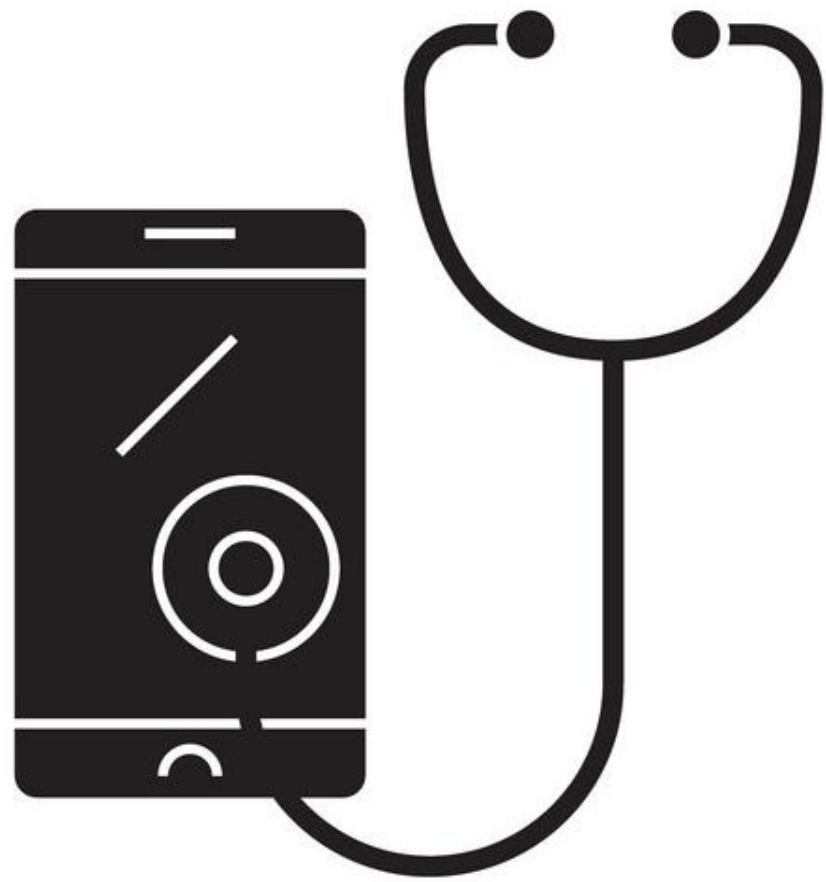


SUMMER TRAINING REPORT



IMPACT OF COVID-19 ON DISTANCE HEALING IN INDIA

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“

TELEMEDICINE/ E-MEDICINE/
DISTANCE HEALING

“The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”.

-WHO

”

E L E M E N T S

1. The aim is to dispense therapeutic assistance.
2. It is made to resolve spatial obstacles, linking users that are not in the same physical area.
3. This requires the usage of many forms of ICT (Information and communication technology).
4. The aim is to enhance impact on health of people.

TYPES

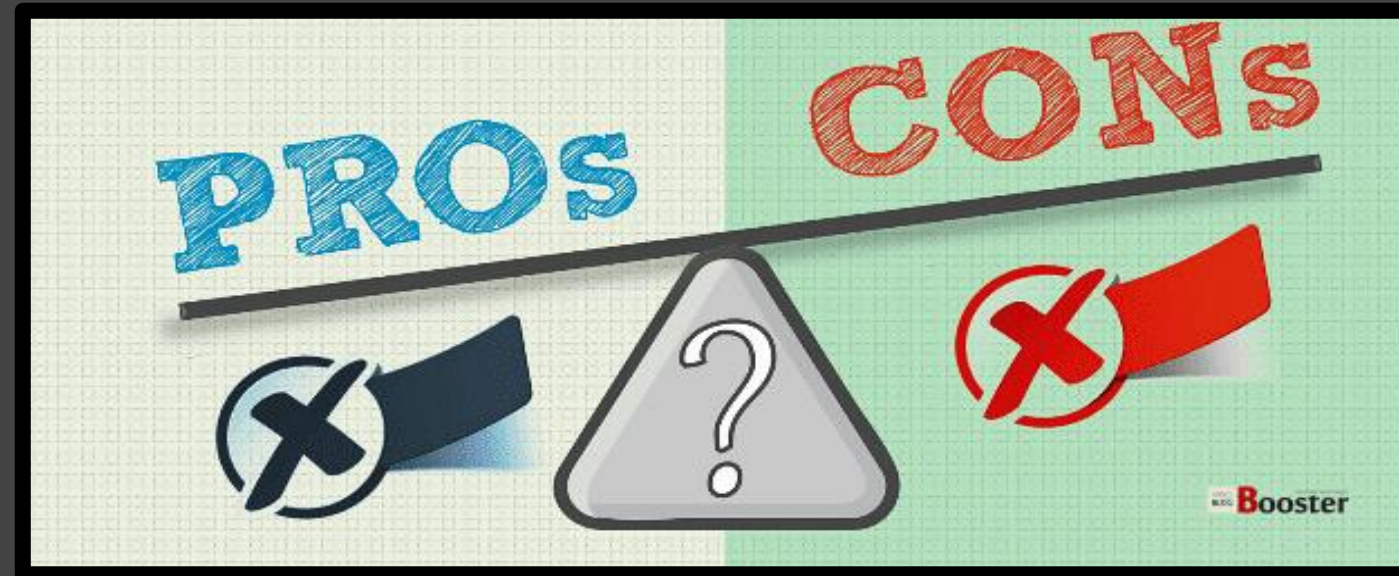
- As per the the communication method -
 - ❑ Video(TMS facility , Apps, Chat Platform Video, Skype/ Facetime etc.)
 - ❑ Text based:
 - TMS based on chat apps (specialized TMS phone applications, Websites, other internet- based systems etc.)
 - General texting/ platforms for chat(Google Hangouts, Whatsapp , Facebook Messenger, etc.)
 - Asynchronous(Fax/ email etc.)
 - ❑ Audio(Phone, VOIP, Apps, etc.)
- As per the time of information transferred-
 - ❑ Real time /text interaction/audio
 - ❑ Asynchronous exchange of relevant information



- **As per the purpose of the consultation:**
 - ☐ For cases with no emergency:
 - First time consultation
 - Follow-up consultation with the same doctor
 - ☐ In cases of emergency for first aid /immediate assistance etc.
 - ☐ In cases where any other form of care is absent ,the only way to provide on time care may be tele consultation. TMS should however be avoided in case of emergency care if in-person care is available.
- **As per the individuals involved :**
 - ☐ Patient to RMP
 - ☐ Caregiver to RMP
 - ☐ RMP TO RMP
 - ☐ A health worker to RMP



TELEMEDICINE SERVICE



Pros:

- ✓ Lower cost
- ✓ Convenience
- ✓ Less time in the waiting room
- ✓ Cost-efficiency
- ✓ Expedited transmission of MRIs or X-rays for a second opinion
- ✓ No exposure to infections
- ✓ Fewer missed/cancelled appointments.

Cons:

- ❖ Infrastructure and technical training are required
- ❖ Impersonal
- ❖ Medical curriculum does not yet include telemedicine
- ❖ No Telemedicine services factors in India for health insurance.
- ❖ Electronic glitches
- ❖ Physician resistance

ROLE OF TELEMEDICINE IN PREVIOUS EPIDEMICS



1. Teleconsultation:
National ebola helpline by
ministry of guinea in 2014

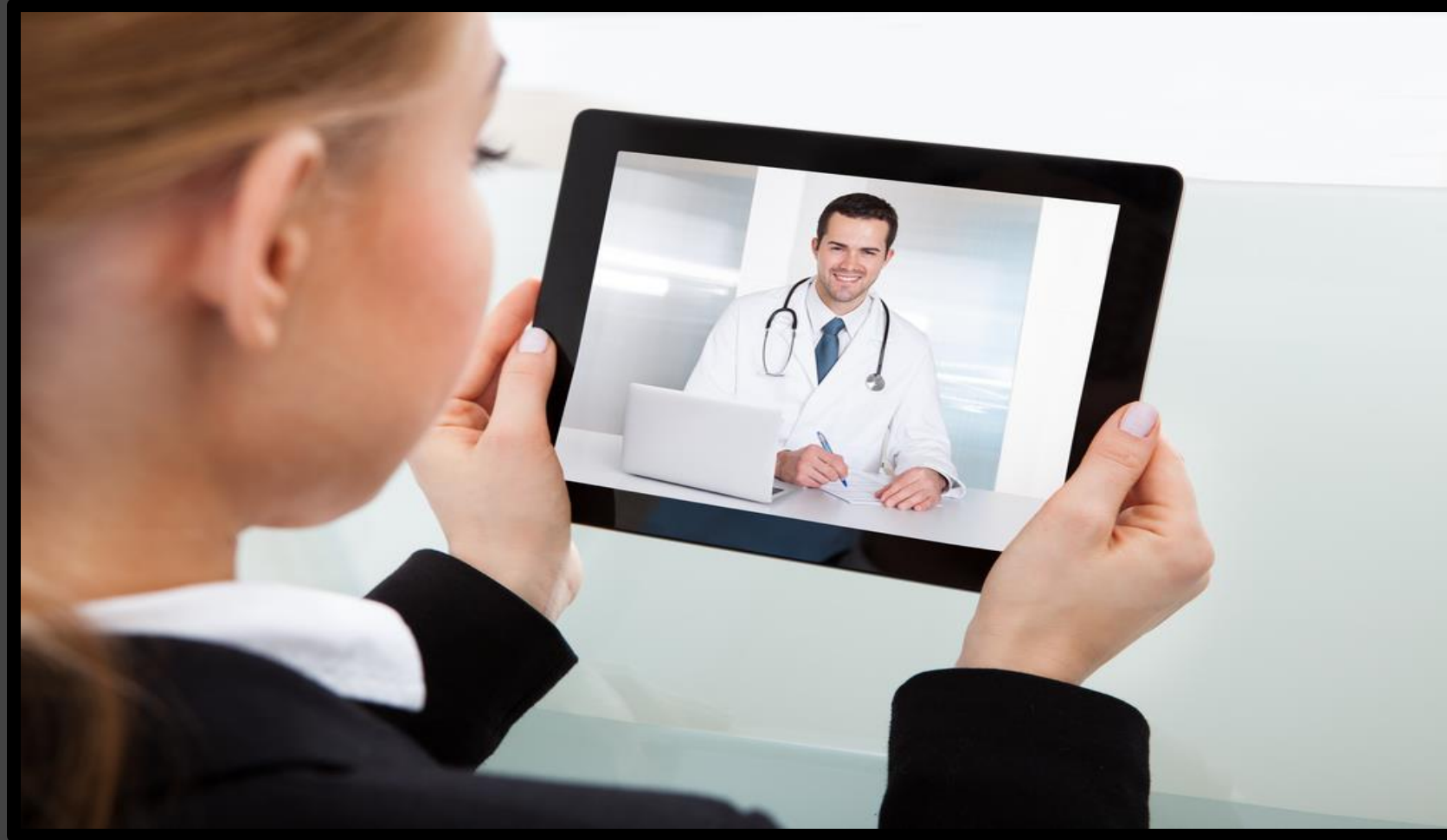


2. Telemonitoring: Monitoring of
symptomatic contacts by auto
administered / hetero administered
/questionnaire based on mobile system

•
-Ebola tracks in western Australia in
2014



3. Tele-expertise: used when
help is required by specialist.
Mostly used in primary and
secondary healthcare settings



4. Teleconsultation of symptomatic cases who need to be isolated.

In Taiwan. Teleconsultations were used during the SEVERE ACUTE RESPIRATORY SYNDROME (SARS) epidemic in 2003 and also during 2009 in the H1N1 influenza pandemic for patients who were quarantined at home.

5. Telemedicine is used to take care of patients who cannot enter the hospital in a healthcare system under partial or full quarantine.

In June 2015, telephone prescriptions were released in the Samsung Health Center of Seoul (South Korea) under quarantine due to coronavirus (MERS) epidemic.

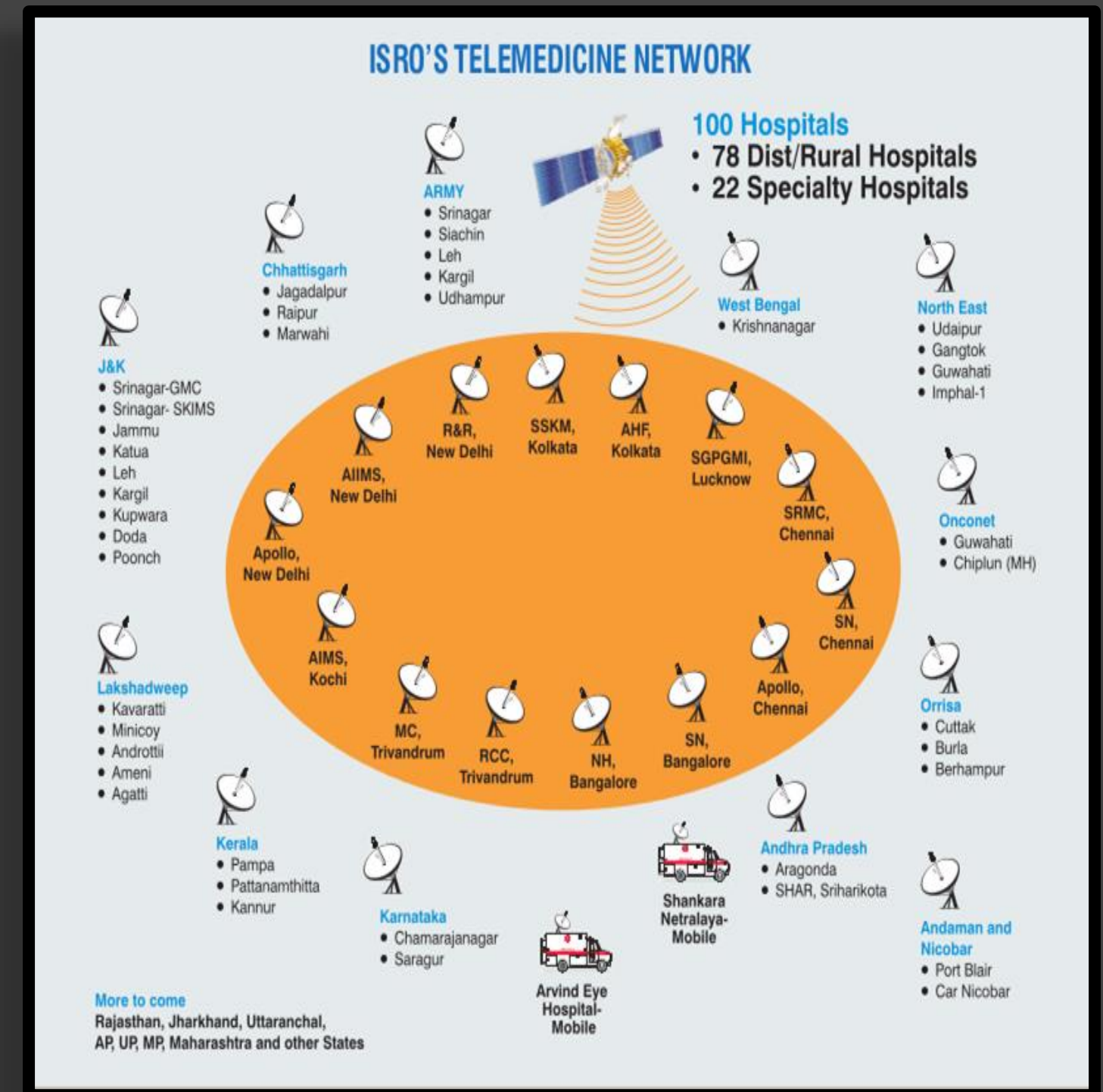


TELEMEDICINE SERVICES IN INDIA

Telemedicine services in India are handled by combined jurisdiction of Department of Information Technology and MOHFW.

The Ministry of Health in the GOI has taken up projects such as Integrated Disease Surveillance Project (IDSP), National Cancer Network (ONCONET), National Rural Telemedicine Network, the Digital Medical Library Network and National Medical College Network in order to bind the available public health data and ease of access.

Government had also set up Standardized Telemedicine guidelines (as given by department of IT in Govt of India). In 2005, a special task force called national Telemedicine task force by Health ministry was also introduced. External Affairs ministry took the initiative of International projects such as the Pan-African e Network Project and the SAARC telemedicine network project.



EXAMPLES OF SUCCESSFUL USE OF TELEMEDICINE SERVICES

1

Mammography service at Sir Ganga Ram hospital

2

Surgical services in Sanjay Gandhi Postgraduate Institute of Medical Sciences

3

Oncology at Regional cancer centre, Trivandrum

4

During Maha Kumbha melas, The Government of Uttar Pradesh practices telemedicine.

AND MANY MORE..



RATIONALE

“The current coronavirus outbreak (COVID-19) is the third documented outbreak in humans of an animal coronavirus that has triggered a significant epidemic in the past two decades. Spread of COVID-19 pandemic has called out for implementation of social distancing and nationwide lockdown, which means that people will not be able to comply with routine clinic visits. It is due to this COVID-19 pandemic that our old friend, Telemedicine services has come into new avatar and is playing a major role. The purpose of this research is to study the impact of COVID-19 pandemic on distance healing.”



RESEARCH QUESTION-

What is the impact of COVID-19 on telemedicine in India?

OBJECTIVES:

- To understand the role of Telemedicine services during COVID 19 outbreak.
- To understand the impact of COVID-19 on Telemedicine services in India.



METHODOLOGY:

The report is based on the descriptive secondary research data. Previous articles regarding, Telemedicine services and impact of COVID-19 on Telemedicine services were reviewed and data was collected from them. Articles pertaining to efficiency of Telemedicine services were also reviewed to understand their importance in improving healthcare system.

FINDINGS

ROLE OF TELEMEDICINE DURING COVID 19 OUTBREAK

-Telemedicine has also been recognized by the World Health Organization (WHO) as an important step towards improving the response to COVID-19 in the health sector. As one of the alternative models of enhanced clinical results, WHO has further proposed telemedicine as a tool for decision taking in order to maximize services.

-Use of Aarogya Setu app shall be mandatory for all employees, both private and public. It shall be the responsibility of the Head of the respective organizations to ensure 100% coverage of the app among the employees” —
MHA

-Dr. Amitabh Kant , CEO Niti Ayog, said “90 million people have downloaded Arogya setu app which has features of telemedicine. The app helps user identify if they are at risk of COVID 19 infection . It also provides people with important information about symptoms and ways to avoid COVID 19 infection.”

-AIIMS-Delhi is running the “COVID-19 National Teleconsultation Centre” (CoNTeC) on behalf of the MoHFW, GoI. It is catering to doctors, from anywhere in the country who want to consult for the management of COVID-19 patients, as well as to the public in general. The calls from doctors are received by the Patient Care Managers on duty 24×7 at the CoNTeC in AIIMS Guest House, who then connect them to the Faculty members who are also on duty 24×7 to provide doctor-to-doctor consultations.

-As per NITI A YOG report ,“Some of the COVID-19 telemedicine patient use cases include self- isolated/quarantined patients at remote locations (self-monitoring and remote monitoring), patients with mild cases (remote monitoring and treatment), post-discharge patients (for follow- ups)..Health workers, paramedics, and doctors with mild symptoms can continue to work with patients, retired clinicians, give second opinion for severe cases, cross-border experience sharing, teleradiology, and online training for health workers remotely. Telemedicine can be also be used as an instrument to support the mental health of patients and health workers.”



-Dr Alexander Kuruvilla, Chief Healthcare Strategy Officer, Practo, said, “Telemedicine is making a very positive contribution to healthcare during the pandemic, and is being used by the people not just for coronavirus related queries but also for other medical conditions. This helps them receive proper medical care from their homes without having to visit hospitals and thereby minimizing their risk of contracting the virus. Telemedicine ensures that doctors are available 24*7 for people so that they receive timely medical attention. We are helping more and more doctors to help consult their patients online, also ensuring there is no disruption in access to quality healthcare for patients.”

IMPACT OF COVID-19 ON TELEMEDICINE SERVICES IN INDIA

-Covid-19 outbreak has urged the MoHFW to approve the Guidelines . Thus, Indian Government has come up with TMS Practice Guidelines on 25 March, 2020. The guidelines issued by MoHFW in collaboration with NITI Aayog and Board of Governors (BoG) Medical Council of India (MCI).

-Doctor consultations around gynaecology have seen over 80% increase on Lybrate, while there has been a 40% spike in paediatric-related consultations on the platform. Saurabh Arora, Founder & CEO, Lybrate said, “As it is dawning upon people how unsafe it is to step out, pregnant women are opting to consult doctors online, resulting in a significant rise in virtual doctor visits on Lybrate.”

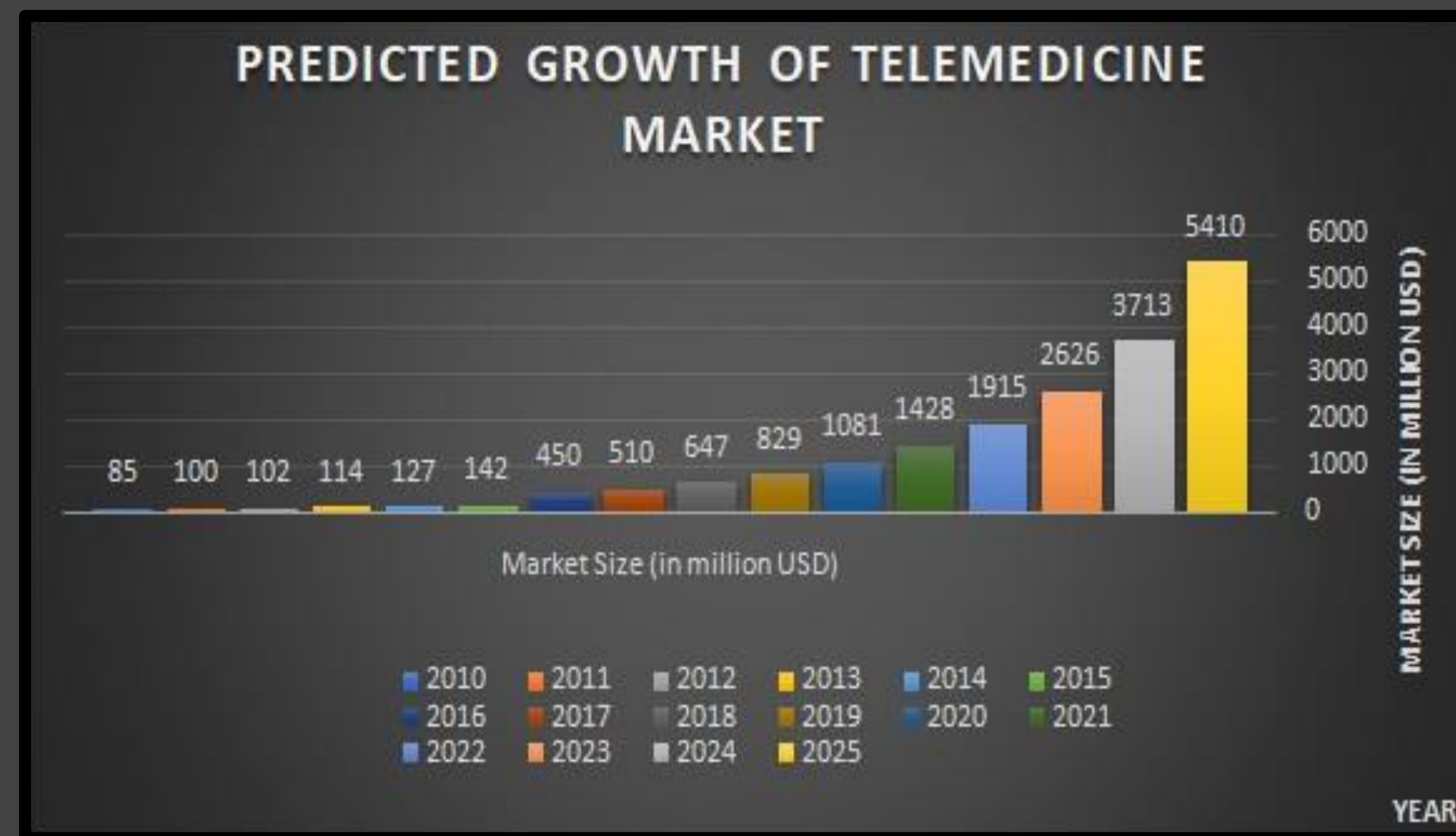


- Dr H S Chhabra, Chief Coordinator and Editor, ElearnSCI.org and Principal Investigator of ISCoS Database Project (IDAP) has revealed that their telerehabilitation services initiated in December 2015, teleconsultations in February 2017 and telenursing in December 2019. So far, they have had 2000, 815 and 22 clients in telerehabilitation, teleconsultations and telenursing, respectively. But the real thrust to teleconsultations has come only after the ongoing SARS-CoV-2 pandemic.

-As per the latest reports of Practo, overall TMS calls increased by 500 per cent since March, first week wherein More than 50 per cent of all GP eConsults were related to Coronavirus. Most of the queries are from people in the age group of 25 – 40. Close to 40 per cent of all tele consults on the Practo platform are happening from Tier-2/3 cities. 30-35 per cent of the consultations are from women. Doctors are getting a greater number of consult requests at 2-3 am in the morning, to as late as 10-11 pm at night. Top cities from where most of the queries are coming from are Bangalore, Delhi NCR, Hyderabad, Mumbai, Pune, and Chennai. T2+ cities from where most of the queries are coming from – Ahmedabad , Jaipur Lucknow, Bhubaneswar, and Indore. More than 20 per cent of GP consults on the Practo platform are happening from Tier-2/3 cities. While 35-40 per cent of overall consults are also from Tier 2 cities.

-Docsapp has attained an average of 60 per cent increase in online consultations across various departments and is expecting higher returns in the coming days. In May, the company raised a series B funding of \$9.5 million (Rs 72.5 cr) from Bessemer Venture Partners India, Fusian Capital, Rebright Partners and Milliways Fund LLC, and recently had a merger with MediBuddy. We have seen an increase in people opting for online doctor consultations, with an average of 60 per cent increase in consultations across various departments. At this point, MediBuddy DocsApp caters to the healthcare needs of three crore Indians, attending to the needs of over 25,000 Indians daily across the length and breadth of the country. Moreover, during COVID-19- 19, DocsApp has partnered with PhonePe, Shemaroo Entertainment, Lokal Hypermarket, Seniority and many others to provide a free consultation says Satish Kannan, Co-Founder and CEO MEDIBUDDY, DOCSAPP.

- "As per Data Labs, the Telemedicine services market in India is expected to reach a market value of \$5.4 Bn by 2025 with a CAGR of 31% from the current year. With the likes of Practo, Lybrate and DocsApp, it won't be incorrect to say that start-ups introduced Telemedicine services to urban India. The ease of consulting a doctor from your home and getting medicines delivered has become second nature to many Indians in cities, and the norm in the aftermath of COVID-19."





CONCLUSION



Though the first usage of Telemedicine dates back to a couple of decades ago, it's really only in the last few weeks that India has truly experienced its full potential.

Telemedicine sector continued to function in the grey area due to the lack of proper practice guidelines. Previously, telemedicine services were governed by the Information Technology Act, 2000 however, there were no clear guidelines regarding privacy, security, confidentiality of the patient data and misappropriation of electronic data records related to the healthcare industry. Seeing the grave impact of Corona virus in China, the centre's decision on setting the Telemedicine practice guidelines brought the much need confidence in doctors on trying the virtual consultation.

Telemedicine has helped people use virtual platforms for their healthcare needs as stated wide lockdown was imposed as a virus containing measure. TMS helped patients who are not comfortable and refraining from going to the hospitals, scared that they may contract some infection there or infect others if they are in home quarantine . Also, the burden on healthcare system is decreased as the resources are being utilised for the ones in need. Rural areas can be best handled by the use of TMS due to non-availability of doctors. It also helped in eliminating the transportation expenses.

Back in 2019, the Indian telemedicine market was predicted to reach \$32 million by 2020. However, in the light of the extended lockdown and quarantine regulations, telemedicine apps have seen a growth. Almost all TMS providers such as practo, 1mg, myupchaar etc. have experienced a demand tsunami as there is surge in their demand up to 500%. Telemedicine is a proven asset post COVID-19 also for follow up cases, routine monitoring and various therapies such as counselling sessions. For the telemedicine industry, the COVID-19 crisis has brought about a lot more clarity and impetus just like the fintech sector got in India soon after demonetisation in 2016. Thus, TMS can best be described as a global pilot in a real-time situation.

SUGGESTIONS

In future, I hope we build a world where no location is too remote for healthcare which is possible by use of telemedicine service to its full potential. Certain work that needs to be done includes-

ROLE OF TMS DURING COVID 19-

1. Increasing the awareness about platforms such as e-sanjeevani and the benefits of telemedicine to the people via media.
2. Training sessions /digital literacy of practitioners to be started as early as possible so they can handle as telemedicine expands.
3. The government should comprehensively and verifiably address the chinks exposed so that it enables trust around Arogya setu app and doesn't curtail adoption of it as mandated by the government.
4. User-friendly solutions in local languages so it is easy to understand for people.

SUGGESTIONS

IMPACT OF COVID-19 ON TELEMEDICINE-

- The latest guidelines by MOHFW are silent on the aspects of data privacy of the patients and the cases where the patients are not based in India. A clarity on these aspects should be looked into, given the professional ethical conduct of the doctors.
- Medico-legal laws have to be changed to protect doctors' rights as the margin of error would definitely increase.
- Accreditation standards for telemedicine (for home isolation and stand-alone facilities) maintaining the quality of the healthcare services should be given.
- Telemedicine guidelines to be established for naturopathy or yoga.
- Creating enabling infrastructural and regulatory environments with clearly defined roles, responsibilities, benefits and risks for all stakeholders, including financial reimbursement mechanisms for remote care delivery, would be critical to overcoming the structural challenges to widespread deployment of telemedicine.

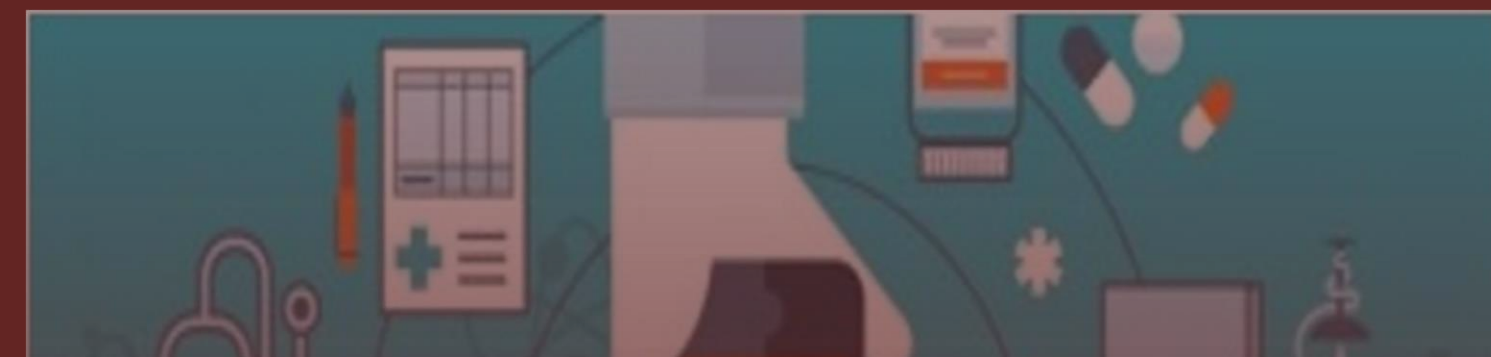
REFERENCES-

1. Chauhan. V. (2020). Novel Coronavirus (COVID-19): Leveraging Telemedicine to Optimize Care While Minimizing Exposures and Viral Transmission. *J Emerg Trauma Shock*.
2. Jakhar.D. (2020). WhatsApp messenger as a teledermatology tool during coronavirus disease (COVID-19): from Bedside to Phone-side. *Clin Exp Dermatol*
3. Banerjee. M.(2020).Teleconsultation and Diabetes Care Amid COVID-19 Pandemic in India: Scopes and Challenges. *Journal of Diabetes Science and Technology*.
4. Ashique.K.(2020).Teledermatology in the wake of COVID-19 scenario:An Indian perspective.*Indian Dermatol online J*.
5. Biswas P, Batra S.(2020). Commentary: Telemedicine: The unsung corona warrior. *Indian J Ophthalmol*.
6. Ghai B,Malhotra N. (2020).Telemedicine for chronic pain management during COVID-19 pandemic.Indian J Anaesth
7. Chellaiyan V,Nirupama A.(2019). Taneja N. Telemedicine in India: where do we stand? *J Family MedPrimCare*.
8. Dwivedi A.(2012).Telemedicine in India:A Case Study on TeleElectroCardiograph.
9. Leite.H.(2020). New development: 'Healing at a distance'—telemedicine and COVID-19. *Public Money Manag* 40(6):483–485.
10. <https://www.mohfw.gov.in/pdf/Telemedicine.pdf>

E-HEALTH

*MORE THAN JUST AN
ELECTRONIC RECORD*

BY THE
UNIVERSITY OF
SYDNEY

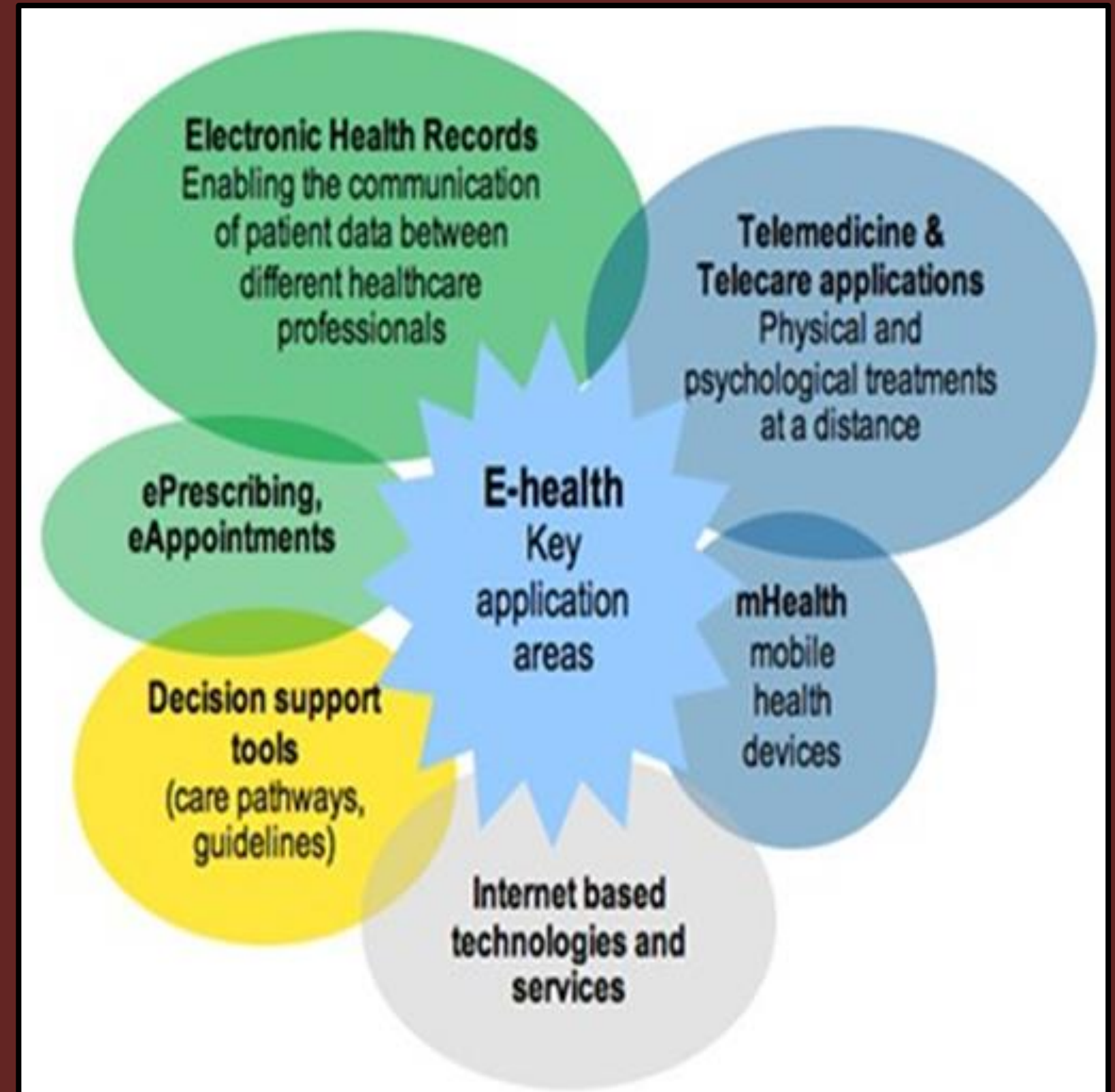


E-HEALTH

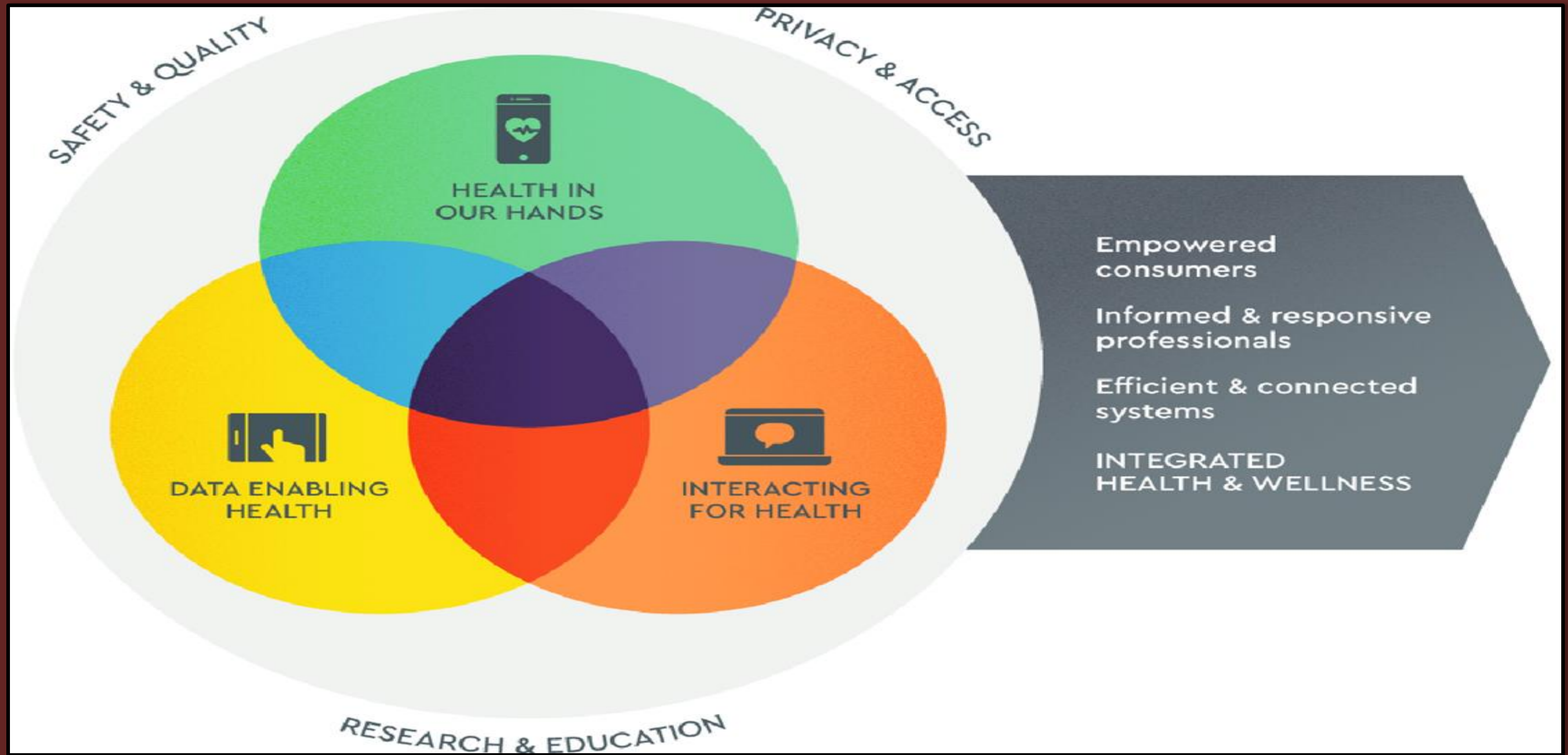
Healthcare which is supported by electronic processes.

Comprises of:

- Electronic Health Record*
- Applications*
- Websites*
- Social Media*
- Wearable Devices*
- Telemedicine*



MODEL FOR E-HEALTH



- *Today, Health is in our hands via apps, wearable devices, social media, health information online and its use is increasing each day.*
- *People are becoming much more health aware, and they're starting to use the kind of technology that's at their fingertips to make a difference for themselves.*
- *Health professionals role is to just guide them.*

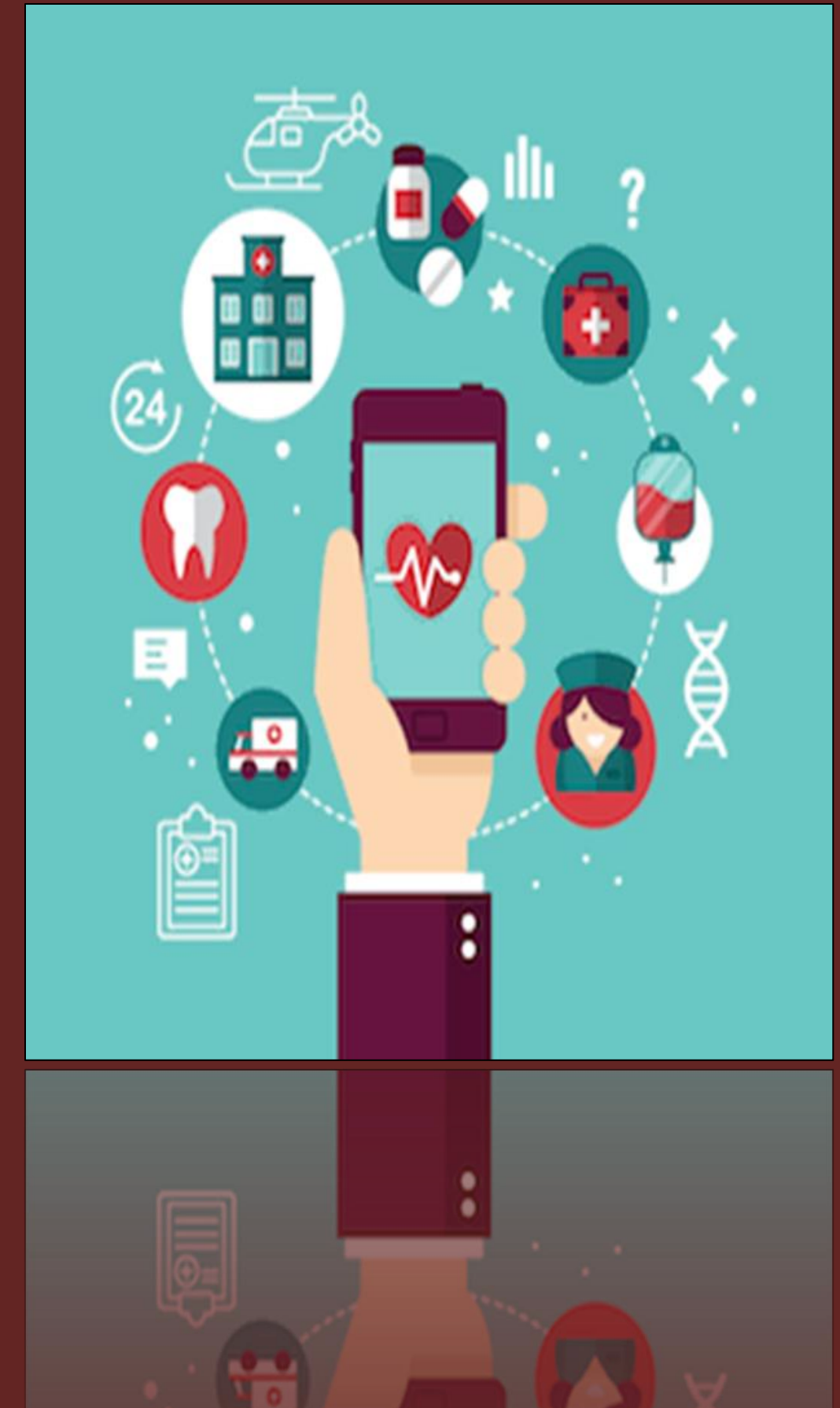


M-HEALTH

Apps, mobile devices etc. are used for assessment and treatment support for remote monitoring and data collection. It can also be used for disease and epidemic outbreak tracking.

ADVANTAGES:

- For patients - Convenient, Self monitored, Decreased going out to the hospitals.*
- For Healthcare Professional - Helps to make informed decisions faster in order to improve outcomes for the person by shifting some of the responsibility and control to the consumer. It may also reduce the increasing demands on resource stretch systems.*



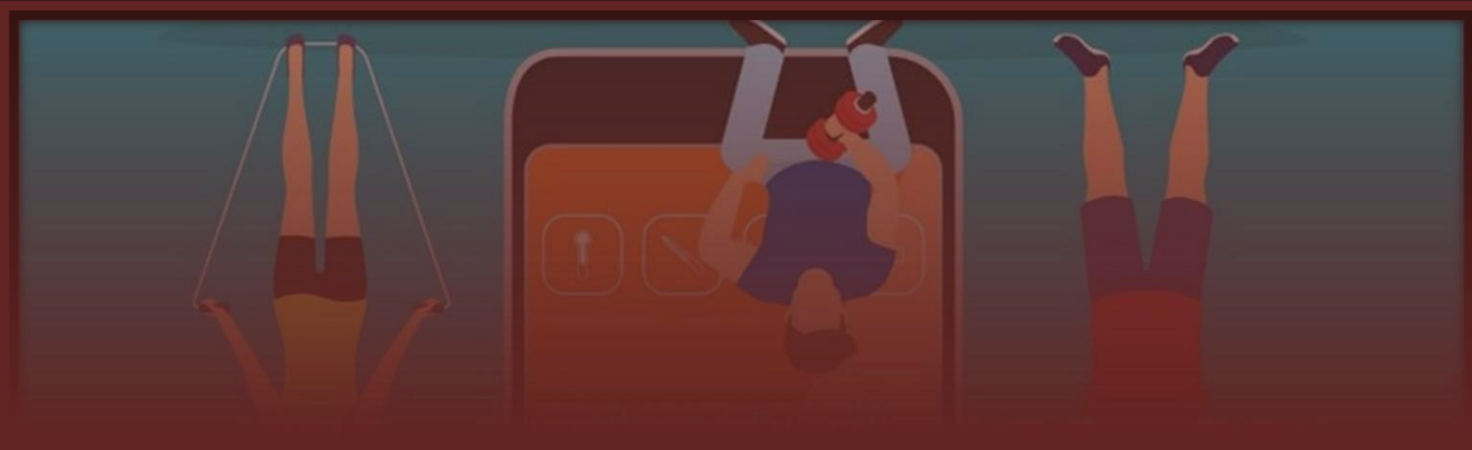


Uses:

- ✓ Wearable devices used for capturing and displaying personal health data.
- ✓ Plotting information to observe and track progress.
- ✓ Delivering information in various formats.
- ✓ Providing opportunities to communicate with health professionals.
- ✓ People can keep their own record.
- ✓ Doctors can see whole history in digital format.
Can alert if something is wrong.

Examples :

- Ecg sensors
- Misfit device
- Fitness apps like running app
- Social media platforms(blogs/games/articles)
- Blood group,current allergies, emergency contact onlock screen.



• Codesign of E-health-



- *Interface of an app plays a major role in use and delightment of consumers.*
- *The design and development of technology to support psychological well being and human flourishing is called positive computing.*
- *Positive computing builds around different factors as psychologists know support psychological well being such as autonomy, compassion, competence, connectedness.*
- *Eg-Asthma Australia app*



EVALUATION OF APPLICATIONS

- *A panel of experts from the Young and Well Cooperative Research Centre, an International Research Centre in Australia, categorized current applications quality evaluation criteria and they used it to develop a new mobile app rating scale to measure outcome of mental health related applications in age group 12-24 years old.*
- *Sub-scales, objects, definitions and anchors were created and called the MARS. Five specific categories and standards, including four objective quality scales have been established. Built and developed into the MARS-tool of 23 objects. Esthetics, Engagement, information quality and functionality, and 1 subjective quality scale.*

ELECTRONIC HEALTH RECORD

Electronic Health Record (EHR)

An electronic health record (EHR) is a secure and private lifetime record of an individual's health and care history, available electronically to authorized health providers. It facilitates the sharing of data – across the continuum of care, across healthcare delivery organizations and across geographies.



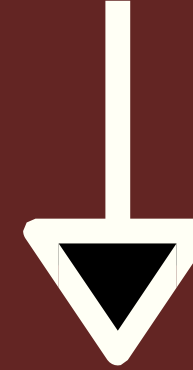
• *ELECTRONIC RECORDS SUPPORTING REMOTE CARE-* A patient living in small country town with her husband is brought into nearby district hospital by her husband, incredibly short of breath. She is gray and clammy, and really struggling, and she can't even get out of the car. So the hospital team gets her out of the car, brings her into the hospital, do some basic observations. Her blood pressure is within normal range but heart rate is very high. So the first challenge facing the team out there is that the patient can't speak as she's too busy breathing. The husband can provide some husband level information. But this time the husband was so concerned about his loved one that he didn't even bother to pick up the bag of medications. And her wallet's at home, so he doesn't have the list of medications.

The GP, who is a locum, who turned up a week ago, doesn't know anything about this lady's history. So the value of the EHR is that they can go to one of the nearby computer and find out all the care that has been given to that patient in that facility and possibly beyond. As the physician is not too sure of the treatment, he rings for help at their nearby tertiary referral center. And they get an intensivist on the phone who is able to look at the electronic record of this patient and then offered the treatment. They then conclude to offer comfort care because curative care is unlikely to offer any benefit. And they conducted that conversation with the family and the lady passed away peacefully at the facility.

CHALLENGE
IS IN
THE
IMPLEMENTATION

PCEHR-PERSONALLY CONTROLLED ELECTRONIC HEALTH DATA

have developed 'Standardisation for Communication
Methodology'



Created a framework for representing data (immunisation
chart, discharged summary etc.)



Serve as a transaction hub

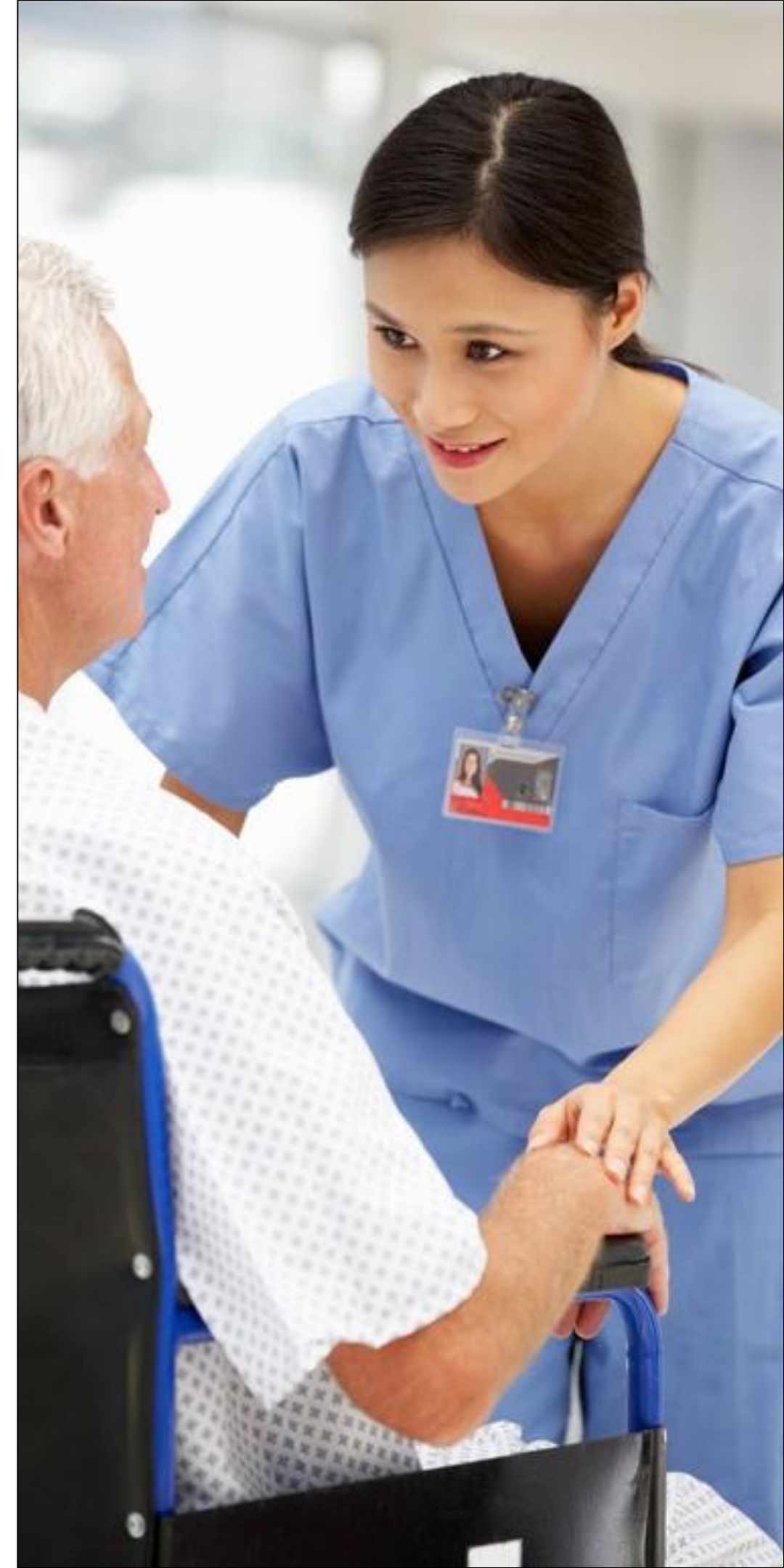
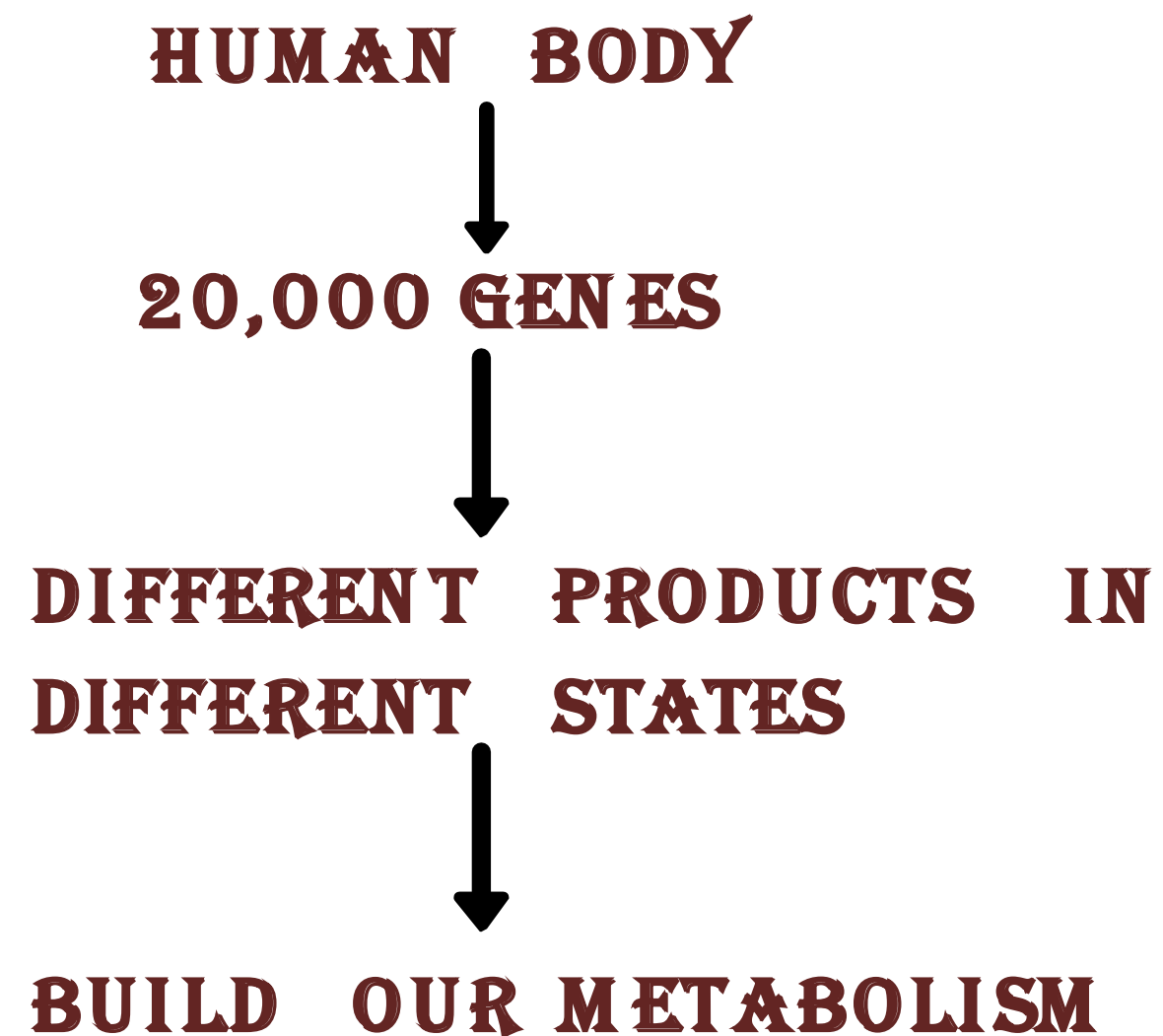


Allow patient to decide whom to share their information
with.



FUNDAMENTAL INTERFACE BETWEEN OUR GENES AND ENVIRONMENT

- *Fundamentals of health lie at the interface between the of an individual and their environment ,their lifestyle (steps taken,calories eaten)•*
- *Predicting in a more personalized /stratified/precise way,the way we deliver Healthcare is called Precision medicine•*





Human body is also a host · 90% cells in our body which are not human live in our gut and interface with our diet and metabolism. What we eat, enables us to function and build our environment.

The main challenge of e-health is to help us manage the relationship between our biology and our environment.

UN-PATIENT

People own their health records and not the government or doctors.





PRIVACY AND SECURITY ISSUES IN EHEALTH DATA

- Storage - Is easy as you can encrypt the data, send it to someone and make sure you get it back at the end of the day.No trust in the 3rd party.

- Actual processing- A number of algorithms and software pipelines that need to be used. Trust is involved as it has to be sent to a 3rd party

SOLUTIONS INCLUDE

- Homo morphic encryption-Allows calculations.Example-people can send data analytics to study their data and calculation is done on the data that is encrypted therefore data is not visible only results can be seen.This makes sure data is held only by the people themselves.

- Privacy preserving record linkage ability to use 2 databases with 2 list of names and link the data with common names without revealing who they are.
 - Also many more modern techniques in machine learning and data analytics allow to take care of privacy

USING DATA TO IMPROVE PERFORMANCE



- A Patient in our health system is surrounded by three domains of data

EMERGING DATA

It includes genomic data and items like patient reported outcome measures

CURRENTLY AVAILABLE DATA

Is largely restricted to pathological data, imaging, history, and some information on how patients are responding to treatment.

NEW DATA

Includes the massive link data that surrounds us all such as data that can be collected from fitness centers or diet apps as well as information on what we purchase, where we travel, and almost every other aspect of our lives.

- If you combine the data from all the patients a team treats, you can see that we will shortly have a comprehensive picture of the care a team delivers.

THE 10 E'S OF E- HEALTH

1. Efficiency
2. Enhancing quality
3. Evidence based
4. Empowerment
5. Encouragement
6. Education
7. Enabling
8. Extending
9. Ethics
10. Equity



E-HEALTH IN PROFESSIONAL DEVELOPMENT

- - *Professional learning of a doctor*
 - *Can help in improving communication skills*

CRUCIAL POINT OF EHEALTH-

- *Bringing the health communities together to understand that this is a unified vision, and that there's a benefit to every single discipline in health.*
- *The collaboration has to be done with not just health, but technologists, engineers, scientists and the community.*
- *Teaching of young people how to control their health and their rights and responsibilities to have a happy, healthy life*

- My physio APP-John is a 45 year old male. He presented to the clinic with a history of low back pain, which has been gradually worsening for the last eight weeks. He presented with back pain on the right side which traveled down into his right leg.

And this was following changing a car tyre at work. When examined, he was unable to bend forward without feeling sharp pain down his right leg. And he was quite concerned that this was going to limit his ability to return to work as he was a full time car mechanic. He had come to his hometown for holiday when he came to the clinic and would be going back for work from which he will return after 2 months. He was demonstrated my physio app. told how to use. Simple exercises with the number of times to be done, video demonstrations also available on the app. Also, a reminder everyday 6 pm was put so that the patient doesn't forget it.

Hence, the patient improved and was happy with the result.



Thank you!