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## Post Covid Healthcare System in India

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### **Abstract:**

*Covid 19 virus first originated in the city of Wuhan, China, and then it spread rapidly to various countries. In India, the government announced the lockdown on march 25<sup>th</sup> 2020 to reduce the transmission of the virus. Since then the pandemic has created a fear among the population. Our healthcare system is centralized leading to the accessibility of health care system only in large cities. The rural areas were not able to access the healthcare system leading to negligence of the treatment. There was a second wave in May 2021 that led to a second lockdown. During the second lockdown, there was a rapid transmission of the virus leading to an increased death rate. In the second lockdown, only Covid related emergency treatment was done. The non-covid chronic diseases like cancer were not checked and treated, this led to a downfall in the patients visiting the hospital. The pandemic exposed these realities of the healthcare system. There needs to be a change in the healthcare system to be prepared for such a crisis. In the following paper, we will be discussing the various ways the health care system can be changed so that it will be more accessible, affordable to the population.*

**Keywords:** Covid 19, lockdown, emergency treatment, chronic diseases, healthcare system.

### **Introduction:**

The covid-19 has created havoc all over the world. The recognition of the covid-19 and its rapid spread had led the government of India to announce a nationwide lockdown in march 2020 and later in May 2021. The pandemic has led to restricted movement of the public and the fear of getting infected by the virus. Since the Covid cases were on the rise many of the private clinics and the dental clinic facilities were closed and only the government hospitals services were given the permission to work and Covid related patients were treated. So, people with non-covid illnesses

couldn't access health care services. During the first wave of pandemic the other health services like management of childbirth, immunization services, cancer care, eye care, tuberculosis management reduced significantly.<sup>1</sup> In the second wave of pandemic there was a rapid increase in the covid cases and the death rate was high, leading to the accessibility of the health care to the treatment of covid patients, other healthcare services were reduced significantly. This pandemic has become a reality check for various aspects of the health care system like lack of hospital staff, unable to manage the sudden surge of cases, reduced health care services to non-covid illness, increased workload mostly in the acute care setting.<sup>2</sup> This article discusses the transformation of health care services in the post-pandemic era.

### **Healthcare services Post Covid:**

#### **1. Distributed healthcare services:**

The Healthcare system especially in a country like India is more centralized and hospital-centric.<sup>3</sup> In a health crisis such as a pandemic such a system is inaccessible and costly to the people living in the rural areas. So, the healthcare system needs to be decentralized so that it will be accessible and affordable to the people near the margin areas. Smaller cancer hospitals in small cities and rural areas would be helpful in providing uninterrupted services.<sup>3</sup>

In India, the Tata memorial center (TMC) is the largest cancer institute located in Mumbai. Most of the people hail from different places to this institute for the treatment.<sup>3</sup> Tata memorial center has gathered a National cancer grid that is a network of cancer hospitals located in different parts of India.<sup>3</sup> During pandemic since the only covid related emergency was treated so patients suffering from other diseases couldn't get their treatment and follow up done in the hospital due to the fear of transmission of Covid19. Most of the patients visiting the TMC were outside Mumbai, so during pandemic, there was a decline in the cancer patients in TMC<sup>4</sup>. The TMC guided the network of hospitals from the National cancer grid by sending the standard operating procedure guide and protocols so that they can provide standardized care to the patients without interruption<sup>5</sup>.

The network of hospitals enables to provide uninterrupted care during pandemic, enables to share the knowledge, and will be affordable to people living the small cities and rural areas.

#### **2. Task sharing among the hospital staff:**

During the pandemic, there was a shortage of hospital staff leading to scarcity. So, there is a need for task and staff organization. The task of referring the patient from sub-specialists to specialists, specialists to generalists, generalists to non-physicians was time-consuming and critical during the pandemic, so the distributed health services will be more efficient and less time consuming and even assure distribution of the hospital staff.<sup>3</sup>

### **3. Telehealth:**

During the lockdown, most of the people who had non-covid illnesses couldn't go to the hospital for their check-up, so during this time teleconsultation usage, video, and audio consultation with the doctor increased. Telehealth was there even before the pandemic occurred but after the pandemic people opted for telehealth and its popularity increased.

Telehealth is the delivery of healthcare services, health education, through digital technologies and telecommunication.<sup>6</sup> Telehealth is a broad term used to cover all healthcare services. Telehealth consists of both telemedicine and teledentistry. Telemedicine is the medical service delivered through digital technology and teledentistry is the dental services through remote technologies. Since the world has become digital and almost everyone uses a smartphone, it is convenient, affordable, accessible for people to use telehealth services.

Technologies that have been used in telehealth services include Mobile health, audio, and video technologies, remote patient monitoring, store, and forward telehealth.

#### **Mobile health:**

Mobile health or m health are the applications and programs installed in the devices that keep a track of health measurements like blood glucose levels, heart rate, set reminders for appointments, medication, follow-ups. These applications are installed in a device like a watch, mobile, laptop, tablet that keeps daily health records. These applications help to schedule an appointment with a physician through video and text messages with the provider.<sup>6</sup>

The health applications which are widely used in India are Practo, GOQii, Zoctr, Mfine, Medibuddy.<sup>7</sup> These applications, for example, GOQii focuses mainly on preventive measures, and they have services with fitness bands, a fitness tracker that helps to keep a track of their health. They have doctors who advise on how to stay healthy.

#### **Video and audio technologies:**

Video and audio calls, conference calls are used to communicate with the doctors and the health workers to fix appointments, provide health advice for a non-serious disease. These technologies help the people in rural areas, military people to get connected with specialists, super specialists who might not be available in these places.<sup>6</sup>

High-resolution cameras for a virtual checkup and video scope have been used in telehealth services.<sup>6</sup>

#### **Remote patient monitoring:**

Remote patient monitoring involves recording, collecting, transferring, and evaluating the health data of the patient through electronic devices like wearables, mobile applications, to the health professionals.<sup>6</sup> The health devices are used to track vital signs like oxygen levels, blood glucose



levels, respiratory levels, and so on. These devices keep a record of the vital signs on daily basis and may help in detecting the complication early than an in-person appointment.<sup>6</sup>

Remote patient monitoring (RPM) cycle given by Technologies for remote patient monitoring for older adults, April 2010.<sup>6</sup>

The cycle consists of 5 components and they are as follows:

1. Collect data
2. Transmit
3. Evaluate
4. Notify
5. Intervene

The RPM devices help to monitor the health conditions like low or high blood glucose levels, and heart patterns. It is beneficial for chronic diseases that need continuous monitoring. It also helps in getting prior medical appointments more easily than in-person appointments.<sup>6</sup>

#### **Store and forward:**

Store and forward in telehealth is storage, transmitting of health data through data storage and health transmission technology. The X-rays, CT scans, MRIs, Patient photos all are analyzed and stored through the store and forward telehealth technology. These technologies are secure servers, routers, secure email platforms.<sup>6</sup>

#### **Advantages and disadvantages of telehealth<sup>8</sup>**

##### **Advantages:**

1. It is easily accessible
2. Cost effective
3. Convenient to use
4. It provides health care services to all the people especially people in rural areas that have less accessibility to specialist doctors.
5. During the pandemic where the people couldn't step out and visit the hospital or a dental clinic for non-covid illness, telehealth helped to connect to the doctors and get services delivered.

##### **Disadvantages:**

1. It is not possible to provide all the health services virtually, for example, the laboratory investigations like blood check-ups, CT scans, MRI, and such other services need the patient to visit the hospital.
2. The security health data of the patient recorded virtually is of concern
3. The insurance companies cover the cost of the treatment of the patient but some companies

may not cover the whole cost of the treatment leading to extra costs from the pocket of the patients.

#### 4. Community connects:

The large hospitals that serve their patients are usually unaware of their neighborhoods. So these hospitals should serve their neighborhood along with their patients. The hospitals that serve their neighborhood are more likely to connect with the communities. So, the connection with communities would help in serving all the patients during a crisis.<sup>3</sup>

#### Conclusion:

Most of the Indian population live in rural and urban areas, and here the health care facilities are not accessible. The pandemic gave a reality check into these healthcare facilities. During the lockdown, most of the people were not able to access the hospital due to the fear of transmitting the virus. During the pandemic, there was insufficient hospital staff, a lack of equipment in the hospital for the treatment. The healthcare system is centralized and this is the reason for inaccessible health care facilities to the population. The healthcare system needs to be distributed and decentralized, and this can be achieved by various changes in the health care system like telehealth, distribution of hospitals, community connect. These all changes will prepare the population for a crisis like Covid19 and the problems faced during the pandemic will be solved and there will be an effective, accessible, responsive healthcare system.

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