities and also distributed oximeters to help them keep a tab on their oxygen levels. The timely testing, isolation and early institution of treatment of COVID-19 positive cases were followed. COVID-19 appropriate behaviors were ensured among the population, which played a vital role in prevention of the next wave. An Integrated Command and Control Centre (ICCC) to manage COVID-19 on a real-time basis in the city was established which integrated all the above services.

GOA

Overview

In Goa, health services were delivered at community level and to home isolated patients by community health workers including Multi-Purpose Health Workers (MPHW), Anganwadi Workers (AWWs), traditional medicine practitioners (AYUSH), social care workers (NGOs – Rotary club, Lion's Club, Jaycees), and a variety of formal and informal community-based providers (Churches, Temples, prominent citizens, trusts, CSR).

StepOne helped in telemonitoring of patients under home care during the second wave. (StepOne, is a non-profit volunteer driven collective of 7,000 doctors. The organization launched a National COVID-19 Telemedicine Helpline, offering 24x7 access to healthcare experts, free of cost).

Inclusion and Eligibility Criteria

Home care was only considered for adults with confirmed or suspected COVID-19 symptoms. Psychologically fit patients with mild or asymptomatic cases were advised for home isolation. Also, the presence of a willing caretaker and appropriate home environment were prerequisites. Patients were excluded from home care if abnormal self-monitoring parameters were observed, including SpO_2 < 95 percent, Pulse rate > 100/ min and temperature > 100F. Patients with uncontrolled or severe comorbidities, pregnant women, patients without caretakers and children with moderate COVID-19 symptoms were restricted from home care.

Intervention Details

The state government rolled out innovative and engaging communication messages to educate communities on COVID-19 management. For awareness generation, information education communication van with pictographs, billboards and pamphlets were sent across the state. Village wise posters and banners were installed at public places which explained the concepts of hand-wash, social distance, importance of facemask and vaccination. Door to door surveys and campaigns by MPHWs, AWWs, local governing bodies (Panchayat members) were initiated to explain home isolation protocols.

Home based testing was provided for disabled and elderly. Telemedicine facilities were started at hubs staffed by Medical Officers (MOs) and counsellors. Transfer protocol was prepared to transfer patients to COVID-19 Care Centers (CCC) through a designated ambulance in case of moderate or severe symptoms.

Medicine kits were distributed at home by MPHWs. These kits included instructions on use of medicines by the health department of Goa. Medicines were provided free of cost to patients at the Primary Health Care (PHC) level. In addition, pulse oximeters and thermometers were provided with batteries. Personal Protective Equipment (PPE) for 10 days home isolation (N95 face mask, 3 ply face mask, gloves, sanitary wipes, sanitizers) were made available for all home isolated patients.

Medical kit

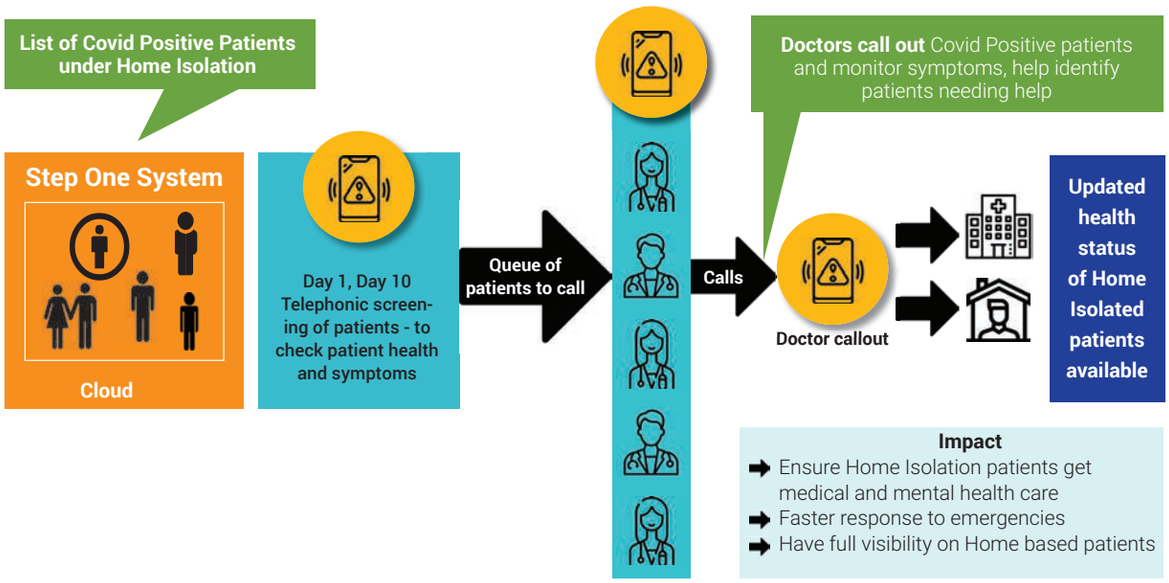
Oxygen saturation through self-monitoring was supervised by MOs through telemedicine. The portal was also used to triage and transfer patients to CCCs. Dedicated ambulance with Basic Life Support (BLS) was arranged for home pickup and drop to CCC. MOs-initiated referral and supervised transfer for all patients who developed severe and moderate symptoms. Many private providers helped in this initiative. Private companies like Syngenta Indian Limited, Deccan Chemicals provided vehicles for patients transfer. Jindal Steel Works provided a BLS equipped ambulance for COVID-19 patients under their Corporate Social Responsibility (CSR) initiative. Rotary Club provided two RT-PCR testing machines worth Rs. 80 lakhs at North Goa District Hospital facilitating decentralized processing of test results.

Medical Support and Monitoring

A district wise call center was set up. PHC MOs supervised home isolated patients through telephone and maintained their records (Pulse, temperature, oxygen saturation) on a daily basis. Every patient was contacted daily until their home isolation period was completed. Auxiliary Nursing Midwives (ANMs) were tasked with Sub Centre based vaccination and supervising home-based isolation by phone. Home isolation monitoring services were offered through StepOne. Day 1-10 schedule was maintained to monitor patients. Automated Int calls from Day 2 till Day 9 were done to monitor patients' symptoms. Patients were called on Day 10 to check their discharge from home isolation. Automated Interactive Voice Response (IVR) calls were done from Day 11 to Day 17 for case of symptomatic patients.

The Government of Goa partnered with StepOne to create a Goa Online Portal with a Home isolation monitoring channel, which helped track and monitor home isolated persons and proved to be a better model than the one where calls were made by persons.

Home Isolation Monitoring



Ensure Home Isolated patients have full access to doctors via Telemedicine!

During the first wave, transmission was mostly reported through tourists coming into the state followed by the local transmission. However, in the second wave there was a sudden increase in local transmission with an increase in asymptomatic cases being reported. As hospitals were burdened with the surge in cases, COVID-19 Care Centers (CCCs) were made functional with oxygen transport and storage facilities. Decentralized oxygen therapy was commenced at the CCC. Further, efforts were made to provide care to home isolated patients and large-scale vaccination drives were conducted in old age homes.

Scalability and Replicability

Going forward, the state aims to focus on testing patients through Mobile Vans in schools, factories, housing localities as per localized outbreaks. Further steps have been taken towards empowerment and integration of AYUSH doctors for preventive and primary care for mild COVID-19 infections.

JAMMU AND KASHMIR

Overview

The Government of Jammu and Kashmir (J&K) adopted an innovative approach to manage and contain the pandemic. There were local district level triage centers to ensure proper patient examination and referral, reducing unnecessary burden on tertiary and referral hospitals. COVID-19 kits were given to patients and Interactive Voice Response System (IVRS) was made available on round-the-clock helpline 104. The state partnered with Norway India Partnership Initiative (NIPI) and Health Information Service Provider (HISP) India to create a COVID-19 dashboard for the state. 20,000 COVID-19 Care Center (CCC) beds were activated across the state close to rural areas in all the 20 districts with 1,000 beds each. Patients requiring isolation were identified by the Panchayats/ concerned Medical Staff and Accredited Social Health Activist (ASHA) workers.

Intervention Details

Over 20,000 CCC beds were made available across J&K for COVID-19 positive patients with no or moderate symptoms who did not have the necessary facilities in their homes for home isolation. Districts established local district level triage centers to ensure proper examination of patients and correct referral, reducing unnecessary burden on tertiary and referral hospitals. Further, COVID-19 kits containing an oximeter, basic medicines, vitamins, cough syrup, and pamphlets of dos and don'ts were distributed to COVID-19 positive patients in home isolation.

State government's outreach measures included consultation services over the IVRS and a round-the-clock helpline number 104. At a glance, COVID-19 dashboard provided real time information about confirmed, active, recovered cases, deaths, positivity rate, recovery rate, fatality rate, test per million at a single glance, geotagging and clustering of cases, health system preparedness, ICU availability and isolation beds available to facilitate and generate appropriate and timely response, etc.

In addition to this, Swasthya Nidhi App provided real-time information on the various surveillance activities conducted by the state.

Monitoring and Medical Support

Over 300 Anganwadi Workers (AWWs) were tasked to carry out door-to-door visits to check on the health status of patients on a daily basis. In addition to this, ASHA volunteers visited patients' homes daily as part of surveillance measures.

Further, the government established a five-bedded CCC in every panchayat, with one oxygen supported bed (equipped with an oxygen concentrator) and other basic facilities in collaboration with the local Panchayat Raj Institutions (PRIs), Departments of Health & Medical Education, Social Welfare and Education. These centers were equipped with necessary medical kits and mapped to nearby health facilities with provision of medical consultation, testing, ambulance services and isolation of positive patients.

HARYANA (KARNAL)

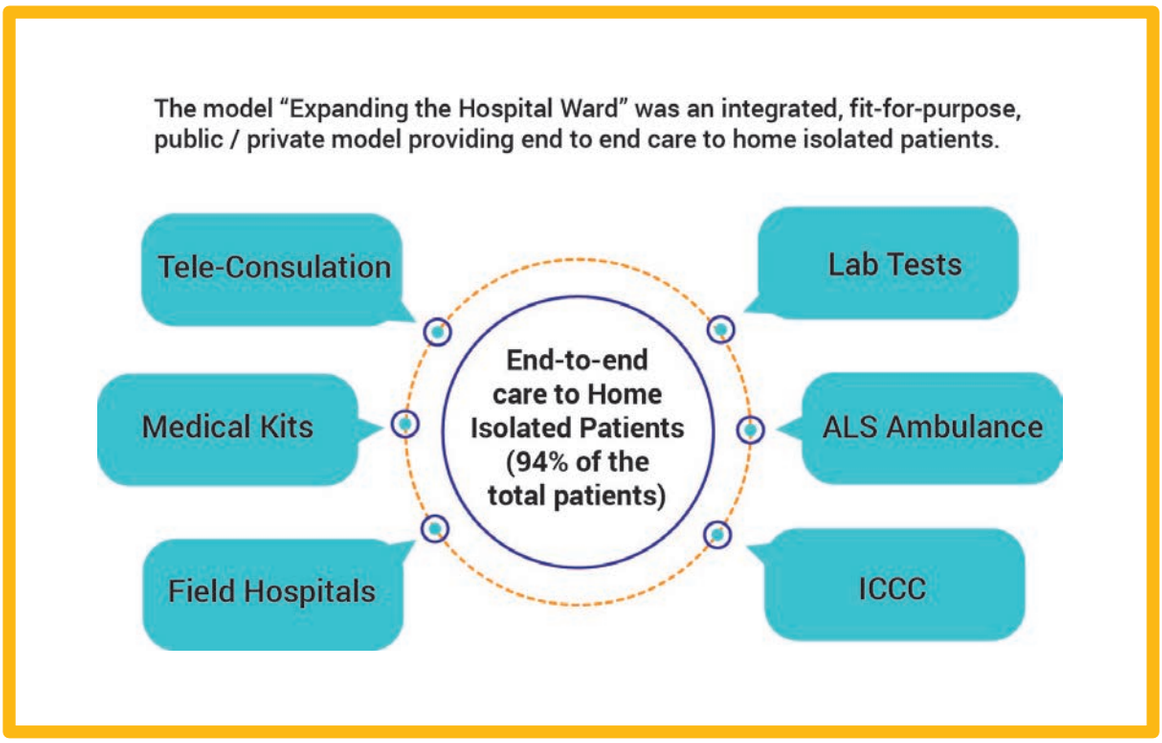
Overview

The Government of Haryana, with support from Deloitte, launched 'Sanjeevani Pariyojana' (or 'the life project'), a supervised, virtual home care initiative to provide individuals with support and resources to manage their care at home, including access to virtual triage, as well as links to COVID-19 hospitals and inpatient facilities when deemed appropriate by state-trained medical staff.

The program addressed immediate and intermediate needs while establishing a foundation for long-term needs in order to reduce the burden on India's healthcare infrastructure. The main aim was to augment home care support to enable recovery and treatment while in home isolation. It began with identifying cases at early stages and ensure early recovery. The model was executed through seven key interventions carried out in a Public Private Partnership (PPP) mode by the state government, Karnal district administration, and Deloitte. In just 3.5 weeks, the Karnal district launched and implemented an end-to-end support system.

This model also served as a guide for other State/District Administration in India for replicating in other regions. The five key interventions included the following:

Karnal district launched and executed end to end support system in merely 3.5 weeks



Inclusion and Eligibility Criteria

When a patient was tested positive, a doctor would performed medical triage in accordance with government guidelines, classifying the case as mild, moderate, or severe. Home isolation was recommended for mild cases, and ASHA workers delivered home care kits. In addition, these cases were monitored on a regular basis. Patients with moderate symptoms were transferred to a field hospital/ isolation ward and were monitored on a regular basis. In the most serious cases, patients were hospitalized, and community health centers arranged ambulances and shifted them.

Intervention Details

ASHA workers used Information, Education and Communication (IEC) materials to generate awareness on COVID-19 appropriate behaviors, helpline, home isolation protocols and isolation facilities. They were also responsible to conduct early detection/ referrals of suspected cases, assessed health status inquiry of all individuals, monitored adherence to home-isolation protocols, followed-up with individuals who were referred for testing and sent updates on the status of the individuals. They also alerted Primary Health Care Medical Officer (PHC-MO) MO/ helpline if a suspect individual had not gone for testing. Priority health status check-ins were done for vulnerable populations, including those with a history of contact with positive/ suspected cases. ASHA workers engaged with MOs at PHCs to update their details on the Sanjeevani app. This information was assessed and monitored by the ICCC at the District level for all home isolation cases.

Field-Hospitals were set up and equipped with supplies such as oxygen beds, oxygen concentrators, 24x7 medical teams with dedicated doctors & staff nurses to accommodate a potential surge in COVID-19 patients. Field hospitals had dedicated ALS ambulances stationed round the clock with the idea that any patient in need of critical care can be shifted to the nearest tertiary facility in the shortest span of time. Isolation wards were created in 50 villages in the district, wherein patients who were positive and asymptomatic and were not in need for hospitalization were given support in isolation away from their families.

Home isolated patients were provided home care kits with basic medical aid equipment and medicines to effectively monitor home isolation cases or to detect early symptoms. Nodal officers were deputed for this purpose to ensure last reach through ASHA, ANMs, patwari, gram sachiv (secretary) to ensure every patient received kits at their doorstep. A home care kit generally included: thermometers, pulse oximeters, oxygen concentrator, steamer, triple layered masks, ORS packet, medicines (paracetamol, vitamins, etc.)

6,500 home care kits were prepared and distributed which contained 6,500 pulse oximeters, digital thermometers along with other medical essentials. 200 Oxygen Concentrators were also supplied. In addition to this, interns from the medical college in the State were roped in to provide medical consultations.

Distribution of medical kits to the community members

Medical Support and Monitoring

A team of 200 final and pre-final medical students (from KCGMCH) were selected to monitor patients in home care. Each member of the team was assigned 25 patients and was responsible for calling them every morning and evening to check their vitals. These readings were entered into a designed proforma tabulated in an excel sheet. If the parameters of any patient on any given day indicated that he or she might require hospitalization and admission in a field hospital/ tertiary hospital, the issue was escalated to the consultant

(a senior doctor at KCGMCH), who then notified the district administration. Each student received an honorarium of Rs.5000 per month, as well as extra marks in their internal assessment. In case the patient's condition deteriorated, the team coordinated with ICCC to shift the patient to appropriate facilities.

A COVID-19 hotline was set up for citizens. This hotline responded to citizen queries, directed them to the right medical channel and proactively monitored health status of active / suspect COVID-19 positive cases. Mobile testing was an important feature of this model. Testing was done on 5th/ 6th day of all home isolation cases for Complete Blood Count (CBC), Blood Sugar, C-Reactive Protein (CRP) test (Quantitative) and results were provided within 24 hours.

The ICCC which was set up as a Smart City initiative was activated for monitoring and management of COVID-19 care. The ICCC was made responsible for capacity monitoring and management of medical facilities. Data on healthcare capacity was collected at each hospital, and was entered by the administrator into Sanjeevani portal. It tracked available capacity across district for beds, ICUs, ventilators and availability of other infrastructure.

The center also played a major role in inventory management. It tracked inventory within the facility and provided alerts when stocks dropped below a set minimum level. It showed data on the no. of Personal Protective Equipment (PPE) kits or other items used in any isolation ward/ healthcare facility and showcased total consumption and stock remaining for the district. It was also used to capture details regarding oxygen availability and usage.

The ICCC had a capacity dashboard to aggregate number and real time availability status of all beds across categories, like normal beds, individual rooms, ICUs, Ventilators, etc. Oxygen Dashboard showed availability of oxygen, burn rate as well as the time left for the stock to empty. Patient dashboards showed the numbers of patients in various kinds of admission within various facilities.

The ICCC also supported centralized decision support systems and capacity management by bringing together patients, doctors, hospitals, labs, specialized treatment centers, hospital administrators, tele-health professionals, etc., throughout the patients journey to enable a single view of the healthcare system for the district administration (bed capacity, health care personnel, oxygen, ambulances, current patient count, status, etc.). It enabled integrated tele-medicine, real-time bed-allocation, patient shifting and war room dashboards driving efficiencies in field-operational processes at district/ panchayat/ ward level.

The ICCC was also linked to ambulances, testing and mobile pharmacies. Advanced Life Support (ALS) ambulances and mobile pharmacies were deployed. Since Basic Life Support (BLS) ambulances cannot administer medicine, and critical COVID-19 emergencies required advanced care, 8 ALS ambulances were stationed at Community Health Centers (CHCs) to ensure that any patient in need of care and attention could be transported to the nearest tertiary care facility. The ambulance association was leveraged to source ambulances for deployment in a very short time. The administration tied up with a private agency, Hindustan Wellness Lab for home-based Lab Blood Tests of 3 types (CBC, CRP & Blood Sugar) at subsidized rates (Rs. 460 per test) that helped district administration identify COVID-19 positive home isolated patients who were in a need to shift from home to field hospitals/ tertiary hospital. Home collection of test samples were done through Sanjeevani app.

Dedicated Village Isolation Centers (VICs) were established with the help of Development & Panchayat Department, Haryana, near the villages Schools / Panchayat Bhavans / Chaupals etc. and had the facilities of well-ventilated rooms, separate toilet facilities, adequate staff and logistics. DDPOs were designated as Nodal Officer and also assigned the responsibility of providing logistics & maintaining VIC for patients.

Gramin Swasth Suraksha App – an application for online and real time screening of village population through ASHA workers was developed.

Scalability and Replicability

To replicate the model and scale it up to larger geographical units, a playbook has been created. The book proposes a three-tiered model that could leverage the existing state administrative structure and allow for the establishment of an ICCC at the state level. As Medical Colleges were not present in every district and each Medical College served three to four districts on average, tele-consultation were envisioned at the Division level. Similarly, Division Level ALS Ambulances were provided to connect CHCs/ District Hospitals to Medical Colleges.

This model is planned to be replicated in other districts of Haryana and is further planned to be implemented in few districts of Gujarat and Karnataka (in partnership with Deloitte). However, the model's long-term sustainability is yet to be determined; however, it can improve disease surveillance capabilities by analyzing geo-tagged data to identify potential hotspots and vaccination priorities – and it can be extended to other primary healthcare priorities (e.g., NCD).

MADHYA PRADESH

Overview

The Government of India has endorsed Home Based Care (HBC) for asymptomatic and mildly symptomatic COVID-19 patients. HBC if left unmonitored, poses the risk of inappropriate care, and increased familial transmission. In view of this, Government of Madhya Pradesh (GoMP), in cognizance with the guidelines from the Government of India devised a 'Monitored Care Strategy' and public health measures for 'Home care for patients with COVID-19 presenting with mild symptoms and management of their contacts'.

The key objectives of HBC were to identify and support COVID-19 patients who could receive care at home. Homes create an opportunity for emotional care and support needed for recuperation. Clinical monitoring and treatment of COVID-19 patients at home and protocol for referrals of suspects/ symptomatic and isolation of symptomatic cases leads to decongestion of health facilities and makes room for health workers to focus on critically ill persons who require face to face examination and treatment.

An integrated tech-enabled HBC model through the 'NISHTHA Tele-Track' was launched in two districts, Khandwa and Rajgarh as an enabler for effective monitoring and tracking of COVID-19 patients with support from USAID-NISHTHA/ Jhpiego. The platform acts as an enabler for effective monitoring and tracking of COVID-19 patients and has functionalities for recording vitals of home isolated cases on a daily basis, provision of regular & need based SOS telemedicine consultations with a pool of physicians, digital reporting and with generation of system alerts in case a patient develops symptoms and requires referral.

Inclusion and Eligibility Criteria

Patients who tested positive for COVID-19 either through Rapid Antigen Test (RAT) or RT-PCR and have mild symptoms or are asymptomatic are eligible for home isolation.

Intervention Details

The Kill Corona Initiative of the state was launched during the first wave of COVID-19 and was further revamped and re-launched during the second wave. The initiative had put forth an elaborate plan that efficiently aided in identifying, testing and treating COVID-19 suspects. The surveillance strategy for the Kill Corona Initiative included house to house visits for population-based screening at rural and Nagar panchayat areas and setting up COVID-19 Sahaytha Kendra at urban areas.

Community Health workers and Accredited Social Health Activist (ASHA) workers prepared a line list of all people who travelled to other countries or other states of India in last 14 days and counselled them

on COVID-19 appropriate behaviors and home isolation protocols. This line list was then shared with the Medical Officer (MO) at the Primary Health Center (PHC).

Once tested positive, patients were tracked through the NISHTHA Tele track for 10 days. The team comprised of Medical Doctors, Nutritionists, Nurses, and counselors. During the 10 days, if there were symptomatic patients with danger signs, the team immediately initiated referral linkages with the tertiary hospital for early initiation of treatment. This helped in preventing delays in hospital admission which is considered as one of the contributing factors for high mortality. Till date, a total of 86 cases have been registered, out of which 17 cases successfully completed 10 days of home isolation without any complication and were discharged from home isolation. No case has been referred to a higher facility and no mortality has been reported till date.

Counselling of COVID-19 positive patients' family members under home isolation by Community Health Officer and ASHA workers

Medical Support and Monitoring

A medical team comprised of certified Doctors, Nurses, Nutritionists, and counsellors to do regular follow up on all the positive cases for a period of 10 days for patients who were enrolled in the NISHTHA Tele track platform. The certified doctors consulted with the patients on the first, third and seventh day. The nutritionist followed up on day 2 for nutrition counselling and on the fifth day mental health counselling was provided by experienced clinical psychologists or counsellors. The nurses followed up for all 10 days to assist patients regularly. There was also a provision for live teleconsultation with a specialist doctor in case of any emergency.

The state also leveraged teleconsultation and helpline through Interactive Voice Response (IVR) technology which helped in reaching out to patients round-the-clock, improving data quality, reducing costs by automating communication processes. Primary healthcare workers, Anganwadi workers (AWWs) and doctors, Auxiliary Nursing Midwives (ANMs) in Primary Health Centers (PHCs)/ Community Health Centers (CHCs)/ District hospitals were deployed to cover 50 households each where they would keep track of the patient's vitals on a daily basis. Further Medical Officers (MOs)/ doctors visited the households on first and last day of the home isolation period to determine them as physically fit.

Distribution of medicines to patients by Community Health Officer

All the above interventions were connected and monitored by an integrated command center. The list of asymptomatic positive patients was provided to the central command center and patients were monitored twice a day to assess vital parameters and clinical condition of patients on a pre-designed questionnaire. In case the team identified moderate to severe symptoms, the call would be forwarded to the on-board MOs/ MBBS doctor to ascertain the condition and provide solution for the same.

Health workers' visit to patients in home isolation.

Mobile testing booth and teams were formed to collect samples of the suspected cases with the help of the list provided by the central command center. This was done through the SOS calls received which were verified by the MO where the details of the address were forwarded to the ground team to collect the sample. These results were forwarded to the respective facilities to determine home isolation or referral to higher facilities. State and district Rapid Respond Team (RRT) roles were to identify, isolate and track the contacts of the positive cases with the help of information and lists provided and submit the report/ data to the control room.

Scalability and Replicability

The COVID-19 pandemic is here to stay and the sudden surge of cases in the second wave highlighted that there is a need to be better prepared to curb the pandemic. With the third wave approaching, the state has initiated a few models including large COVID-19 vaccination drives, sanitization of market areas, promoting self-hygiene practices, establishing control room for monitoring and feedback of COVID-19 and other scalable and replicable models. Other measures include setting of buffer stock of medicines, oxygen cylinders and concentrators by creating a pandemic/ communicable disease fund, creating Information, Education and Communication (IEC) materials, building hospitals or scaling up of capacity of hospitals in terms of ICU beds and oxygen supported beds, earmarking and creation of separate blocks for communicable diseases, creation of control room for monitoring and feedback of communicable diseases e.g. COVID-19 ,TB etc. on regular basis for continuum of care and using of GPS facility of mobile for monitoring, surveillance and contact tracing activities for current and future times. These measures are used for other programs and can be replicated for COVID-19 as well.

The state has also launched an important initiative called 'Swasthya Sampark', a post COVID-19 care initiative in collaboration with USAID's flagship health system strengthening project NISHTHA, implemented by Jhpiego. The platform acts as an enabler for effective monitoring and tracking of post COVID-19 patients and has functionalities for recording vitals of patients on a daily basis, provision of regular & need based SOS telemedicine consultations with a pool of physicians, digital reporting with generation of system alerts in case a patient develops symptoms and requires referral. This post COVID-19 platform is a remote help desk integrated with telemedicine (teleconsultation & tele counselling) to support individuals recovered from COVID-19. The patients can connect through a toll-free service care number wherein a trained health professional will attend to patients calls and address their concerns. Further, patients requiring advanced care will be connected to a medical doctor through telemedicine, thereby providing timely and right home care. The platform would also provide services like mental health counselling, dietary counselling through tele counselling services as well as treatment for any medical ailment developed or worsened during post COVID-19 period through teleconsultation services.

MANIPUR

Overview

The state of Manipur adopted 'Home Isolation' (HI) for patients who were either asymptomatic/ mildly symptomatic and willing, fit or wish to stay under HI to reduce the burden on the health system. Under this initiative, the state created a HI team at the state and district levels. The team at the state level was led by the Joint Director whereas at district level it was led by the Chief Medical Officer (CMO). Home isolation team activities included enrolment, line-listing, drug distribution, tele monitoring, home visits and referral and discharge of HI patients.

The state adopted a comprehensive home-based care system which included triaging of patients, regular monitoring through teleconsultation or visits (if required), delivery of home isolation kits (medicines, mask, pulse oximeter, sanitizer, etc.) and referral services. In case of a surge in COVID-19 cases in the state, hospitals and services of healthcare professionals need to remain available for treatment of severe symptomatic COVID-19 patients or other non-COVID-19 ailments, medical procedures, emergency cases, etc. The adoption of HI will therefore go a long way in curbing the spread, through early containment and reducing the overall burden on health facilities.

Inclusion and Eligibility Criteria

The CMO designated a medical team to examine and identify the COVID-19 positive cases eligible for home isolation based on the following criteria: Minors (below 10 years of age) or babies who were asymptomatic; pregnant women where the Expected Date of Delivery is at least one month and were asymptomatic; patients with mild symptoms who did not have any other co-morbid conditions and had the availability of being supervised by trained health staff; asymptomatic elderly patients (60 years and above) and persons with any of the following ailments: hypertension, diabetes, heart diseases, chronic lung/ liver/ kidney diseases and patients who were immuno-compromised could be allowed to remain under HI after proper evaluation by the medical team.

Intervention Details

Awareness campaigns on home care protocols: Information, Education and Communication (IEC) materials (posters, leaflets and stickers) on COVID-19 Appropriate Behaviors and COVID-19 were developed and distributed. The state also developed videos on home isolation, pulse oximeter, use of masks, mental health etc. to educate the community which were telecast on electronic media and social media. Videos on proning and home isolation were developed by USAID-NISHTHA/ Jhpiego which were shared with all the Community Health Officers (CHOs), who further disseminated it to persons under HI under their Health and Wellness Centers (HWCs). In addition, awareness sessions were conducted by CHOs and Accredited Social Health Activists (ASHAs) for persons under HI.

HI Kits

Delivery by HWC staffs

Demonstration by Asha Workers

Co-ordinated efforts at village level: There were coordinated efforts by Civil Society Organizations, Panchayati Raj Institutions (PRIs), Local Club Volunteer, Teachers, Anganwadi Workers (AWWs), ASHAs, National Cadet Corps, in manning isolation of mild/ asymptomatic cases at identified Community COVID-19 Care Centers (CCC) and Community Home Isolation Centre (CHIC). These centers were run by the concerned assembly constituency of the COVID-19 management team. The district isolation team including CHOs visited the CHIC from time to time to ascertain the status of the patients.

Distribution of HI Kits: ASHAs supported in identification of houses suitable for HI, distribution of HI kits, demonstration of pulse oximeter and contact tracing. As on August 3, 2021, 67,978 drug and HI kits were distributed through ASHAs. Following discharge, pulse oximeters were collected by ASHAs and reused after sanitization. ASHAs were also given special incentive for recollection of the pulse oximeters. In case of difficult terrains, special mobile teams and volunteers were deployed.

Referral and helpline support: In case any HI patients required oxygen, they were referred on an immediate basis to CCC or COVD Hospitals. For patients with moderate/ severe symptoms, the district nodal officer was informed and these patients were referred using state ambulances deployed at all districts. Currently the state has 41 Ambulances meant for COVID-19 (12 Advanced Life Support and 29 Basic Life Support).

Partnering with other organizations: The state partnered with Medicine Sans Fontier (MSF) NGO for conducting home visits for physical examination of patients in Imphal west, Imphal East district and Thoubal District which had high number of COVID-19 cases. The state was also supported by USAID-NISHTHA/ Jhpiego for strengthening home based care at the HWC level.

Medical Support and Monitoring

Virtual telemedicine/ helplines/ call centers were set up wherein the State Home Isolation Control room routinely followed up with HI patients to check their vitals and counsel them on the home isolation guidelines. Follow up calls were made on the fifth day for early identification of moderate severe signs and symptoms. Follow up calls were also made to patients with co-morbidities to check their BP and blood sugar status. In case of patients who developed moderate or severe symptoms, hourly follow up was done until they were admitted to COVID-19 Care Centers/ Hospitals. Separate eSanjeevani OPD for HI patients and eSanjeevani helpline number was also initiated. Two state HI helpline numbers were made operational on a 24x7 basis. In

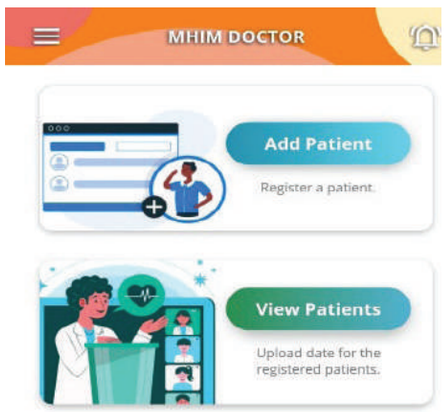
Weekly Zoom meeting with the districts followed by weekly field visits by the state and zonal doctors to different PHC /HWC of Imphal East and Imphal West

case of high case load districts, viz Imphal East and Imphal West -10 landlines were made operational in each control room for daily monitoring. Further, each patient was assigned a Medical Officer (MO) and a monitoring Team (Nurse/ CHO).

The State Home Isolation Team led by State Nodal Officer HI and assisted by Deputy Director (Public Health) and Specialist (Public Health) of different division conduct daily supervision of HI line listing, HI kits and drug distribution.

The medical response team led by Deputy Director (PH) and Clinical Pharmacologist conducted home visits for examining patients developing symptoms/ patients with comorbid conditions. For such patients a team of doctors and nurses visited on a regular basis to ensure IV administration, blood glucose test, BP check-up and other necessary minor procedures.

The State Medical Resource treatment group led by Senior Specialist doctor were available for immediate online consultation for all the doctors and nurses in the field. This team included faculties of RIMJS, JNIMS, IMA and state Doctors who were available through WhatsApp or telephone calls.



At the district level, a team including District nodal officer and Medical officer (CHC/ PHC) in charge, Assembly constituency level doctor (in-charge of Home isolation), CHO /ANM in charge of Home Isolation at DH, PHC, HWC, PHSC level visited the patients on a regular basis. The vitals and symptoms of the HI patients were recorded in a monitoring sheet maintained by the health worker. This was also uploaded in the MHIM app.


Weekly field visits by DNO HI and AC doctors to PHC /PHSC /Community Home Isolation centres and supervisory visits for any urgent case

Linkages were also established with an integrated command centers, where relevant data was shared with District Contact Tracing Team. The data was also shared with the Integrated Disease Surveillance Project (IDSP) team and tracing was done by each team of the districts. The HWC staff also conducted physical contact tracing in their HWC jurisdiction.

Grievance Cells for HI were also opened at the office of the Chief Minister in the month of May 2021 to sort out issues/ complaints raised by HI patients through a dedicated Grievance Cell number.

Scalability and Replicability

The state plans to scale up the home-based physical assessment visits for patients across all districts. This is currently operational in three districts which have the highest case load. This structure can be integrated with the existing public health system and can be made sustainable for future emergencies.

The State Model of Home Isolation of Manipur is defined and guided by structured SOPs, flowcharts and guidelines. The state has clearly defined roles and responsibilities across various levels which ensures accountability at all levels and an integrated continuum of care. The system can be well replicated and scaled up to other districts/ state with some adaptations.



MEGHALAYA

Overview

During the first wave, 98 percent of the cases in the state of Meghalaya were asymptomatic and during the second wave in the month of April, 2021 (before starting Home based care management) 83 percent of the active cases were asymptomatic. Due to the exponential rise of cases during the second wave there was a need to reduce the burden on hospitals. The bi-phasic nature of COVID-19 called for an early intervention and monitoring mechanism in order to reduce the number of severe cases and deaths. This called for a Home Based COVID-19 Management - a psychological and medical support for the COVID-19 infected patients in Meghalaya particularly in Shillong, which reported the highest cases in the state with significant mortality rates.

The urban area of East Khasi Hills, which is divided into 10 zones are manned by two zonal Nodal Officers (ZNOs). Each zone has a mobile team which includes 1-2 Medical Officers (MOs) and 5-10 Staff Nurses. Intensive training by specialists was provided to MOs and Staff Nurses on home-based management of mild and moderate COVID-19 cases, infection prevention practices, oxygen therapy, non-invasive ventilation, nebulization, metered dose inhalers etc. These trainings were conducted in partnership with development partners including USAID-NISHTHA/ Jhpiego, UNICEF, WHO etc. Each team was equipped with required essentials at field level such as medicine kits for adults/ children, home isolation kits for COVID-19 positive patients and monitoring formats.

The objective was (i) to provide home Based basic care to mild to moderately affected COVID-19 persons who did not require in-hospital care (ii) to ensure continuous monitoring of COVID-19 symptomatic persons (iii) to ensure timely identification of disease prognosis and early referral by understanding the bi-phasic nature of the disease (iv) to reduce the burden on hospitals (v) to strengthen the knowledge of caregivers regarding protocols to follow while taking care of COVID-19 positive persons and (vi) to provide psychological and moral support during times of pandemic.

Inclusion and Eligibility Criteria

Initially home isolation was mandated for COVID-19 patients who were 45 years and above of age. However, this was later expanded to all age groups. Asymptomatic cases and mild symptomatic case, persons who were psychologically fit and willing for home isolation were mandated for home isolation. Further, home was practiced initially only in the urban areas of Shillong agglomeration and was later extended to peri urban areas of Shillong. Over time this was extended to other districts as well.

Intervention Details

Awareness campaigns were conducted on home care protocols through the state COVID-19 helpline, innovative IEC messaging including home isolation diaries, COVID-19-Home Care Hand-Book, posters, banners, advertisements on newspaper and through field level staff. Front line workers including Accredited Social Health Activists (ASHAs) / Auxiliary Nursing Midwives (ANMs), Urban Primary Health Center (PHC) staff were leveraged to create awareness and follow up with patients under home isolation. Community COVID-19 Management team (CCMT) and Block war Rooms - a one stop center was established at every Development Block (rural areas) and Zones (urban area). These centers were functioning 24x7 on all COVID-19 related matters.

The Integrated Disease Surveillance Project (IDSP) team shared the list of all the positive cases from urban and peri urban areas of East Khasi Hills with respective Zonal Nodal Officers for follow up visits on a daily basis. The home-based care management team confirmed the same by calling each and every patient. Confirmed patients and follow-up patients are visited by the team. All asymptomatic and mildly symptomatic patients were treated and severe patients were referred to hospitals. The onset date of symptoms was captured by the team and the team regularly followed up from Day 6 to 10 to identify any biphasic cases. Follow up visits of such patients were also regularly done. Specialists were also engaged on a need basis under home based care management.

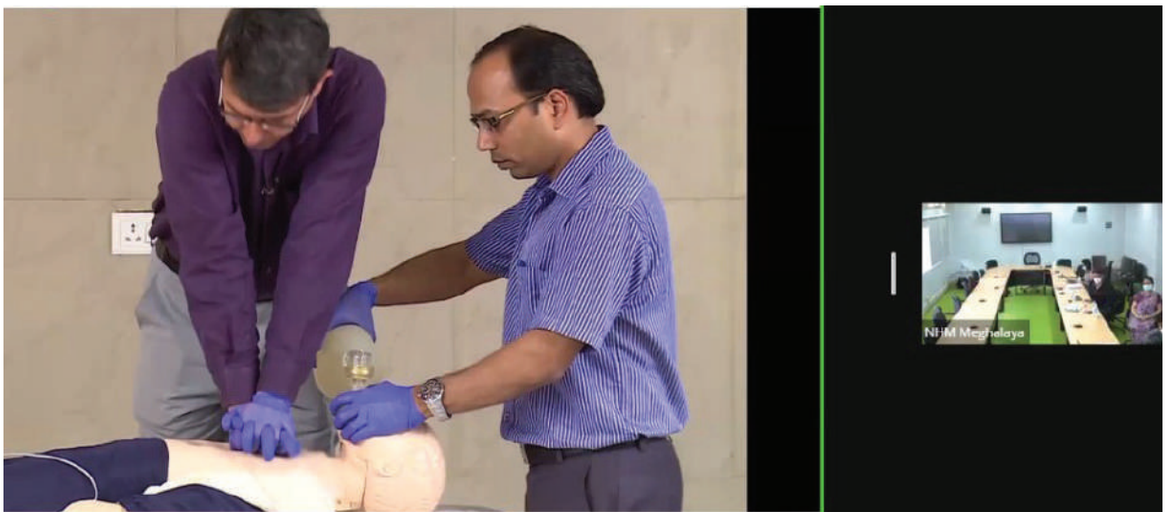
Home care kits including pulse oximeter, thermometer, masks and medicines as per the government's guidelines were distributed free of cost at the doorstep of patients. Oxygen concentrator were made available free of cost to patients. Ambulance services were provided in case of emergency. Block war rooms also coordinated in deployment of community ambulances.

Medical support and Monitoring

Virtual telemedicine/ helplines/ call centers: 14410 - COVID19 State Helpline number played an important role in reaching out to people who were both inside and outside home-based care management areas. The executives were trained on COVID-19 and the changing needs of the pandemic. They helped the district administration in identifying the cases where medical assistance was required. Nodal Officer/ MO contact details of each zone were shared with patients.

All patient's details were uploaded on Health Management System software on a regular basis, the same was monitored by the backend team. A home-based care management team consisting of nurses and supervised by doctors visited the patients on a regular basis. Daily cumulative reports were also submitted to the Mission Director, NHM. An integrated command center was linked through regular meetings, daily reports and through HMS software

High risk contacts of the patients were referred to nearest testing centers and whenever the need arose, testing arrangements were done at door-step. Surveillance teams were headed by a District Surveillance Officer.



Meghalaya training pediatric covid-19 care-3

Scalability and Replicability

Scalability plan is to scale up this model and cover other urban areas of the state. The distribution of the population in the state is such that a relatively dense population is found only in certain pockets and rest are sparsely spread across the entire state. The terrain is tough but COVID-19 has reached even the remotest region of the state. Keeping this in mind, home based tele consultation of the COVID-19 patients through NISHTHA Tele-Track was initiated in collaboration with USAID's flagship health system strengthening project NISHTHA. This has been rolled out recently on a pilot basis in the districts of Ri-bhoi and West Garo Hills districts. This model will complement the home-based care management model of the state.

MIZORAM

Overview

Mizoram being the second least populous state with a population of 11.9 lakhs was also badly affected by COVID-19. The state somehow managed the first wave of COVID-19 without the need of home isolation for COVID-19 patients. However, with the surge in cases during the second wave, the state was unable to accommodate all COVID-19 patients in hospitals, thereby necessitating the need for home isolation strategy. Following the MoHFW's recommendation, the state government decided to keep patients who were eligible for self-care under home isolation which comprised of at least 30 percent of the total cases in the state.

One of the main objectives of home-based care for COVID-19 positive patients in Mizoram was to minimize the burden of health care facilities due to rapid rise of COVID-19 positive patients. The state adopted the approach of supervised home-based care with an aim to prevent and reduce the severity of the illness by providing care as per the need of the patient. Further, other approaches included monitoring and tracking of patient conditions using digital and non-digital interventions, identifying patients with severe illnesses and ensuring timely referrals.

Inclusion and Eligibility Criteria

Eligible COVID-19 positive patients who were willing to undergo home isolation signed an undertaking on self-isolation. Patients with no clinical symptoms or very mild cases/ pre-symptomatic cases were cleared by the treating Medical Officer (MO) and advised home isolation. Those who had the requisite facility at their residence for self-isolation and for quarantining the family contacts were also advised home isolation. It was necessary that a care-giver was available for 24x7 with a communication link between the caregiver and the hospital. Patients were also required to monitor their health and regularly inform their status to the District Surveillance Officer for further follow up

Intervention Details

Awareness campaigns on home care protocols was done digitally and through various other media including local newspapers, local channels, Television scrolls, YouTube channels, WhatsApp and display of Information, Education and Communication (IEC) materials related to COVID-19 care on Health Department website.

State level and district level IDSP teams conducted active case finding in containment zones on a regular basis. The active case finding team comprised of MOs in charge and healthcare team in the particular locality or village including Multi-Purpose Workers and Accredited Social Health Activists (ASHAs). The team was responsible for contact tracing and testing of suspected cases. The state also leveraged frontline workers in containment zones for contact tracing and active case finding.

Health worker examining community members

Medicines were distributed to patients in co-ordination with the Village/ Local level COVID-19 task (VLTF/ LLTF) force who purchased and delivered for purchasing and delivered the medicines to home isolated patients at their door steps. Patients could also purchase their own medicines through VLTF/ VLTF. Free medicines were distributed to Community COVID-19 Care Centers (CCCC) for poor patients under home isolation in their own village/ locality by VLTF/ LLTF. Pulse oximeters were distributed to each Village/ Local Level Task force which was to be loaned to home-isolated patients. AYUSH medicines were also widely distributed to home isolated patients through local level COVID-19 task force.

Oxygen Concentrators were not provided directly to home isolated patients since provision of oxygen availability was ensured by the state in each community CCC for each locality. At least 50 percent of the Oxygen Concentrators received from foreign aid were mainly distributed/ loaned to Community CCC. Since every villages/ locality where COVID-19 cases were detected established CCCC in their own locality, patients who needed oxygen were referred to Community CCCs for immediate treatment.

Ambulance service arrangement was made available by the state for referring patients under home isolation. When a patient under home isolation was referred to the facility by an attending doctor, the local level task force notified the CMO and ambulance was sent to the patient and transported via the ambulance to hospital.

Medical Support and Monitoring

NISHTHA Tele-track, a home-based care model for monitoring, care and management of asymptomatic and mild COVID-19 cases under home isolation was implemented with support from USAID-NISHTHA/ Jhpiego in two districts - Aizawl East and Aizawl West. The platform acts as an enabler for effective monitoring and tracking of COVID-19 patients and has functionalities for recording vitals of home isolated cases on a daily basis, provision of regular & need based SOS telemedicine consultations with a pool of physicians, digital reporting and with generation of system alerts in case a patient develops symptoms and requires referral. The service is available 24x7 wherein newly home isolated patients were called for a period of ten days. On day one, patients were called for doctor consultation, nutritionist counselling on day two, follow-

up teleconsultation on day five according to patient's need and mental health counselling on day ten. NISHTHA Tele-track mobile App users could fill their daily vitals which is then monitored by tele-callers. An option for SOS call service was also provided for patients in case of any emergencies.

In addition to tele-consultation, 102 COVID-19 helpline was made available for any patient for COVID-19 related calls. The state has a strong community engagement mechanism for COVID-19 management. NGOs and Village/ Local Level COVID-19 Task force (VLTF/ LLTF) closely monitor and manage COVID-19 patients at the community level. WhatsApp groups were formed where patients under home isolation were also group members of and monitoring was done locally via chats and phone calls at the local level. Referral linkages between the NISHTHA Tele-track callers, local level task force and Chief Medical Officer (CMO) were created in such a way that patients who needed referral were informed at the CMO level through the local task force for transportation of patients and admission at hospital.

11 tele-callers and 10 MBBS doctors were appointed for teleconsultation under NISHTHA Tele-track service from the existing staff. District level home isolation doctor in charge who appointed from to manage the home isolation patients and necessary co-ordination for referral. The IDSP cell in co-ordination with the Village/ Local Level task force were involved in the final testing for COVID-19 patients after completion of 10 days of home isolation.

Surveillance for COVID-19 at the community level was done for persons with travel history and contacts of COVID-19 positive patients. State also mandated for home quarantine for 10 days for those who had primary and secondary contact with COVID-19 positive patients. IDSP sample collection team collected the samples from quarantined family through door to door facility once the home quarantine period was completed. Containment teams were created to conduct active case finding in COVID-19 containment zones where all the individuals with COVID-19 like symptoms were tested.

Scalability and Replicability

The state needs to strengthen infrastructure and increase human resources to reduce home isolation cases. However, technology-based interventions such as NISHTHA Tele-Track and tele-consultation can be scaled across the state. Further, fixed day tele consultation services can be introduced on existing platforms like eSanjeevani OPD for COVID-19 patients under home isolation.

NAGALAND

Overview

With the surge of the COVID-19 pandemic in the second wave, the entire country came to a standstill. Like any other state, Nagaland too witnessed an alarming statistic with a positivity rate of about 20 percent. Out of the total cases, 90 percent preferred Home Isolation as most people with the COVID-19 disease experienced mild to moderate illness and recovered without requiring special treatment. Therefore, in concurrence with the MoHFW guidelines on home isolation, the Department of Health & Family Welfare Govt. of Nagaland in partnership with USAID-NISHTHA/ Jhpiego rolled out a Comprehensive Tech-Enabled Home-Based Care Model called NISHTHA Tele track (Web-based and mobile application) and an innovative model of floating COVID-19 home isolation kits (CHIKs) in Kohima and Dimapur.

Inclusion and Eligibility Criteria

The Tele-Track model was rolled out in two districts of Nagaland-Kohima and Dimapur. Therefore, all the positive cases were monitored daily by the NISHTHA Tele track team. However, for availing of Home Isolation kits, the following criteria were followed:

(i) COVID-19 positive cases by RTPCT/ RAT who were 65 Years and above with or without symptoms.

(ii) COVID-19 positive cases by RTPCR/RAT who were 64 years and below with co-morbidities or with COVID-19 symptoms

Health worker taking Tele-consultation session

Intervention Details

Floating Home Isolation Kits: Nagaland had limited resources and provisions for supply of CHIKs (COVID-19 Home Isolation Kits) for monitoring home isolated COVID-19 cases resulting in issues around quality of care. To address this challenge, NISHTHA with the state NHM, District Task Force and local NGO partners (Sewa Bharti in Dimapur) developed an innovative model - Floating Home Isolation Kit Bank. This involved creating a rotating pool of home isolation kits at district level on a return after use basis. The home isolation kit included basic state approved medicine for COVID-19 management, Self-monitoring devices like pulse oximeter and digital thermometer and personal hygiene products. Given below is the process flow of the CHIK

Medical Support and Monitoring

Leveraging digital technology, the COVID-19 positive patients were monitored through NISHTHA Tele-track for a period of 10 days. The team comprised of Medical Doctors, Nutritionists, Nurses, and Counsellors. The certified doctors did a consultation with the patients on the first, days. The Nutritionist would call up on the 2nd day for nutrition counselling and on the 5th Day for mental health counselling by experienced clinical psychologists or counsellors. The Nurses followed up for all 10 days to assist the patients and there was also a provision for live teleconsultation with a specialist doctor for any emergency. During the 10 days, if there were symptomatic patients with danger signs, the team would immediately initiate referral linkages with the tertiary hospital for early initiation of treatment and further investigation and treatment. This helps in preventing delays in hospital admission which was considered as one of the contributing factors for high mortality. Till date, the team has referred such 6 cases and it has prevented from getting complications. Once the patient completed 10 days of home isolation, they were linked with the district hospital for a discharge certificate.

Scalability and Replicability

This model has been rolled out only in two high caseload districts - Kohima and Dimapur and the state is planning to scale up this model even to the rural districts of Nagaland. This model has enabled the patients to get in touch with the expert medical team which brings in an element of trust and also a system for referral linkages for hospitalization if any complication arises. On the other hand, the system is also able to track and monitor severe cases for referral linkages with ambulances for hospitalization to avoid late admission and thereby preventing death due to late admission to the hospital.

PUDUCHERRY

Overview

As part of the Union Territories (UTs) efforts to prevent the transmission of COVID-19 from infected to healthy individuals, a COVID-19 Triage Team was constituted. The aim of the COVID-19 triage team was to bring services to patient's doorsteps and link COVID-19 positive patients with appropriate healthcare services, as per their needs. The outreach measures also included consultation services over Interactive Voice Response System (IVRS) and a 104 round-the-clock helpline. In August 2021, the government partnered up with StepOne and COVID-19 Response team and conducted free of cost triaging and regular monitoring of patients. Initiatives like "Doctor on Wheels" was also launched to support the home quarantine system.

Inclusion and Eligibility

Patients who tested positive for COVID-19 and were stable were recommended for home isolation if SpO2 > 92percent, respiratory rate ranged from 12-24 bpm and temperature ranged from 97-100 .

Intervention Details

The COVID-19 Triage Team consisted of final year MBBS students from various private medical colleges who volunteered to work together with their respective medical officers, Auxiliary Nurse Midwives (ANMs), Accredited Social Health Activists (ASHAs) workers in the Primary Health Center (PHC) they were allotted. Each PHC had its own triage team and conducted home-triaging on a daily basis. The list of patients who were COVID-19 positive was updated daily, which helped the triage team in planning the number of home visits for each day. Based on symptoms exhibited by patients and other vital questions asked by the triage team, each patient was segregated and placed either under home isolation or was hospitalized.

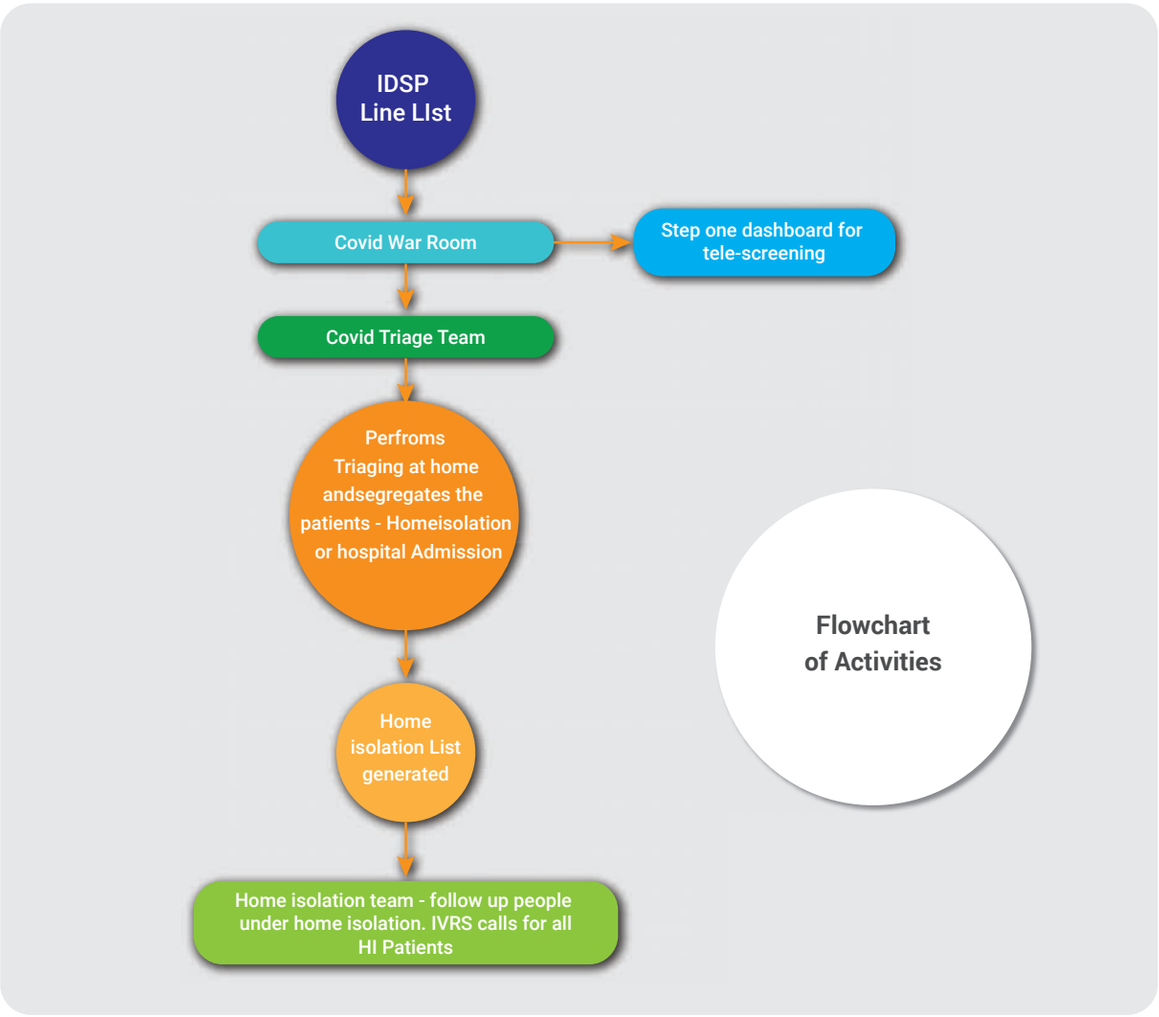
A team of over 300 Anganwadi Workers (AWWs) were tasked with carrying out door-to-door visits to check on the health status of patients on a daily basis. In addition to this, ASHA volunteers conducted daily home visits as part of surveillance measures. Patients under home isolation were provided medicines and medical guidance. If the patient required hospitalization, they were transported to the referred hospital via an ambulance with the help of the triage team. The activities of the team were monitored locally by the PHC Medical officers (MOs) and centrally by the COVID-19 war room. Patients received support from the triaging team, home isolation medical team, IVRS team and tele screening team.

Doctors on Wheels Initiative: When home quarantined patients made stress calls to the 104-helpline number, instead of giving medical advice over the phone, a medical team would be sent to their door step and the patient would receive immediate treatment and care. If the team felt the patient needed

hospitalization, an ambulance would be arranged and the patient would be shifted. This initiative began in May 2021.

Partnership with StepOne and COVID-19 Response Team: In August 2020, the government launched an interactive technology platform for operating a remote Home Isolation Monitoring and Counselling System. The platform offered free of cost help to safely manage mildly symptomatic and asymptomatic patients under home isolation. The government partnered with two non-profits, Project StepOne and COVID-19 Response, to form a group of volunteer counsellors to support in remote monitoring.

Under this initiative, the list of individuals under home isolation would be uploaded in the system and day to day monitoring would be done. On day 1, patients would receive a call from the counsellors who would brief them on the dos and don'ts, generic counselling would be provided and both patient and the caregiver would be sensitized on safety measures and monitoring symptoms. Patients would receive IVRS calls at 11 a.m. for 13 days (duration of isolation) and would be expected to report their symptoms without fail. In case of a missed call, an automated message would go to their mobile number where they could call and register it. Two reminders would be sent at 4 p.m. and 7 p.m, after which the numbers would be transferred to the health team and they would call to enquire about the patient's symptoms. If during the IVRS call, any symptom got registered, the system would generate a token which would be shared immediately with the home isolation team to schedule a door-step visit, after a round of tele-



counselling. In case of an emergency, citizens could dial 104, which operated round-the-clock. Online trainings were conducted for practitioners that had signed-up to support this service.

This initiative helped ease the burden of having to travel to hospitals for triaging. Triaging at home helped reduce further transmission and workload in hospitals. It also helped in optimally utilizing beds that were allotted for COVID-19.

Medical Support and Monitoring

Following the visit of the triaging team, a list of people under home isolation would be generated and transferred to the home isolation team. This team comprised of MOs who regularly visited homes of patients under home isolation to monitor their health and progress. Any deterioration in health informed through the 104-helpline was also addressed by this team of Home-isolation in-charge doctors and further referred to hospitals. A COVID-19 triaging SOP was followed as below:

PUNJAB

Overview

The Department of Health and Family Welfare, Government of Punjab, began home based care for COVID-19 positive patients under Home Isolation (HI) during the first wave of COVID-19. For this purpose, a dedicated agency was selected by the Department to provide tele consultation services to monitor the health of HI persons across districts. This was done through a tendering process.

The aim of this system was to ensure that regular contact be maintained with HI and home quarantined persons so that any medical emergency could be resolved on an immediate basis.

Intervention Details

The department hired a tele monitoring company through tendering process for daily monitoring of COVID-19 patients under HI. A chat bot was created for self-registration of patient's vitals. Dedicated call centers were set up at the district level and they were responsible to make call and record vitals of patients under HI. They would also provide support in case of medical escalations through Health Teams. Tele monitoring was being provided to all COVID-19 positive HI patients (symptomatic or asymptomatic).

To generate awareness among the public regarding the tele monitoring system, IEC activities through social media, short films, pamphlets, brochures, education material inside Fateh Kit and booklets on HI were disseminated and published in newspapers. Accredited Social Health Activists (ASHAs) and the Rapid Response Teams (RRTs) teams were used to shift patients from their homes to the hospital or testing centers, as required. Fateh Kits which contained face masks, sanitizers, essential medicines, oximeter, thermometer, Ayush products etc. were given to all HI patients.

The state government also provided food kits containing essential food items to needy HI patients. Standard Operating Procedures (SOPs) were developed to carry out HI monitoring in a more systematic way.

Mobile based app - 'Ghar Ghar Nigrani' was launched in June 2021 to undertake house to house surveillance in Punjab until the elimination of the pandemic. The Health Department's initiative which included ASHA workers/ Community volunteers supported in the early detection and testing of COVID-19 cases, and preventing its further spread in the community.

Medical Kit

The entire rural and urban population of Punjab, above the age of 30 was surveyed as part of the drive. It also included persons under the age of 30 with co-morbidity or Influenza-Like Illness (ILI)/ Severe Acute Respiratory Illness (SARI). This was an an-ongoing process that lasted till the virus was contained.

The survey captured the full medical history of a person including the past week and complete details of their current medical condition, as well as comorbidities (if any). This helped the state to build a database for evidence-based planning for COVID-19 containment and necessary targeted interventions at the community level.

The app had been developed and designed in-house by the Health Department and was field tested in Patiala and Mansa. Around 20,628 persons were surveyed, of which 9,045 were found to be asymptomatic and 1,583 with symptoms of cough/ fever/ sore throat/ breathlessness etc.

A supervisor would oversee the work of ASHAs/ community volunteers and was engaged on a voluntary basis (paid Rs. 5,000/ month. The supervisor was responsible for quality check of data that was uploaded by volunteers, monitoring their daily progress and ensuring COVID-19 testing of those found to be symptomatic. Community volunteers were mainly engaged in areas where ASHA workers were not available, for instance in urban areas, or where ASHAs were unable to use the mobile app. A community volunteer could be any female over the age of 18, with 10+2 or more as educational qualification and a resident of the same village or ward.

District authorities set up Oxygen Concentrator (OC) Banks for the distribution of OCs to HI patients across the districts. OCs with flow capacity of 5 L per minute delivering oxygen with concentration of 90 percent or more were recommended by the Health Ministry for management of COVID-19 patients under HI. The allocation of these 5 L OCs to HI patients was done only with a prescription from the treating Medical Officer. The OCs were made available to HI patients on a temporary loan basis against a nominal security deposit which was refundable upon returning the OCs once the patient recovered. This exercise was undertaken in collaboration with the Red Cross Society.

Deployment of ambulances (Standard/ Advanced Life Support (ALS)) and mobile pharmacies - Ambulance services were provided to both confirmed and suspected COVID patients on a free-of-cost basis. The deployment of 108 ambulances was prioritized in zones with high concentration of COVID-19 positive patients. During the telemonitoring services, in case a HI case was escalated on medical advice of the specialist, the HI-patient would be transferred to an L2 / L3 facility nearby, based on their condition. ALS ambulances were used to shift critical patients with rapidly deteriorating vitals to higher facilities. Basic Life Support ambulances with Oxygen facilities were equally beneficial in transferring COVID patients to the nearest COVID-19 health facility.

Deployment of Medical Interns: Deputing interns can help in strengthening the monitoring and follow-up of HI patients, thereby improving home-care quality, reducing COVID-19 mortality and strengthening people's faith in the health system. This initiative could also help in improving cooperation between the patient and the RRTs.

Further teleconsultation services were provided to patients referred to district headquarters by tele-callers through IDSP Cell / District Call Centre / Control Room

Medical Support and Monitoring

Regular monitoring was done by the assigned tele-caller agency. Call centers supported doctors on duty and helped in maintaining health details through patient records. COVID-19 Patient Tracking officers (CPTOs) in each district were appointed as Nodal Officers for HI. They were responsible for providing home care to COVID positive patients in their respective district through tele consultations. The District Administration set up dedicated call centers for patients under HI to record their vitals and enter them into a database. The state government deployed medical interns from medical colleges who helped in providing medical consultations in case of escalations.

RAJASTHAN

Overview

The home-based care system proved to be a critical approach in management of COVID-19 positive patients. Rajasthan moved one step ahead and provided home based care to Influenza-like illness (ILI) cases as well. Remote consultation by doctors using technology not only helped in managing cases but also in limiting virus transmission. Community monitoring groups such as the 'Village Nigrani Samiti' encouraged community participation in managing COVID-19 positive patients and ILI cases at home. Under the supervision of the Village Nigrani Samiti, door to door surveys were conducted by village level health workers/ Block Level Officers in urban areas to identify ILI cases. Medicine kits were provided to all ILI and COVID-19 positive cases and follow up was done on a daily basis. Symptoms were monitored and cases were referred higher facilities, as per the condition of patients.

The overwhelming number of cases in the second wave made it difficult to follow the test-track-treat concept as the virus was spreading rapidly and there were also delays in results. The state took a conscious decision to follow track-treat concept and identify cases at the early stage and treat them through home bases care system. To identify cases in early stages, 'Door to Door' teams were deployed. This deployment was under the direct supervision of 'Village Nigrani Samiti' at the village and ward level. It was important to provide medical support to all COVID-19 positive patients and ILI cases without compromising on quality of care. Cases that did not need direct medical intervention in terms of oxygen support, injectable medication, were effectively managed at home under the supervision of a medical officer. The concept of management of patients through home-based care was also very useful, especially in the context of Rajasthan, which has a huge geographical area and many hard to reach areas.

A system of home care was established under the supervision of Medical Officers (MOs) from urban and rural Primary Health Centers (PHCs). COVID-19 positive and ILI cases were assessed by MOs to check eligibility for home-based care. A medical kit and an instruction manual were provided to all COVID-19 positive patients. The monitoring system was established using WhatsApp, physical daily visits by local BLO/Accredited Social Health Activists (ASHAs) to monitor temperature, SPO2 level, development of warning signs and symptoms.

Inclusion and Eligibility criteria

COVID-19 positive cases that were tested by Rapid Antigen Test (RAT) or RT-PCR tests were included. Other criteria for eligibility included asymptomatic or mildly symptomatic cases, psychologically fit and willing for room isolation, adequate space at home for isolation and not in high-risk category of diseases like comorbid conditions, people over 60 years of age, pregnant women and young aged children. During the second wave, ILI cases with mild symptoms also qualified for home-based care.

Intervention Details

To generate awareness, different Information, Education and Communication (IEC) methods (banners, leaflets, video) were adopted for wider communication to the community. Panchayati Raj Department was actively engaged in disseminating messages, as well as providing support to village level ASHAs and Anganwadi workers to conduct Door-to-Door surveys and monitoring of cases under home care.

ASHA workers were oriented on home care management and steps needed to be taken by them for management of COVID-19 positive patients and ILI cases. They were all well oriented and trained to identify early warning signs and refer cases to higher facilities. 'Village Nigrani Samiti' was used effectively to provide support to ASHAs to limit the movement of COVID-19 positive and ILI cases. 'Swasthya Mitra' were present in all villages and supported the ASHAs in daily monitoring of positive cases.

A protocol was developed and finalized for COVID-19 positive cases under home isolation. As per the protocol, all ILI and COVID-19 positive cases with mild symptoms qualified for home-based care. Protocols were also in place on how patients would be monitored for temperature, SpO2 level and development of warning signs. With support from village level workers and BLOs, these protocols were followed. A tool was developed for live monitoring and tracking of activities.

A MO would assess the condition of COVID-19 positive patients and ILI cases and would also check whether they were eligible for home care. Medical kits were provided to COVID-19 positive patients and ILI cases with an instruction leaflet for the patient and their families. During home isolation patients were encouraged to do breathing exercises to increase lung capacity. Patients were advised to practice 'Proning method' to increase SpO2 levels. As a part of general IEC, messages on proning technique were disseminated among communities.

Government doctors, as well as private doctors, provided home based care to patients. Depending on availability, Oxygen concentrators were provided by the government to patients and some NGOs were also involved in providing oxygen concentrators. If recommended by the treating physician, families were also arranging oxygen concentrators for their patients.

Call centers worked round the clock to arrange ambulances to shift patients to COVID-19 health facilities and district control rooms were in charge of providing information on availability of beds in facilities.

Adequate fire safety arrangements were made in the temporary and permanent COVID-19 health facilities and adequate security arrangements were made available with the support of the police department.

Medical Support and Monitoring

Virtual- telemedicine/ helplines/ call center: 181 call centers were functional at the state level to manage grievances. In addition to the state call centers, districts also established call centers in their district control rooms to provide support at the local level.

Deployment of Medical doctor supervision/ Nurse supervision/ Frontline workers frequency of check: Medical officers and interns were deployed to call centers to resolve queries of patients. Medical Officers in charge of Urban PHC and sector PHC were responsible for the daily monitoring of cases and referrals, in case of requirement.

SIKKIM

Overview

India witnessed an unprecedented surge of COVID-19 positive cases and deaths during second wave. In Sikkim, around 80 percent of the cases who had mild symptoms and were asymptomatic were under home isolation. As per the guidelines from MoHFW, the patients who were clinically assigned to be mild/ asymptomatic were recommended for home isolation.

As the number of COVID-19 positive cases in home isolation surged, the department of Health & Family Welfare with technical assistance from the development partner for Comprehensive Primary Health Care (CPHC) USAID-NISHTHA/ Jhpiego organized a two-day virtual training for all the Primary Health Care teams at the urban and rural primary health care facilities. The trainings were provided to the teams from Urban Primary Health Centre-Health and Wellness Centre (UPHC-HWC) Gangtok and Ranipool, Sub Centre-Health & Wellness Centers (SHC-HWC), Primary Health Centers (PHC) and also to the District Medical Officers of all the four districts on Management of COVID-19 cases under home isolation. They were also trained on the usage of oxygen concentrator and RAT for COVID-19 patients.

The state also launched an important initiative 'Swasthya Sampark' a post COVID-19 care initiative in collaboration with USAID's flagship health system strengthening project NISHTHA, implemented by Jhpiego. The platform acts as an enabler for effective monitoring and tracking of post COVID-19 patients and has functionalities for recording vitals of patients on a daily basis, provision of regular & need based SOS telemedicine consultations with a pool of physicians, digital reporting with generation of system alerts in case a patient develops symptoms and requires referral. Under this initiative, the patients recovered from COVID-19 were monitored closely and were provided care at right time to prevent post COVID-19 complications. This post COVID-19 Platform was a remote help desk integrated with telemedicine (teleconsultation & tele counselling) to support individuals recovered from COVID-19. The patients could connect through a toll-free service care number wherein a trained health professional attended the patients call and addressed their concerns. The platform could also provide services like mental health counselling, dietary counselling through tele counselling services as well as treatment for any medical ailment developed or worsened during post COVID-19 period through teleconsultation services.

Inclusion and Eligibility Criteria

Patients with mild symptoms or those who tested positive but were asymptomatic/ mildly symptomatic were advised home isolation. Psychologically fit patients, who were unwilling to go to hospitals but were co-operative on regular follow up protocols were also provided the monitored home care services. It was mandatory for all the patients to have the home facilities available as per the guidelines for home isolation.

Intervention Details

Awareness and communication played a vital role in containing the spread of COVID-19 in the state. Awareness campaigns on home care protocols through different Information, Education and Communication (IEC) Materials were rolled out by the State Government. Home visit to COVID-19 positive patients were provided by field staffs (MLHP, ANM & ASHAs). Regular communication was done through social media platform (Facebook, twitter and other platforms). USAID-NISHTHA/ Jhpiego also supported state by providing 170 banners on COVID-19 appropriate behaviors and the banners were distributed to all the Districts to further disseminate at PHC & PHSC level.

ASHAs were also roped in for generating awareness and to distributing e home isolation kits. Oxygen level assessments were done by the healthcare teams every day. Tele calling to the isolated individuals were scheduled by the healthcare teams on odd hours of need. The state provided ambulance in each Gram Panchayat Unit to ferry the patients to the hospitals in need.

Distribution of the medical kits to the community members.

NISHTHA Swasthya Sampark was launched by State of Sikkim with support from USAID-NISHTHA/ Jhpiego in which COVID-19 recovered patients were followed up by tele-callers of the helpline. These patients were followed up actively for one month and passively for two months. Line-listing of the COVID-19 recovered patients were shared with the tele-callers on a weekly basis.

Further, oxygen concentrators were provided through PM-CARES, UNICEF and other private donors. Total 447 oxygen concentrators were received by the State. This was distributed to all the facilities from Secondary level to Tertiary level care. Ambulance services were provided at all the blocks for referral and transport of home isolation cases. Safety arrangements were put in place by distribution of PPE kits, sanitizers, masks to community workers as well as COVID-19 positive patients under home isolation.

Medical support and Monitoring

Virtual- telemedicine/ helplines/ call centers initiated the tele counselling activities, by providing android mobiles to the respective psychologists and counsellors at the districts and the PHCs. They were provided with dedicated handsets and an internet facility for full one year. Deployment of Medical doctor supervision/ Nurse supervision/ Frontline workers was done to check frequency of consultations. The senior level doctors working in program management as state program officers were deputed for the clinical activities at different COVID-19 Care Centers. Staffs from Urban PHCs were given temporary postings at STNM Hospital (COVID-19 care Centre). Mid-Level Health Care Providers of East District were given postings at STNM

Monitoring of patients under home isolation

Hospital for COVID-19 duty. An integrated command center monitored (at patient end, doctor end and centrally) patients through regular meetings and daily reporting. Surveillance and Contact Tracing of the family members was done through dedicated teams under the Block Development Officers.

The state task force under the leadership of Hon'ble Chief Minister, formed a committee in rural and urban areas, as COVID-19 task force and village COVID-19 management committee at urban and rural areas respectively to fight and contain the disease in the area.

There are 155 Gram panchayat units in the state of which each GPU looks after 8 wards. The above-mentioned teams were formed in such a way that 10 members team looked after a ward, provided all the members in the team were trained and oriented on COVID-19 appropriate behaviors and counselling techniques by health department, SIRD and Panchayati Raj department.

This team delivered COVID-19 care kits comprising of masks, hand sanitizers, essential medicines, vitamins along with the prescription and printed COVID-19-care manual for home care for each COVID-19 positive households. Positive patients and primary contacts with comorbidities were also provided with general medicines such as antihypertensive and anti-diabetic drugs. Provision for free ration at the door steps was made for the BPL family. All ASHA workers were provided with pulse oximeter for monitoring patients. The state government provided a dedicated ambulance in all the blocks under the Block Development Officers (BDOs) for referral and transport of patients in case of emergency. All the PRI members, BDOs and ADCs were provided with financial assistance (funds) by the state government. Local NGOs were mobilized and engaged for courtesy calls. IEC material distribution was done in the containment zones by the contact tracing team.

TELANGANA

Overview

The COVID-19 pandemic spread like wildfire, across communities affecting everyone, but mostly vulnerable populations. Due to the high number of cases, hospitals and health facilities became overburdened. This led to a modification in the states' COVID-19 strategy wherein asymptomatic / mildly symptomatic cases would be managed at home or in institutional care at COVID-19 Care Centers.

Guidelines for COVID-19 home care management protocols & testing strategies were developed and modified (from time to time) accordingly, to ensure that all patients received appropriate care and treatment, that they were able to identify and tackle complicated cases more efficiently and refer to higher facilities as per requirement.

Intervention Details

House-to-House surveys (fever survey) were conducted to identify patients with COVID-19 symptoms. They were handed 'medicines kit'. COVID-19 clinics were established in all health facilities to manage mild cases (on OP basis/ admission for observation). Similarly, the number of testing centers were increased which resulted in decentralization of testing.

Continuous and periodic rounds of systematic door to door (fever) surveys were done during the peak of the second wave to identify symptomatic patients and their contacts.

People with symptoms (identified during fever surveys) were given treatment kits, advised home isolation and given treatment kits (without waiting for COVID-19 test results). Needless to say, this helped in identifying a large number of people suffering from non-COVID-19 fevers & similar minor illnesses and providing appropriate treatment.

Regular follow ups were done by Accredited Social Health Activists (ASHAs) and Auxiliary Nursing Midwives (ANMs) for people who were COVID-19 positive. They would also assess whether the patient should continue in home isolation or be referred to COVID-19 Care Centers, according to their condition.

Medical Support and Monitoring

Home isolation treatment and monitoring protocol (HITAM): Patients diagnosed with COVID-19 at testing centers / at home were clinically assessed to check whether they would be suitable for home isolation. They were immediately provided with 'medicines kits' that comprised of requisite medicines, as per doctor's advice. This was followed by monitoring the progression of symptoms and treatment compliance by trained tele-callers. In case of clinical deterioration like continuous fever, breathlessness etc. (especially in high-risk groups / co-morbid conditions), patients were immediately shifted to COVID-19 hospitals. Tele-callers were trained to identify such cases to be escalated for expert opinion / hospitalization. They were made aware of emergency ambulances and COVID-19 hospitals (mapped), for quick transportation and admission.

HITAM mobile application, software & call center: A mobile based application was developed during the 1st wave with features to capture patient demographics, symptoms, medications, and daily progress. Doctors were employed to work from home during lockdowns (without physically attending call centers), by installing the mobile app on their smart phones to facilitate their functions.

HITAM call center: Telemedicine

Based on the existing protocols, a kit containing Paracetamol, Cetirizine, Doxycycline, Vitamin B Complex, Vitamin C and Ranitidine (symptomatic & supportive treatment) along with other relevant IEC material was given to patients under home isolation.

As was the case in the rest of the country, the state of Telangana also faced a steep increase in the number of COVID-19 cases during the second wave. This overwhelmed the testing and hospital treatment capacities of the state. All hospitals were converted into COVID-19 clinics for evaluation of COVID-19 patients with mild symptoms (as OP) and for referring them, in case they were showcasing moderate / severe symptoms. Home isolation and treatment through telemedicine helped deal with the surge in cases, especially in hospitals, during both the waves.

The above steps, i.e., home isolation, initiation of treatment without waiting for test results (with sometimes long turnaround time / false negatives etc.) and identification for admission reduced the spread of infection and prevented further deterioration of condition of several patients.

Hence, it can be concluded that home isolation with treatment kits (drug kits), proper integration of house-to-house (fever) surveys, establishing COVID-19 clinics for monitoring and identifying cases, proved to be an effective strategy to prevent overburdening of hospitals and reduce COVID-19 mortality in the state.

UTTAR PRADESH

Overview

Home based care was permitted in the state of Uttar Pradesh only during the second wave when over 80 percent of COVID-19 patients were asymptomatic and hospitals became overburdened. Hospitalization also led to stigmatization of the disease, to the extent that people started avoiding getting tested. To make the most of the limited resources and ensure that everyone had access to quality healthcare, there was a need felt to introduce home based care for treatment of asymptomatic / mildly symptomatic COVID-19 positive patients.

Inclusion and Eligibility Criteria

All COVID-19 positive cases identified by any confirmatory test were included and asymptomatic and mildly symptomatic patients were permitted to stay and get treated in home isolation. While there were no age criteria for inclusion and eligibility, all COVID-19 positive patients under home isolation had to have a separate room and bathroom that would not be used by any other member of the household. Persons with more than one comorbidity and vulnerable conditions were excluded from home treatment.

Intervention Details

Over 7,000 Rapid Response Teams (RRTs) were formed across the state and led by Medical Officers (MOs). Each team was equipped with pulse oximeters, glucometer, BP apparatus etc. All Standard treatment protocols and guidelines on home isolation were assessed and followed. Persons under home isolation were regularly monitored and provided facility-based care on escalation of symptoms. Approximately 60,595 home isolated cases were shifted to facilities based on home caregivers' feedback. These RRTs were connected to the Nigrani Samitis at the village level.

Interdepartmental Rapid Response Teams (RRTs) making home visits

Contact tracing by RRT

A Surveillance team in Containment zone

RRT doing Initial Health check-up

Follow up visit by a RRT

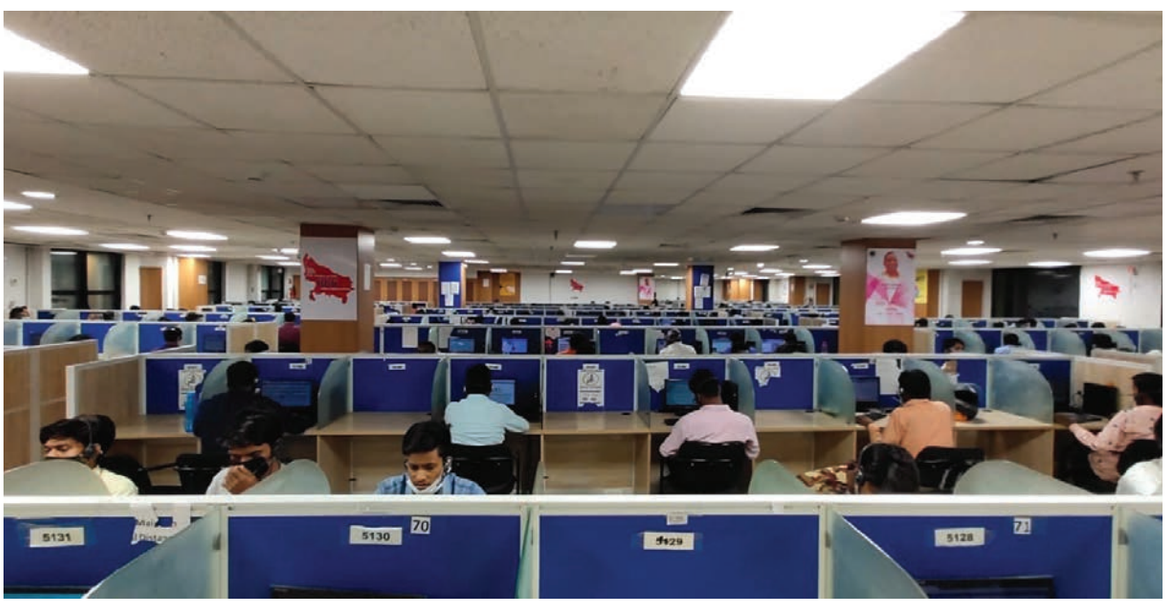
More than 70,000 Nigrani Samitis (surveillance teams) were constituted across the state of Uttar Pradesh, led by Gram Pradhans/ Ward members. Other members of these samitis included Front Line Workers (FLWs)/ Volunteers. The experience gained from the Dastak campaigns over the 3 years was replicated for COVID-19 home care. Almost all households were visited multiple times by trained surveillance teams and sensitized on prevention and home care, ensuring adherence to quarantine protocols, keeping a check on containment area activities, tracing and tracking suspect cases etc. Medicine kits for pediatric age groups were also made available to Nigrani Samitis.

A massive rural outreach campaign was carried out by the Nigarini Samitis during the second wave. The RRTs and Nigrani Samitis were connected, supervised and monitored digitally by the Integrated COVID-19 Command and Control Centers (ICCC) teams. Each district had the presence of one ICCC and this was done across 75 districts. Senior district administrative and health officers were in charge of these centers. At least 2 calls were made by trained staff on a daily basis to COVID-19 patients in the area and their health was assessed. Temperature, oxygen saturation and other clinical symptoms were recorded, based on which they were provided essential drugs and pulse oximeters and referred to higher facility care, if required.

Several districts partnered with private organizations under their Corporate Social Responsibility (CSR) initiatives to ensure delivery of quality healthcare services. For example, the Lucknow district administration partnered with Flipkart for the delivery of free medical kits to COVID-19 positive patients under home isolation. The ICCC that was set up was supported by HCL at Gautam Buddha Nagar.

Medical Support and Monitoring

A five-layer monitoring system was put in place for providing medical support and monitoring:



Monitoring at CM UP helpline

Medical Kit Distribution

Quick feedback sharing with Administrative and Senior Health officers through web-based meetings

01
Unit Mos and Zonal MOS

02
District level health and Administrative

03
Third party independent monitoring : WHO, UNICEF

04
State control room and CM UP Control room

05
Senior Administrative and Health Officers for high case load districts, Joint Director level officers from Health Department for all 75 Districts

WEST BENGAL

Overview

After experiencing an over-whelming number of COVID-19 patients requiring hospital beds, the state of West Bengal viewed Home Care System as part of an effective treatment plan for COVID-19 positive patients with mild symptoms. Treatment guidelines and protocols were quickly designed and implemented. Intensive trainings, capacity building, close supervision and monitoring, collaboratively, by both Government and Private Health Facility Centers (HFCs), were conducted. This was implemented in urban as well as rural areas of the state.

The prime objective of the Department of Health & Family Welfare, Govt of West Bengal was to quickly and effectively manage the COVID-19 waves in the state. This was made possible through Telemedicine, Integrated Call Centre System, COVID-19 Patient Management System (CPMS) and Integrated COVID-19 Management System (ICMS), which were all developed and implemented towards the beginning of the first wave of the pandemic and further enhanced on a periodic basis during the second wave.

The other supporting objectives included creating essential infrastructure like medical oxygen infrastructure, using existing infrastructure like Safe Homes and Satellite Health Centers, and building the capacities of all health workers in the healthcare ecosystem.

Inclusion and Eligibility Criteria

During the first wave, both RT-PCR as well as Rapid Antigen Tests (RAT) were being used, with a gradual increase of RAT tests to reduce the time taken to get the results. In addition, CBNAAT, TrueNat, TrueNat RDRP Confirmatory were used in small numbers. Towards the latter half of 2020 and as the second wave started in early 2021, RT-PCR tests increased in view of the test being known as the 'gold-standard'.

For asymptomatic cases, 200 Safe Homes and Satellite Health Facilities were established and guidelines and SOPs were developed for mild and asymptomatic patients for whom home isolation was not possible or advisable. Safe Homes were set up in both cities and towns in West Bengal by the respective District authorities. In the second wave, COVID-19 positive asymptomatic persons stayed under home care with family or friends / care-givers, who were also counselled on the above guidelines.

Patients with comorbidities and other immune-compromised persons who were most vulnerable received close supervision and monitoring. Frontline workers regularly visited households across the state. With the help of the telemedicine platform, Accredited Social Health Activists (ASHAs) Workers and Community Health Officers (CHOs), many other people with Non-Communicable Diseases (NCDs) were identified. Family members and care-givers were counselled on how to take care of patients with comorbidities and case management protocols were issued to handle patients with comorbidities.

Psychologically fit and willing for Home isolation – The trained personnel at the Integrated Call Centre would talk to patients' family members / care-givers to understand if the patient fits the criteria for home isolation and accordingly home isolation was advised.

Intervention Details

An initiative was launched to spread awareness on what a COVID-19 patient should do while in home isolation to clear any misconceptions and make it easier for doctors to handle such patients when / if rushed to hospital during an emergency situation. The contents were divided into sections dealing with who can stay in home isolation, when treatment is required and directions for caregivers.

The campaign was launched in parts of Bidhannagar, South Dum Dum, Baranagar, New Barrackpore and Barrackpore - pockets that had seen a large number of COVID-19 cases. One lakh leaflets were distributed with a list of seven telephone numbers of COVID-19 control rooms in North 24-Parganas district and two WhatsApp numbers where people could send messages in case of emergencies.

During the second wave, ASHA worker counselled household members of families that had COVID-19 patients with mild symptoms. ASHA workers were provided with all the necessary information and Community Health Officers (CHOs) at the Health & Wellness Centers, also known as Suswasthya Kendras, were also provided with the protocols that were to be followed. The ASHA workers were responsible for the collection of data on comorbidities in the Community Based Assessment Checklist. Doctors could treat patients through telemedicine platforms and e-Prescription would be communicated by CHOs to the patient / care-giver.

The state of West Bengal equipped block-level Primary Health Centers (PHCs) and hospitals with isolation beds, medical oxygen and ambulances for better handling of COVID-19 cases. A fleet of 102 ambulances was reserved for transporting COVID-19 patients.

Medical Support and Monitoring

Virtual – Telemedicine / Call Centre / Helplines: 96 doctors working in 3 shifts (24X7) for providing tele-consultation to COVID-19 patients under home isolation. Till date 6,93,901 consultations have been done.

Tele Psychological Counselling Helpline: This began on August 1, 2020 with the help of recent graduates from Kolkata university. These young counsellors provided psychological counselling to 3,55,771 persons. Every COVID-19 positive patient was given a call on the basis of their positive report and if required, hospital admissions were arranged. On an average 10,000 calls were made per day.

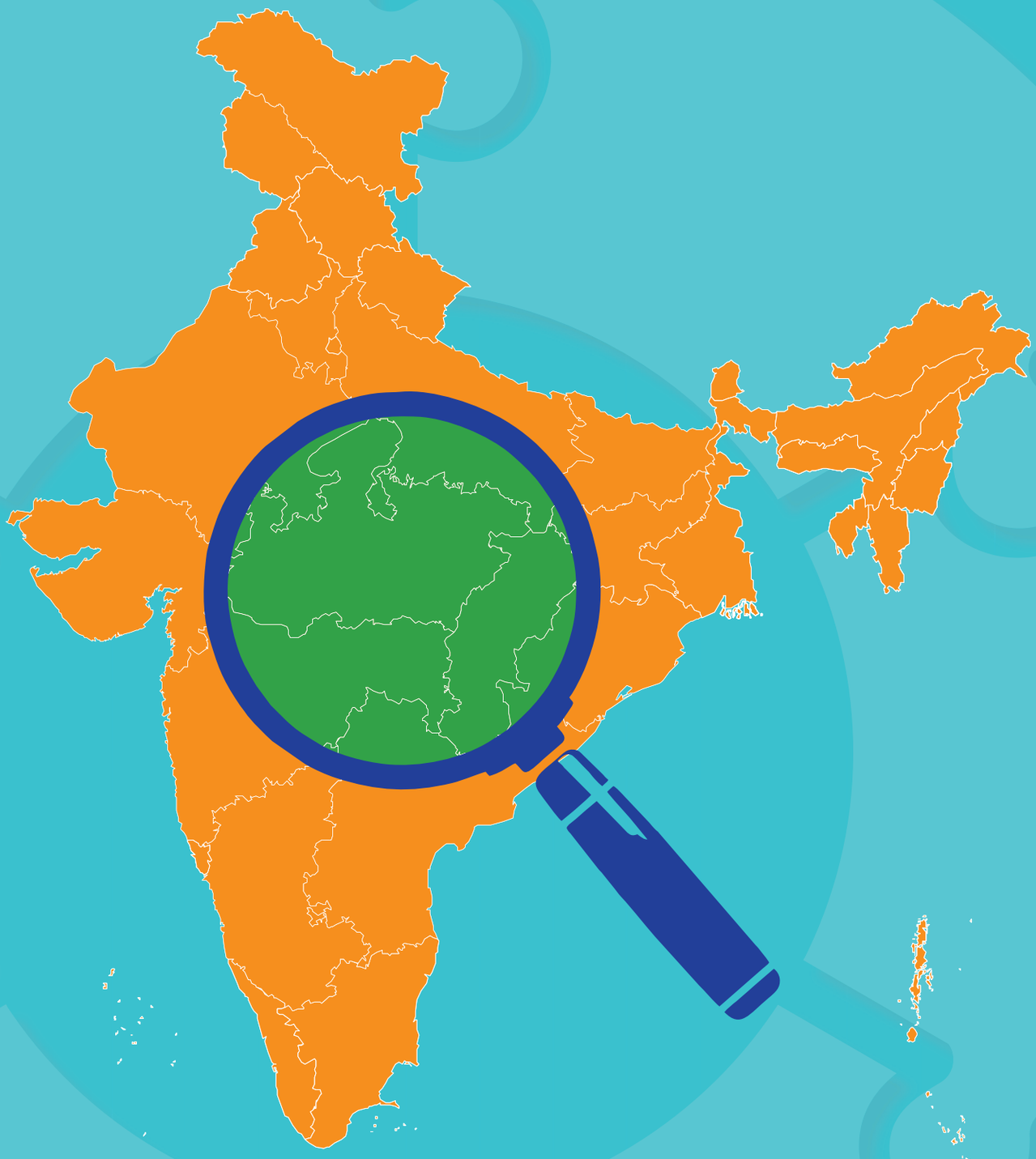
Ambulance Service Helpline: Free ambulance service was provided for testing, admission and discharge from hospitals. On an average 800 ambulances provided free service to COVID-19 patients per day.

During the first wave, there was an increased focus on creating health facility infrastructure as the demand for beds, especially ICU beds, was more. Patients preferred staying for longer periods than necessary because of which needy patients were not getting ICU beds. In general, there was a lot of fear and anxiety among people and families preferred to send their COVID-19 positive family member to institutions including Hospitals and Safe Homes.

In the second wave, as individuals and family members became aware and a) received appropriate Teleconsultation through Telemedicine, b) Prompt support through the Integrated Call Centre System and c) Effective patient management from the COVID-19 Patient Management System (CPMS) and Integrated COVID-19 Management System (ICMS), Safe Homes & Satellite Health Facilities helped reduce the demand for hospital-beds.

Scalability and Replicability

All best practices are scalable, replicable and sustainable. Teams are continuously upgrading and enhancing their skillsets and infrastructure Teams at the state Headquarters and at the district level are finding innovative methods to tackle the inevitable 3rd wave.



SECTION B

STATE PRACTICES

(information collected through secondary research)

ANDHRA PRADESH

Overview

In the state of Andhra Pradesh, a comprehensive home isolation system was set up for asymptomatic or mildly symptomatic cases of COVID-19. Auxiliary nurse midwife (ANMs) and village/ ward volunteers were engaged in creating awareness, monitoring patients at home and educating patients on how to self-monitor their symptoms. Home care kits (including medicines) were provided to patients. The state also set up home isolation help desks and dedicated helpline numbers in case of emergencies.

Inclusion and Eligibility Criteria

Patients with mild symptoms or those who tested positive for COVID-19 but were asymptomatic/ mildly symptomatic were advised home isolation. People who were feeling unwell and had Influenza-Like Illness (ILI) symptoms of COVID-19 (fever, cold, running nose, throat pain) were advised to get tested immediately, and isolate themselves. They were advised to ensure that there was a separate room with an attached bathroom (if possible) and a caretaker who could act as a messenger. Those acting as caretakers were advised to take hydroxychloroquine to make sure they were healthy. People over the age of 60 with comorbidities were allowed to isolate at home only upon treating doctors' approval. Similarly, people with HIV, organ transplant recipients, and cancer patients were advised to follow home isolation only if the treating doctor recommended the same.

Intervention Details

The state ensured that the ANMs, village/ ward volunteers were notified immediately of the test results of the patients. Once notified, ANMs, village/ ward volunteers contacted patients to understand their health condition. Home isolation kits (including medicines for fever and cold, and masks) were distributed by Mandal Special Officers and Municipal Commissioners.

In order to reduce the burden on hospitals in East Godavari, the district administration adopted a novel concept of setting up of isolation centers in villages. Many people in rural areas who had mild symptoms were unable to isolate within the comfort of their homes, given the lack of space. To reduce the spread of COVID-19, these patients were admitted to the isolation centers wherein they were provided home cooked food by sarpanches or groups of volunteers. Village secretaries would monitor their health, offer first-aid kits, and arrange for medical assistance as per the need.

In Krishna district, where less than 10 percent of the 3,200 beds were occupied, mild and suspected COVID-19 patients were given a cash incentive to opt for COVID-19 Care Centres (CCCs) instead of home isolation. A lottery system was launched to boost occupancy at eight CCCs. The first winner received a cash reward of Rs. 15,000 while the second and third won Rs. 10,000 and Rs. 5,000 respectively. The

amount was drawn from the district administration funds, and was transferred directly to the winners' bank accounts.

CCCs were makeshift facilities that had the required medical facilities, such as medicines, oxygen concentrators and food provisions. At these facilities, doctor visits were conducted thrice a day and ambulances were available in case of emergencies. Patients were encouraged to regularly monitor their temperature and oxygen levels. In case SpO2 levels were below 94 and patients experienced trouble breathing, doctors would be informed, and they would immediately be referred to a hospital.

Medical Support and Monitoring

A COVID-19 alert tracking system was set up to locate people who had been placed under home isolation. This was done with technical assistance of the telecommunications service provider platforms and mobile tower signals. The Rapid Response Teams (RRTs) line-listed positive cases and mapped their contacts. This helped in deciding the perimeters for action.

In case of emergencies, a Home Isolation Help Desk and dedicated helpline numbers were set up. As of May 2021, 15,031 patients were in home isolation out of 17,770 active COVID-19 infection cases.

JHARKHAND

Overview

In September 2020, the State Government launched swaraksha.nic.in,a government-run website where asymptomatic COVID-19 patients in Jharkhand could register and upload necessary information to obtain permission for home isolation. The Swaraksha website, designed by the state National Informatics Centre (NIC), allowed asymptomatic COVID-19 patients to download home isolation certificates to prove their eligibility to remain at home. In addition to this, district-specific initiatives were observed in Ranchi, Singhbhum and Dumka.

Inclusion and Eligibility Criteria

In order to get the certificate, it was mandatory to register on the website with patients' Specimen Referral Form (SRF) ID - a unique number which was given to every person who underwent a test. Following registration, the patient was required to provide infrastructural details on the website's form such as the number of rooms and toilets in the patient's house. In addition, the patient was required to provide details of: family members older than 60 years and younger than ten; details of all family members and their comorbidities, if any, details of the patient's swab collection date and the dates of the test results. In case the patient was suffering from any other disease, they were required to mention it on the website irrespective of the nature of the disease. Once the patient shared all the details on the website, the district administration decided whether or not the patient could remain in home isolation.

Intervention Details

A dedicated Ranchi website was developed where people could access resource lists for hospitals, oxygen, home delivery of medicines, COVID-19 consultations, ambulance, home delivery of essential goods, COVID-19 testing centers, and vaccination along with the other resources related to COVID-19 management. Also, through google forms, patients could apply for video consultations of four types through the Swaraksha Portal: allopathic, Ayurvedic, homeopathic, and Unani. Further, citizens could access location-based information dissemination feeds, emergency services and hospital information, and other important information via the Jaano Local COVID-19 emergency system application.

District-level initiatives aided in the fight against the virus. For example, in Singhbhum District, the administration devised concepts such as the Phone Booth Sample Collection Center, which significantly reduced the need for already scarce and overpriced personal protective equipment (PPE) kits while also ensuring the safety of the person collecting the sample.

Taking a step forward, the state developed a simple, fast and cost-effective solution, CO-Bot. Co-Bot, a low-cost (Rs 26,000) remotely operated robotic device that delivered food, water, and medicines to patients. This reduced interactions between health officials and patients, lowering their risk of infection. Co-Bot,

which was outfitted with an internet-enabled high definition 360-degree camera and a two-way speaker-mic system, also allowed doctors and nurses to practice telemedicine. Other initiatives included isolation beds (also known as i-beds) for positive patients, low-cost face shields, meals-on-wheels deliveries for the stranded and poor, an ultraviolet note sanitization machine for banks and railway counters, and a sanitization chamber in a newly established COVID-19 hospital.

Initiatives such as 'Essentials on Wheels,' Didi Kitchens, and physical and mental health awareness campaigns were observed in Dumka District, making the lives of citizens living in home isolation easier. The state also adopted integrated approach of automated Interactive Voice Response System (IVRS), telephonic calling and web link response for regular monitoring and follow up of patients under home isolation for early identification of symptomatic cases and their appropriate linkage to designated COVID-19 Care Centre routed through district health society. The intervention which was developed in partnership with USAID-NISHTHA/ Jhpiego was targeted to reduce morbidity and mortality due to COVID-19 while ensuring end-to-end follow-up, right from determining the patient's status as home isolated, till the time they complete their time in isolation.

Medical Support and Monitoring

In April 2021, Ranchi District Administration collaborated with an online medical portal mDoc App to provide free consultations through voice and video calls to COVID-19 patients in home isolation. The service also facilitated doctors' visits to patients on request at a minimal cost and provided free telemedicine. Pathological and physiotherapy services were also offered; over 700 doctors were registered on the medical portal.

A group of 16 doctors with various specialties under the aegis of National Medicos Organisation (NMO) also provided free medical consultations to patients in home isolation between 11 AM and 1 PM daily, assisting them with admission and other assistance as and when required.

In August 2020, the state government announced a 24-hour helpline for COVID-19, non-COVID-19, and mental health issues in collaboration with StepOne. Callers used the IVRS system to select their symptoms, and then a registered healthcare expert advised the individual and the government on how to proceed. Patients with mental health issues received counselling. StepOne is an authorised partner for Aarogya Setu Mitr telemedicine consultations, an ancillary service on the Aarogya Setu app that provides free teleconsultation for those with COVID19-like symptoms.

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KARNATAKA

Overview

While the COVID-19 pandemic was spreading, the Karnataka government developed innovative strategies through careful planning, innovative use of technology, efficient deployment of available resources, and community participation. The state government partnered up with private entities including Swasth, Portea and StepOne to provide care to home-quarantined/isolated patients as well as connect them to facility care, if needed. The efforts included teleconsultation and triaging, training of health workers and providing ambulance services and medicines.

Inclusion and Eligibility Criteria

As per the government guidelines, only asymptomatic or mildly symptomatic patients were advised to be in home care. These patients were suggested to keep equipment such as pulse oximeter, digital thermometer, facemasks, gloves, sanitizer, etc. Also, a caregiver was to be available to provide 24x7 care with the patient. Elderly patients aged above 60 years and those with co-morbid conditions such as hypertension, diabetes, heart disease, chronic lung/ liver/ kidney disease etc. and lactating mothers were allowed home care only after proper clinical evaluation by the treating Medical Officer (MO)/ physician/ family doctor. Home care was not applicable for pregnant women two weeks before expected date of delivery. For further daily follow-up of the patient, tele-monitoring through government or private institution/agency was arranged.

Intervention Details

The state government ensured that health teams from the district health authority/ BBMP/ authorized private institution/ agency visited the patient's home to ensure they are isolated. Alternatively, an empaneled agency handled telephonic medical triage by confirming the person was isolating. A dedicated tele-monitoring link was established for the patient's daily follow-up during the entire period of home isolation/ home care. If the person developed any warning symptoms during the period of home isolation/ home care, the doctor evaluated the situation and advised the person to be transferred to COVID-19 hospital as per the need.

Ola Foundation (CSR arm of Ola) partnered with GiveIndia for 'O2forIndia' which provided free oxygen concentrators to patients in quarantine with SpO2 levels less than 94 percent.

Initially, 500 oxygen concentrators were provided, and patients were offered door-to-door delivery and pick-up of oxygen concentrators. Patients could request oxygen concentrators through the Ola mobile application by providing a few basic details depositing Rs. 5000, a refundable deposit to use the service. Ola arranged for the oxygen concentrators to be picked up after the patient recovered and no longer required oxygen support, so that it could be 'sterilized' and made ready to be used by patients. In addition, Flipkart donated 30 ICU ventilators to the Karnataka government in late June 2021.

Taking serious note of reports that many patients in home care routinely flouted rules, resulting in infection spreading and fatalities, the government in May 2021 decided not to allow people to isolate at home in urban slums and villages. They made it mandatory for asymptomatic patients and people with mild symptoms to get admitted to COVID-19 Care Centers (CCCs), which also served as triage centers. The decision was prompted by health department's data showing 70 patients either died at home or were brought dead to the hospital between May 14 and 22, 2021. Home care was limited to urban homes which had separate rooms and attached bathrooms.

In a bid to ensure compliance with isolation rules, the government planned to affix red tape on houses with infected people. However, officials claimed that due to lack of awareness about the upgraded facilities at CCCs including a section with oxygenated beds, people who tested positive were reluctant to move to those centers, with only about 30 percent of the 19,300 beds occupied in 289 newly set up CCCs in 227 Taluks in May. Of the 3,218 CCC beds in Bengaluru, 90 percent of them were left vacant in May, 2021.

To manage and distribute medical oxygen efficiently and transparently at all levels, the Government, in May 2021, decided to set up an oxygen cell in each district, which would function 24x7. The cell coordinated with hospitals and meet their demand if there was any shortage. The State already had a 24x7 State Oxygen Unit and a 24x7 State Oxygen Helpline at the Drug Controller Head Office in Bengaluru. The unit monitored all re-fillers in their district as well as those from other districts who supplied oxygen to their district. A database of all the hospitals in the district, as well as their oxygen needs and oxygen suppliers were regularly maintained.

Medical Support and Monitoring

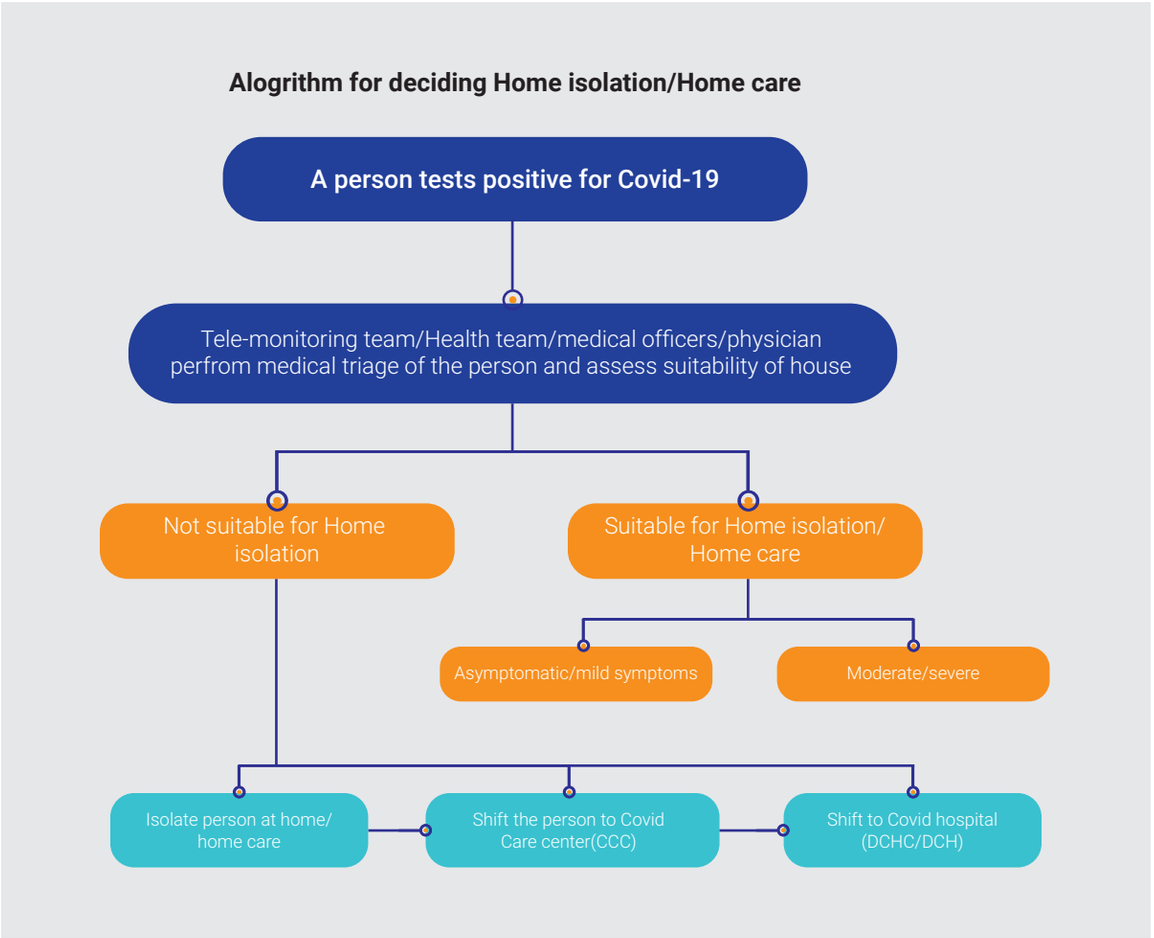
An algorithm was developed for telemonitoring by government or private entities to determine home care and then connect patients to a facility when required.

In the first wave of the pandemic, the health department with help of SWASTH provided teleconsultation to home isolated COVID-19 patients. A total of 5,204 patients were monitored by the NGO (July to Sept 2020). Subsequently, from October 2020, the health department partnered with Portea to provide home care including attendant support to COVID-19 patients.

Teleconsultation was made available to home isolated cases via StepOne and Portea Medical. For medical and non-medical emergencies, patients were given an escalation number. When they received such a call, they were connected to the zonal officer, who directed them to the quarantine teams. Digital thermometer, pulse oximeter, a sufficient number of masks, two bedrooms and a caregiver were some of the requirements to be eligible for home isolation. Portea was made responsible to do the physical triage and the tele-triage. StepOne announced a 24x7 helpline for COVID-19, non-COVID-19 and patients with mental health issues. Callers chose their symptoms via the Interactive Voice Response System (IVRS), after which a registered healthcare expert guided the individual on how to proceed.

Counselling was provided to patients with mental health concerns. StepOne was an empanelled partner for telemedicine consultations on Aarogya Setu Mitr, an ancillary service on the Aaroya Setu app that enables free teleconsultation for those with COVID19-like symptoms.

Portea Medical partnered with the Government of Karnataka to support the recovery and care unit in COVID-19-affected rural areas. Portea set up a 50-bed community health center in Konanur, Arkalgud taluk, Hassan District, Karnataka. For this initiative, the company collaborated with an NGO called DFY. Portea worked in 15 Primary Health Centers (PHCs) in the surrounding area. The centers could provide 24-hour oxygen support as well as HDU beds equipped with BiPAP machines and oxygen concentrators.



As of May 2021, Rajiv Gandhi University of Health Sciences (RGUHS) trained over 7,000 final year MBBS students to treat and monitor the home-isolated cases. The university registered and trained the students through StepOne app. COVID-19 duty was mandatory for all the final year MBBS students studying at colleges affiliated to RGUHS and as of May 2021, 4,000 students had registered and 2,500 of them had been trained. According to the university officials, each student was assigned to make 40 calls/ contact 40 home-isolated patients every day. If the students discovered a patient who required additional treatment, they contacted the team's senior doctors and catered to their needs.

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KERALA

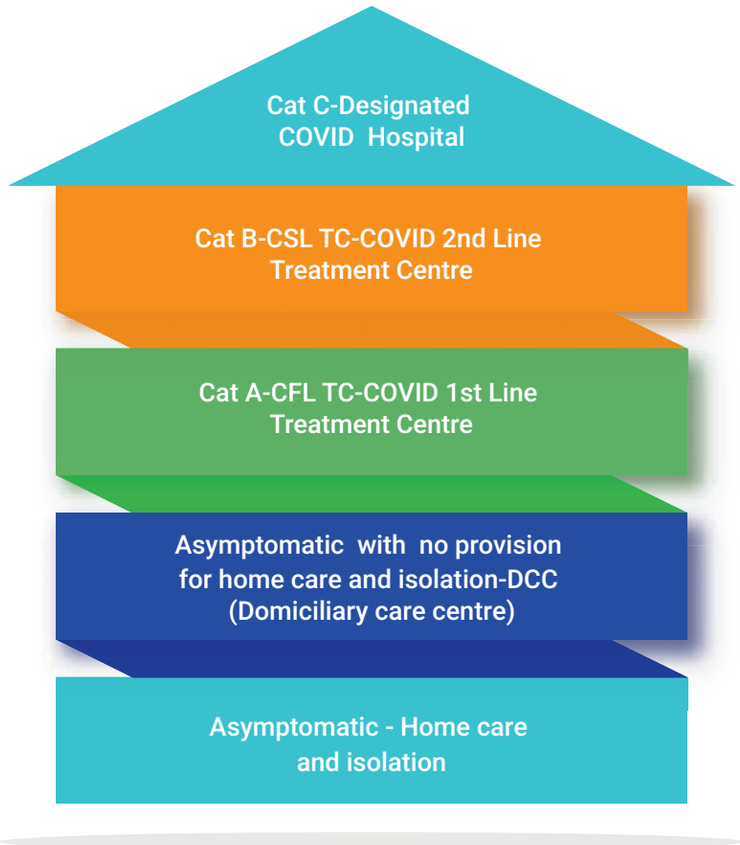
Overview

Kerala is one of the few states in India with a strong pre-existing public health network to support COVID-19 home-care without any help from private entities. Their efforts to reduce burdens on hospitals were largely successful, and were also recognized by the WHO (World Health Organization) in July 2020[4]. Active surveillance, setting up of district control rooms for monitoring, strong community engagement and addressing the psychological needs of the vulnerable population were some of the key strategic interventions implemented by the state government that kept the disease in control.

Inclusion and Eligibility Criteria

The district administration decided when to initiate the Standard Operating Procedure (SOPs) for home-based management of asymptomatic COVID-19 patients. The following clinical criteria were used to determine eligibility: COVID-19 positive by any confirmatory test, asymptomatic (no symptoms), persons with no major morbidities/ uncontrolled comorbidity/ vulnerable condition, persons who were psychologically fit and willing to be isolated in a room. Children under the age of 12 were allowed to be placed in room isolation with their parent/ caregiver, with a third person acting as caretaker. All these category patients were assessed by Medical Officers (MOs) from the local health authorities and were provided care under the breakthrough five tier COVID-19 care model.

The Five Tier Covid 19 Care Pyramid - Kerala



As determined by local self-government and health authorities, adequate access (road and communication), separate rooms with attached bathrooms, provision for vulnerable people to be isolated/ separated, and a healthy caretaker were the pre-requisites for home isolation. COVID-19 negative family members from vulnerable groups were closely monitored by the local primary healthcare teams, either by extending the three levels of daily monitoring or by having a Junior Public Health Nurse/ Accredited Social Health Activist (ASHA)\ Volunteer visit every third day to monitor the vulnerable member using the checklist. All exposed members of the household were quarantined for 14 days after their last contact with a confirmed COVID-19 patient at home. The supply of basic commodities to such households was ensured by the Local Self Government (LSG).

Intervention Details

The state government used innovative approaches to strengthen its health infrastructure. Coordinated efforts were made between the state and district units to bring out treatment and discharge protocols.

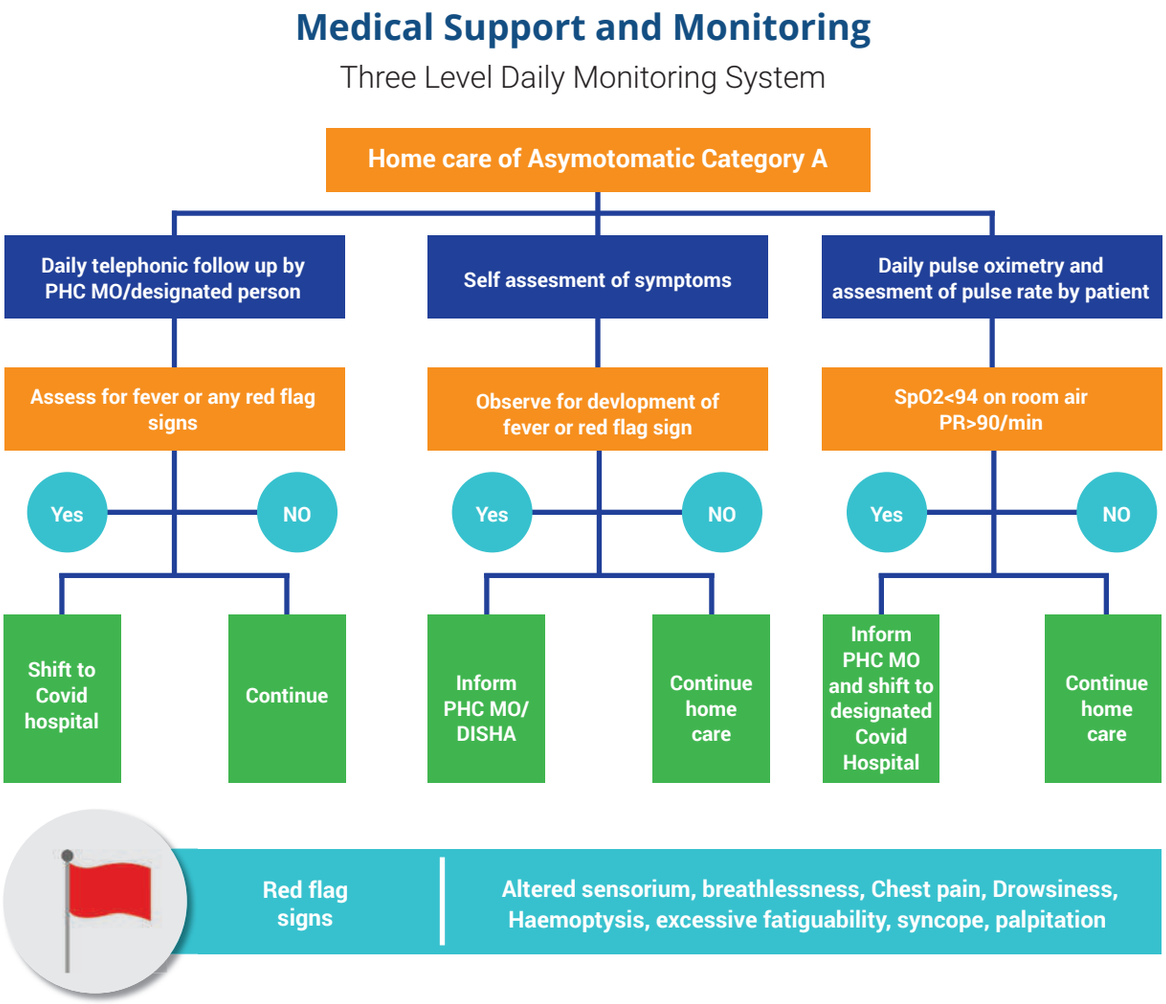
Test results were sent to the respective district program management and support units, who handed over the same to Rapid Response Teams (RRTs) as well as the individuals. The RRTs were responsible to get in touch with individuals, check their health conditions, and give directions on the next step of care. Those without facilities for proper home isolation were accommodated in domiciliary care centers arranged by the LSGs.

For the primary contacts at the individual's home, all help, including food or medicines were ensured by ward-level committees. Those under home care were moved quickly to the hospital if they experienced shortness of breath or fall in oxygenation. The rapid response teams were contacted and were made in charge of the next steps.

Self-Care guidelines and recommendations were laid out in detail by the authorities. Every day, patients were contacted via phone by local health teams for symptoms in accordance with a prescribed checklist, which was signed by a medical officer. These patients were monitored for symptoms, SpO2 levels, psychological evaluation, and social issues. If patients developed symptoms such as hypoxia or tachycardia, they were transported to the nearest COVID-19 First Line Treatment Centers/COVID-19 hospital, depending on the severity. Specially designed double chambered vehicles were used for transportation.

Medical Support and Monitoring

Considering the increase in the number of cases, the state government rolled out a three-level daily monitoring system for providing medical support.



With an aim to minimize fatalities, Tele ICU Command Centers were established at district level which were managed by experienced intensivists and nurses on a 24x7 basis. These Tele ICU infrastructures included monitors, computers with headphones, speakers and high-speed internet connection. The government also encouraged private hospitals with intensive care expertise to provide tele ICU facility to small hospitals in Hub and Spoke model. District Medical Officer and Institutional medical boards were made responsible to oversee the plan, establish systems and monitor activities.

Scalability and Replicability

The COVID-19 management and control in Kerala ensured commitment from the highest administration with proactive timely interventions. In order to scale up and reduce the chances of virus spread in future, fever clinics can be converted into COVID-19 clinics across all Hospitals. Further oxygen beds can be arranged at Taluka Hospitals and wherever possible. At Primary Health Center/ Family Health Center and all other hospitals it is important to ensure regular stock of steroids and oral anticoagulants in accordance with home care management advisory. Support mechanisms such as home care and oxygen concentrator arrangement for home, along with other treatment support can be established for patients' bed-ridden at home. Telemedicine units and counsellors can be leveraged for regular assessment of health status.

Isolation wards can be set up at Community Health Care Centers and major hospitals across the state including building isolation blocks in Kozhikode and Thiruvananthapuram Medical College Hospitals. Scale up infrastructure for treatment of pregnant women and children is another important measure. The state can also plan to maximize vaccination drives to reduce transmission. It is also important to focus on post-COVID-19 care, particularly stress management and anxiety issues.

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MAHARASHTRA

Overview

Around 24 municipal wards of Mumbai fall under the jurisdiction of the Brihna Mumbai Municipal Corporation (BMC). Each of these ward offices have a disaster control room, which were converted into COVID-19 response 'war rooms'. A dedicated helpline number (linked to 30 more lines) was set up for each war room to oversee cases arising in municipal wards. Based on the condition of the patient, if they had been recommended home isolation, staff members enquired whether patients were able to and had the required space to isolate in their homes. If not, patients were provided with appropriate institutional quarantine facilities to isolate. A dashboard was also created which provided real time updates to the BMC.

The state of Maharashtra partnered with the private sector to support in the fight against the COVID-19 pandemic. Hindustan Unilever Limited (HUL) provided RT-PCR testing kits and other supplies including pulse oximeters, PPE kits, masks, oxygen concentrators and 29 ventilators to government hospitals in Maharashtra. To augment the quarantine system instituted by the government, HUL tied up with Apollo Hospitals, State Bank of India, Oyo, Lemon Tree and others to create isolation facilities equipped with medical supervision to help reduce the burden on hospitals while providing acute care for patients in need. They also donated over 74,000 testing kits for early detection of COVID-19. These kits were used to conduct free testing of patients in government hospitals. Efforts were also made to upgrade medical infrastructure in hospitals treating COVID-19 patients. Another private sector partner, Honeywell, along with its NGO partners, in consultation with the state government of Maharashtra, established a COVID-19 critical care center equipped with beds, oxygen, PPE kits and other basic medical infrastructure.

Intervention Details

In August 2020, StepOne, in partnership with the state government of Maharashtra set up a 24x7 telemedicine helpline for COVID, non-COVID-19 and mental health related issues. Callers could choose their symptoms via the Interactive Voice Response System. Following this, a registered healthcare expert would guide the patient on when and where to seek care. Patients with mental health issues were provided counselling services. StepOne is also an empaneled partner for telemedicine consultations on Aarogya Setu Mitr, an ancillary service on the Aargoya Setu app that enables free teleconsultation for people with COVID-19 like symptoms. In May 2021, home quarantine was stopped in 18 districts that had a higher COVID-19 positivity rate than the state's average and COVID-19 care centers in these districts began functioning as isolation facilities.

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ODISHA

Overview

To fight the COVID-19 pandemic, in June 2020, the government of Odisha announced setting up of COVID-19 Care Homes (CCHs) in all 6,798 Gram Panchayats of the state. Odisha also set up special COVID-19 hospitals for critical patients, equipped with approximately 10,000 beds and ICU facilities and also trained health workers with the right skills to fight this pandemic

In July 2020, the government released detailed guidelines on home isolation for asymptomatic/ mildly symptomatic patients with no comorbidities. This was facilitated by the state's Health and Family Welfare department.

Inclusion and Eligibility

The criteria for inclusion and eligibility of persons to be placed under home isolation included mild symptomatic/ pre-symptomatic/ asymptomatic cases, having the requisite facility in their homes for self-isolation. Family members of the isolated patient, who were in contact with them, were also required to have space for quarantine, along with a separate toilet. Adult caregivers were required to provide care to patients at all times, i.e. on a 24x7 basis and communication between the caregiver and state helpline was a requirement throughout the duration of the home isolation period. Caregivers and all others that came in contact with COVID-19 patients were asked to take all necessary precautions. Patients were asked to constantly monitor their health and vitals and keep the Health Authorities informed for surveillance teams to follow up accordingly. Patients were required to fill an undertaking on self-isolation, stating that they would follow all home quarantine guidelines and other family members in home quarantine were also required to follow the protocols. Stickers were put outside the homes of COVID-19 patients to caution others.

COVID-19 patients with comorbidities including those with Hypertension, Diabetes, Heart Disease, Chronic Lung/ liver/ kidney disease, Cerebro-vascular disease etc., Immuno-compromised patients (HIV, Transplant recipients, Cancer Therapy etc.) and elderly patients were not eligible for home quarantine.

Intervention Details

The COVID-19 Isolation Facilities, known as COVID-19 Care Centers (CCC) / COVID-19 Health Centers (CHC) that were created by the state government were primarily used as isolation facilities for COVID-19 suspect / positive cases who did not have the required infrastructure to isolate in their homes. Each of the CCHs set up in the state had facilities to accommodate 10 to 20 persons, and all put together could accommodate about 70,000 people. Every institute that created isolation facilities - CCCs/ CCHs were required to nominate a dedicated officer, who would maintain close and regular contact with the Chief District Medical Officer

of the district. Further, a nodal officer was also specially notified by the District Collector/Municipal Commissioner for home isolation. The state also issued specific SOPs for medical personnel, nursing officers and security personnel at quarantine facilities. In order to decentralize its COVID-19 management, the state government further announced the setting up of ward level committees in both urban and rural areas to monitor the situation and extend help to anyone testing positive.

The ward level COVID-19 management committees in rural areas included ward members, Auxiliary Nurse Midwives (ANM) and Accredited Social Health Activist (ASHA) workers, and members of local women's self-help groups. The village welfare committees overlooked the functioning of the COVID-19 management committees.

In urban areas, ward committees were managed by ward officers, local people and volunteers as members to monitor the situation. These committees were also set up in CCHs in large slum clusters. The Health and Family Welfare department developed a simple training module for COVID-19 positive patients and caregivers in both Odia and English languages. The department also developed a brochures/ leaflets on the subject which was shared with COVID-19 positive patients and their caregivers.

Medical Support and Monitoring

The District/ Municipal Administration/ Health Authorities were in charge of monitoring all cases under home isolation. The health status of those under home isolation was monitored by field staff/ surveillance teams through personal visits, along with a dedicated call center to follow up with patients on a daily basis. The clinical status (body temperature, pulse rate and oxygen saturation) was recorded by field staff/ call center. Patients were guided on measuring their parameters and provided with instructions by field staff. The details of patients were regularly updated on the COVID-19 portal and facility app and shared with the District Surveillance Officer.

In case a patient needed to be moved to a COVID-19 facility, they were to be transferred only via dedicated COVID-19 ambulances of the designated COVID-19 care facility. In case of the following serious signs / symptoms wherein immediate medical attention was required, patients were to contact the 104 helpline and not directly go to any hospital, these included: Difficulty breathing, Dip is SpO_2 (<95percent), Persistent pain/ pressure in the chest, Mental confusion, Slurred speech/ seizures, Weakness or numbness in any limb/face, Developing bluish discolorations.

In May 2021, the Odisha Transports department fixed hiring charges of various types of ambulances operated by private hospitals and private operators in the state. Small categories of ambulances like Maruti Omni, Tata Magic and Maruti Eco etc. could charge Rs 750 up to 10 kilometers of distance. Also, small ambulances with basic life support facilities could charge Rs 1,000 up to the same distance. These categories of ambulances could charge Rs 30 per additional kilometer exceeding 10 kilometers. Further, medium category ambulances like Mahindra Bolero could charge Rs 1,000 up to the distance of 10 kilometers. These ambulances with basic life support system facilities could charge Rs 1,500 up to the same distance. Large categories of ambulances like Tata Winger, Force Traveller and Tata 407 etc. could charge Rs 1,250 up to 10 kilometers. These categories of ambulances with basic life support system facilities could charge Rs 2,000 up to the same distance and ambulances could also charge Rs 30 per additional kilometer exceeding 10 kilometers. Also, large category of ambulances with advanced life supporting system facilities could charge Rs 3,000 up to 10 kilometers and extra charges per additional kilometers.

Tele-consultation services were rolled out by the state in partnership with StepOne. The 24x7 helpline was issues covering COVID, non-COVID-19 and mental health. Callers could choose their symptoms via the IVRS system. Following this, a registered healthcare expert would guide the patient on when and where to seek care. Patients with mental health issues were provided counselling services. StepOne is also an empaneled partner for telemedicine consultations on Aarogya Setu Mitr, an ancillary service on the Aargoya Setu app that enables free teleconsultation for people with COVID-19 like symptoms.

Scalability and Replicability

During the first wave, the state government had set up 16,815 temporary medical centers at the Gram Panchayat level across the state, with a total of 7,62,345 beds. Many of these centers were shut down as the number of returnee migrant workers declined. A new role can be envisaged for these centers.

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TAMIL NADU

Overview

Launched in August 2020, the state of Tamil Nadu's key initiative was the Amma COVID-19 Homecare scheme, under which kits and teleconsultation was provided at home. The state also made use of eSanjeevani OPD and launched Siddha-based treatment facilities. Private players like StepOne and Ola also contributed to home based care in the state.

Inclusion and Eligibility Criteria

All patients with SpO2 level above 94 percent (if RT-PCR results were positive then irrespective of symptoms, otherwise suspected cases with RT-PCR negative or untested with symptoms) were advised home isolation by the government. This was prescribed through testing/ screening/ triaging centers, health facilities, outreach camps and home visits. Exceptions for this were pregnant/ lactating mothers or patients above the age of 65, who were referred to COVID-19 hospitals.

Intervention Details

Amma COVID-19 Homecare Scheme: Introduced in August 2020, through this scheme people in home isolation could avail diagnostic services, medicines, and consultations. The care package was offered for a period of 14 days, at a cost of Rs 2,500.

Patients who tested positive and were advised home isolation, and people with RT-PCR negative results but suspected symptoms (as of August 2020) were provided with homecare kits that contained pulse oximeters, digital thermometers, 14 face-masks, soaps, 14 zinc and 14 multivitamin tablets and packs of herbal immunity boosters like 'Athimathuram' and 'Kabasura Kudineer', among others. The kit also contained a COVID-19 booklet. The package included psychological counselling, prescriptions and monitoring of oxygen levels and temperature by a team of doctors. If patients showed signs of worsening condition, they were shifted to hospitals.

An exclusive facility with 350 beds for COVID-19 treatment was set up at the Pudukottai Medical College Hospital. Among the 350 beds, 35 were allotted to intensive care units, 165 beds were equipped with oxygen lines and separate rooms and advanced equipment were also made available at the facility.

In Chennai, patients were shifted from test and screening centers through GVK EMRI 108 Ambulance Services based on calls received by the Emergency Response Centre of the organization. Transit of patients from test centers to government and private hospitals was free of cost. Further, to ensure availability of ambulances for everyone, private operators were permitted to shift COVID-19 patients. The government fixed rates for private ambulances and took strict action against defaulters.

The Ola Foundation (CSR arm of Ola), partnered with GiveIndia for 'O2forIndia' initiative. They provided free oxygen concentrators to patients in quarantine in Chennai. Initially they supplied 500 oxygen concentrators

to patients free of charge by offering doorstep delivery and pick-ups of oxygen concentrators. To avail this service, patients had to place requests for oxygen concentrators through the Ola mobile app by providing some basic details. Home delivery was done by specially trained personnel through taxis. After the patient recovered and no longer required oxygen support, Ola would arrange pick-ups and sterilize the oxygen concentrators and then deliver to other patients in need.

Medical Support and Monitoring

A citizen-centric initiative for uninterrupted services during pandemic: eSanjeevani COVID-19 OPD provided integrated telemedicine solutions. Instructions were sent to Government Health facilities including PHCs, HSCs to provide drugs for ePrescription generated via the eSanjeevani OPD. Over 3,50,000 consultations were conducted through this initiative (till December 2020). Symptomatic patients were identified and shifted to higher facilities for further care.

Tele-consultation and counselling services were provided through StepOne, with a 24x7 helpline for COVID, non-COVID-19 and mental health related issues. Callers could choose their symptoms via the IVRS system. Following this, a registered healthcare expert would guide the patient on when and where to seek care. Patients with mental health issues were provided counselling services. StepOne is also an empaneled partner for telemedicine consultations on Aarogya Setu Mitr, an ancillary service on the Aargoya Setu app that enables free teleconsultation for people with COVID-19 like symptoms.

00-bedded facilities were made available at the Government Polytechnic College in Cuddalore district in June 2021. Patients were given only Siddha formulations i.e. traditional food items and herbal concoctions. Besides this, breathing exercises for strengthening lungs, exercises for increasing oxygen saturation, meditation, 'aasanaas', relaxation and counselling was done. Discharged patients were given Siddha formulations to strengthen their physique.

Sustainability and Replicability

The Amma homecare scheme was sustainable, although its popularity was limited to certain districts till November 2020.The state launched 2,000 Amma Mini-Clinics in January 2021 and 1,645 doctors were recruited to run them. The Deputy Directors of Health Services, under whose purview the mini-clinics fall, was instructed to divert medical officers, on a need basis, as per requests to institutions that come under the Directorate of Medical Services.

The Government COVID-19 Hospital, a 600-bed exclusive facility in King Institute Campus in Guindy, is planning to open a comprehensive post-COVID-19 care center with an outpatient unit, testing facilities, inpatient and rehab services. The state has also upgraded services of post COVID-19 clinics across all medical colleges. These clinics will have senior pulmonologists, diabetologists, cardiologists and neurologists posted, and also have rehab wards where physiotherapy and other treatments will be offered.

The state is ramping up infrastructure and human resources in its pediatric wards and sensitizing pediatricians to COVID-19 treatment protocols and management while ensuring adequate supply of steroids, IV immunoglobulin and other drugs needed. Additional NICU units are also being added. Medical colleges and district HQ hospitals are working towards creating additional bed capacity, over and above existing pediatric capacity, along with ICUs. Incentives have also been offered to manufacturers of oxygen and COVID-19 related equipment.

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ANNEXURES

Annexure 1: Summary of the guidelines on home isolation

I. Patients eligible for home isolation:

1. Clinically assigned mild/ asymptomatic case by the treating Medical Officer. S/he must be in constant contact with a treating physician and promptly report in case of any deterioration.
2. Have the requisite facility at their residence for self-isolation and for quarantining family contacts.
3. A caregiver should be available to provide care on 24 x7 basis. A communication link between the caregiver and healthcare facility is a prerequisite for the entire duration of home isolation.

II. Who is NOT eligible for home isolation

1. Elderly patients aged more than 60 years and those with co-morbid conditions shall only be allowed home isolation after proper evaluation by the treating medical officer.
2. Patients suffering from immune compromised status are not recommended for home isolation and shall only be allowed home isolation after proper evaluation by the treating medical officer/ Community Health Officer.

III. General precautions for the patients:

1. Hydration: To stay hydrated at all times and take adequate amounts of fluids in form of juices, soups and water.
2. Diet: Healthy diet containing adequate energy, protein, vitamins and minerals, obtained through the consumption of a variety of foods, including green and orange vegetables, meat, fish, beans, nuts, whole grains and fruit should be consumed.
3. Toilet use: To flush after closing the lid of the toilet and disinfecting the items used with 1% sodium hypochlorite spray solution/sanitizers/soap solution.
4. Avoid sharing personal items with anyone else like toothbrushes, eating utensils, dishes, drinks, bath/hand towels, wash cloths or bed linen, etc.
5. Take adequate rest and sleep well.
6. Do not meet visitors till you are released from home isolation/ home care.
7. Self-monitoring: Check and record your body temperature using mercury/ digital thermometer (shall be < 100.40 F) in armpit and oxygen saturation with a fingertip pulse oximeter (shall be >95%) thrice daily.
8. Keep in contact with friends and family through messages, phone calls, or simply conversing with them from a safe distance – viz. from the balcony/roof/window.
9. Prone ventilation can be practiced by all isolated patients' multiple times in a day for up to 16 hours, with 30 minutes in each position.
10. Medication advised during home/community-based isolation should be symptomatic. There is no requirement of administering hydroxychloroquine, remdesivir, tenofovir, zinc, multivitamin, etc
11. Infection with COVID-19 predisposes people with compromised pulmonary function to developing severe complications. Therefore, patients with cystic fibrosis, COPD, chronic asthma etc. should be especially careful. Smokers should also be strongly advised to quit smoking, at least for the period of active infection.

IV. When to seek medical attention:

Immediate medical attention must be sought if warnings signs or symptoms develop. These could include difficulty in breathing, dip in oxygen saturation (SpO2 < 94% on room air), failing to perform the 6-minute walk test, persistent pain/pressure in the chest, extreme fatigue and mental confusion or inability to arouse

V. Instructions for caregivers:

1. Mask: The caregiver should wear a triple layer medical mask or N95 mask when in the same room with the isolated person. If the mask gets wet or dirty with secretions, it must be changed immediately. Discard the mask after use and perform hand hygiene after disposal of the mask.
2. Hand hygiene: Hand hygiene must be ensured following contact with an ill person or his immediate environment. Use soap and water for hand washing at least for 20 seconds. Alcohol-based hand rub can be used, if hands are not visibly soiled.
3. Patient care: Avoid direct contact with body fluids of the patient, particularly oral or respiratory secretions. Avoid exposure to potentially contaminated items in his immediate environment
4. Cleanliness:
   a. Clean and disinfect frequently-touched surfaces like phones, remote controls, counters, table-tops, doorknobs etc with 70% Lysol or 1% sodium hypochlorite solution.
   b. Clean and disinfect bathroom, fixtures and toilet surfaces at least once daily. Regular household soap or detergent shall be used first for cleaning, followed by 1% sodium hypochlorite solution
   c. Gloves, masks, disposed tissue and other waste generated during home isolation/home care shall be sprayed/ soaked in 1% sodium hypo-chlorite solution and disposed in a yellow bag in separate bin.
5. Waste disposal: Effective waste disposal helps prevent further spread of infection within household. The waste (masks, disposable items, food packets etc.) should be disposed of as per CPCB guidelines.
   - Left-over food, empty juice bottles, disposable utensils, empty water bottles, waste generated from kitchen, packaging material, waste papers, waste plastics, any other items generated or used by family members and the positive person at home isolation/ home care should be collected along with other general solid waste in bags securely tied for handing over to waste collectors.
   - Masks and gloves used by caregiver and other family members shall be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste after cutting, the same to prevent reuse.

   When to discontinue home isolation: Patients under home isolation will stand discharged and end isolation after at least 10 days have passed from onset of symptoms (or from date of sampling for asymptomatic cases) and no fever for 3 days. There is no need for testing after the home isolation period is over.

Given below are links to the guidelines issued by MoHFW, CGHS and ICMR

MoHFW:https://www.mohfw.gov.in/pdf/RevisedGuidelineshomeisolation4.pdf https://www.mohfw.gov.in/pdf/RevisedguidelinesforHomeIsolationofmildasymptomaticCOVID19cases.pdf

CGHS:https://cghs.gov.in/WriteReadData/l892s/Guidelines%20for%20tele-homecare%20of%20COVID-19%20patients%20(16%20June%202020).pdf

ICMR: https://www.icmr.gov.in/pdf/covid/techdoc/COVID_HOME_CARE_English_v2.pdf

Annexure 2: Best practices from partner organizations

USAID-NISHTHA/JHPIEGO

USAID's flagship health system strengthening project NISHTHA, implemented by Jhpiego, is supporting 13 states in strengthening the delivery of comprehensive primary healthcare. NISHTHA is also working closely with the states to strengthen their response towards COVID-19. NISHTHA is providing technical assistance to the intervention states for improved provision of home-based isolation care across following areas:

- **Capacitating states in line with GoI's home isolation guidance –** NISHTHA has been providing technical assistance to its intervention states for implementation of the home isolation care guidelines with local contextualization. These guidelines are also being modified into interactive and easy to understand flyers which acts as a job-aid/ checklist for field level functionaries. The project has supported capacity building efforts across five states (Tripura, Meghalaya, Sikkim, Mizoram and Arunachal Pradesh) and about 1900 frontline workers have been trained on home isolation care and management protocols.

- **Co-design and implementation of home-based care models –** NISHTHA has co-designed a menu of home-based isolation care models based on the local needs of the intervention states. These models are being rolled out for enhanced remote monitoring, follow up and home-based care of COVID-19 patients. Following models have been rolled out across intervention states:

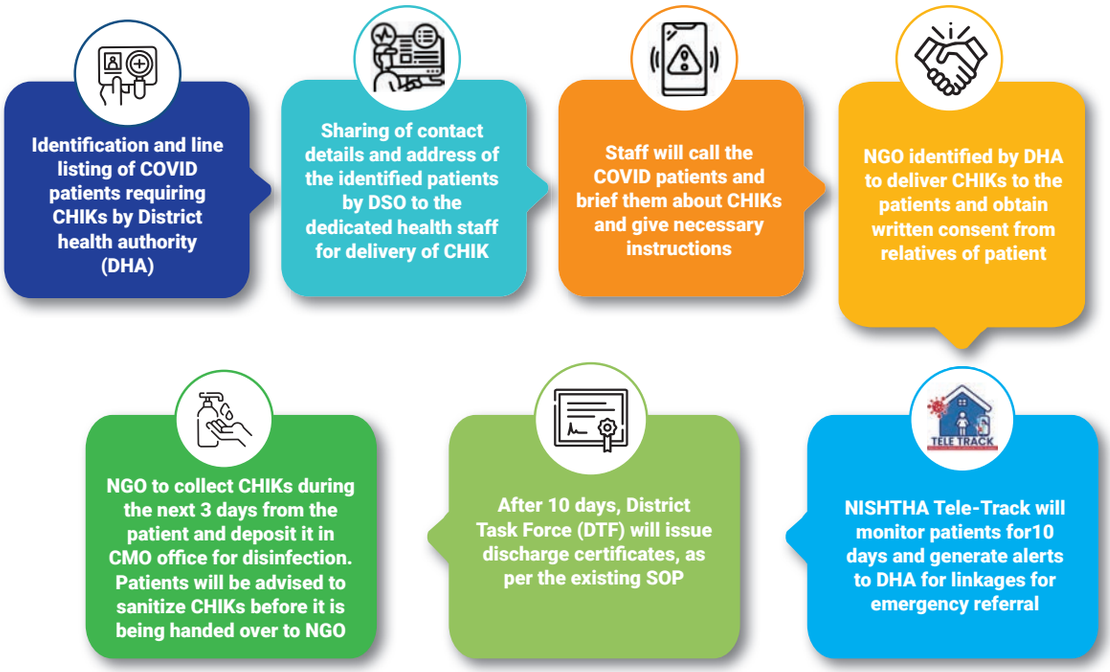
  a. **Integrated Tech Enabled Home-Based Care Model -Tele-Track –** NISHTHA is leveraging technology to develop an end-to-end integrated technology enabled home-based care platform i.e. NISHTHA Tele-Track for monitoring, care and management of asymptomatic and mild COVID-19 cases under home isolation. The platform acts as an enabler for effective monitoring and tracking of COVID-19 patients and has functionalities for recording of vitals of home isolated cases on a daily basis, provision of regular & need based SOS telemedicine consultations with a pool of physicians and digital reporting and with generation of system alerts in case a patient develops symptoms and requires referral. The platform has been recently rolled out across five states i.e. Arunachal Pradesh, Mizoram, Meghalaya, Madhya Pradesh and Nagaland.

  b. **Assisted home care model through home visits by health workforce –** The model envisages follow-up through home visits by health workforce of asymptomatic and mild COVID-19 cases under home isolation for early identification of complications and establishing referral linkages with higher facilities. This intervention is being rolled out across two states i.e. Meghalaya and Sikkim.

  c. **Hybrid model by Integrating IVR and Telephonic Follow up –** To strengthen efforts in the management of COVID-19 cases, a solution has been designed for regular monitoring and follow up of patients under home isolation and post discharge patients to identify early symptomatic cases and link them with appropriate care. This is a hybrid model that has been deployed using the IVR technology, web-based google form, and tele-calling by trained human resources to ensure seamless follow-up of patients under home isolation. This initiative has been undertaken with an objective of augmenting state's efforts towards COVID-19 and thereby, reducing overall morbidity and mortality due to the pandemic. This intervention has covered around 96,080 and 25,686 patients under home isolation in the states of Jharkhand and Chhattisgarh respectively. With the second surge of COVID-19, the platform has been rolled out in Assam also and around 2300 patients have been reached out through this platform till date (rolled out on June 7, 2021), of which 122 patients were found symptomatic and linked with appropriate care.

- **Floating Home Isolation Kit Bank –** Most of the states are struggling with availability of COVID-19 Home Isolation Kits comprising basic state approved medicine for COVID-19 management, self-monitoring device like pulse oximeter, thermometer and personal hygiene products to provide quality care for home isolated patients. To address this challenge, NISHTHA in collaboration with the state government of Nagaland has developed an innovative model of Floating Home Isolation Kit Bank across two high burden districts i.e. Dimapur and Kohima by creating a pool of CHIKs on a return after use basis.

Nagaland: Process flow of Floating Home Isolation Kit Bank



- **Development of differentiated home based care approaches for vulnerable groups –** Building upon the ministry's home isolation guidelines as the reference document, NISHTHA in collaboration with Indian Association of Preventive and Social Medicine (IAPSM) developed an operational guideline for differentiated home-based care approaches for various identified vulnerable groups. The idea is to adapt ministry's guidelines for home isolation to the current context of various vulnerable groups for use by local self-governments, PRIs, civil society organizations and NGO partners. These operational approaches will focus on differentiated home based care models for identified vulnerable groups like urban poor, migrants, children, transgender, tribal population, people living with HIV, pregnant and lactating women, persons with disabilities, and mental health issues etc. These operational approaches will clearly spell out various kind of operational models for home-based care for these special groups based on their vulnerabilities and specific needs.

- **Risk communication materials for both patients and care givers –** NISHTHA is providing support to its intervention states for developing and disseminating risk communication materials on COVID-19 messaging. This includes development of RCCE materials, job aids and protocols on COVID-19 Appropriate Behaviors, post COVID-19 care, care during home isolation, mental health, breastfeeding and COVID-19, wellness etc. A guidebook was also developed for parents on prevention and care of COVID-19 among children.

Further, NISHTHA has developed a set of engaging audio visuals for risk communication messaging for the community as well as training aids for health workers on areas such as care during home isolation, post COVID-19 care, infection prevention practices, care of the mother and newborn, breastfeeding and COVID-19, use of digital thermometer and pulse oximeter etc.

The AVs can be accessed through the following link:
https://drive.google.com/drive/folders/1kFM3hIX3DzFbF2TJOGLrQjAUsup4GWgP?usp=sharing

Project StepOne

Project StepOne is a non-profit startup on a mission to augment public health resources with technology, people and processes to effectively fight against Covid. We work with state/district governments, as an integral part of the government work flow and systems to fight Covid, bringing appropriate telemedicine interventions to bring medical support to the COVID-19 affected - all services are not charged and pro-bono to the governments.

We have a large volunteer network of 12000+ doctors, 15000+ medics/paramedics and 5000+ non-medical volunteers working virtually connected via our technology framework. Our volunteers man helplines, call vulnerable/positive citizens to get information & assist them, handle emergencies and solve other citizen problems/grievances and in all cases connect the patients to doctors providing timely care. All services were provided free to governments.

Background

Covid-19 pandemic has created a crisis for all countries around the world and it has stretched government infrastructure and resources even in the most developed countries of the world. India being a developing country with a high population is expected to be more stretched for resources - all government resources and infrastructure are expected to be completely over burdened. This is expected to put millions of people under tremendous danger and pose severe problems for citizens, governments alike. The unprecedented scale of the pandemic is expected to stretch healthcare resources like hospitals beds, equipment like ventialors and ICU equipment, healthcare workers like doctors and also other government resources to perform normal citizen response activities.

The Problem

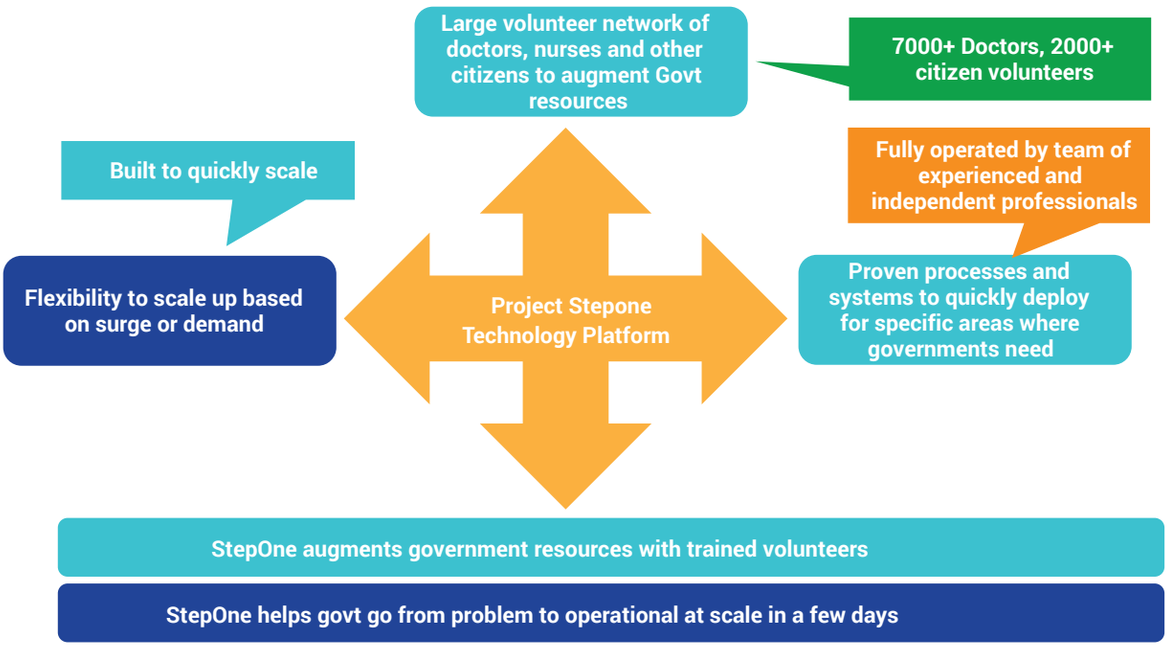
Governments faced the following problems in dealing with the pandemic:

1. Severe shortage of staff to perform key functions - Doctors and other healthcare staff, Staff to take calls, staff to obtain key citizen data, staff for guiding and helping citizens
2. Delays and inability to easily train and onboard new staff to augment the shortage of staff
3. Need for systems to help staff be quickly productive when onboarded
4. Systems to scale up and scale down the staff as the virus spread surges or flatten

The StepOne Solution

StepOne created a system that can quickly helps augment government resources with the necessary people - people with required background/skills, use technology to connect these people to the government systems enabling them to work remotely from where they are - which is a key in the COVID-19 world and tying them via processes/workflows with government systems to seamlessly make the integration of these people with the government system easy.

Project StepOne therefore presents technology, people and processes required to solve the problems faced by the government.



Operate on a Pro-bono Model

It's not enough to support the governments with technology, people and processes but it's very important to also run the system for a significant timeframe. This is because most of the time, governments don't have the resources with the right expertise to run the system and therefore Project StepOne provides the necessary infrastructure and expertise to operate the system. All services are pro-bono and not charged.

Project StepOne Solution Set

Every COVID-19 patient was contacted everyday via a tele-screening call and followed up by a doctor consultation or trained professional counselling if required or requested by the patient - emergencies and cases of deterioration were identified during the call and escalated thereby preventing mortality and morbidity. All emergency handling was done in close coordination with the government and other on ground agencies across all states.

Advantages of the Project StepOne Solution Set

- Accessible: Project StepOne's Citizen interface works via normal telephone call, a medium easily accessible now to all parts of the society. It works on all types of phones and does not require data or smartphone, in most cases does not even require any phone currency to be available as the helplines are toll free.
- Inclusive: Citizens calling Project StepOne's helplines don't need to be educated or literate - most helplines support all local languages. The volunteer doctors on the platform can speak 33 languages including rarely spoken languages like Nagamese, Garo, Khasi, Jaintia, Beari Urdu etc ensuring anyone calling on the helplines are helped out.
- Free or Affordable: All services by StepOne are provided free of charge and delivery of medical services including ambulance, hospitals and medication are channelized via the government healthcare system or NGO's ensuring lowest affordable options to the citizens.

Annexure 3: List of partners supporting home-based care in states

State	Private/NGO/Development Partners
Arunachal Pradesh	NISHTHA/Jhpiego
Assam	NISHTHA/Jhpiego, 104 Call Centre
Bihar	Private IVRS Agency
Chhattisgarh	NISHTHA/Jhpiego, Indus Action, Samarthan, Piramal Swasthya
Chandigarh	Red Cross
Delhi	Poreta, Step-One, Prakriti-E-Mobility, Call Doc, Health Care at Home, CATS, CNCTD
Goa	Rotary Club, Lions Club, Jaycee, other CSRs
Jammu and Kashmir	Norway India Partnership, HISP
Jharkhand	NISHTHA/Jhpiego Step-One, mDoc, National Medicos Organization
Karnal	Deloitte, KCGMCH, Hindustan Wellness Lab
Karnataka	Swasth, Protea, Step-One, Ola Foundation, Give India, Doctors For You
Madhya Pradesh	NISHTHA/Jhpiego
Maharashtra	NISHTHA/Jhpiego, Step-One, HUL, Apollo Hopsital, SBI, Oyo, Lemon Tree
Manipur	NISHTHA/Jhpiego, RIMJS, JNIMS, IMA, Medicine sans frontier
Meghalaya	NISHTHA/Jhpiego
Mizoram	NISHTHA/Jhpiego, Young Mizo Association
Nagaland	NISHTHA/Jhpiego, Seva Bharti
Odisha	NISHTHA/Jhpiego, Step-One
Puducherry	Step-One, Sri Aurbindo Society
Sikkim	NISHTHA/Jhpiego, UNICEF
Tamil Nadu	Step-One, Ola Foundation, Give India
Telangana	Hyderabad Institute of Technology and Management
Uttar Pradesh	Hindustan Computers Limited (HCL)

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