

Ehealth- MORE THEN JUST AN ELECTRONIC RECORD

SUMMER TRAINING REPORT

eHealth- More than just an electronic record

By Resham Goutam

Under the Guidance of

Mr. Tim Shaw

MBA Hospital and Health Administration

2019-2021



Indian Institute of Health Management and Research

The IIHMR University, Jaipur

CERTIFICATE

This is to certify that Resham Goutam has undergone the Summer Training from April-May 2020. The candidate herself completed the report assigned to her during the summer training. Her approach to the report was sincere and proactive. This summer training is in partial fulfilment of the course requirement recommended for the award of MBA in Health and Hospital Management.

I wish her success in all her future endeavors.

Dr. Neetu Purohit

(Associate Professor)

IIHMR University

P. R. Sodani

(Dean)

IIHMR University

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REPORT

S. NO.		
1.	STUDENTS NAME	Resham Goutam
2.	ROLL NO.	0973
3.	WEBSITE	Coursera
4.	NO. OF HOURS	15 hours
5.	NO. OF CREDITS	NA
6.	DURATION	5 weeks of content, 2-3 hrs. /week
7.	COURSE INSTRUCTOR	Tim Shaw
8.	OBJECTIVE OF COURSE	To incorporate eHealth in everyday practice and improve the quality of health and healthcare worldwide.

COURSE DESCRIPTION: -

The course e health care is multidisciplinary in nature and seeks to connect health professionals, educators, executives, administrators, and researchers with a global audience to focus on the potential effect of eHealth on care integration. This discusses the wide- ranging application of technology, current and emerging trends, and highlights both local and international eHealth practice and research.

MODULE 1 - Fundamentals of eHealth

OBJECTIVE - To understand the basic of ehealth care and where it has headed and what are its future perspectives.

CONTENT - The module one included the basic of e healthcare i.e. e healthcare is basically referred as the use electronic health records and the devices mainly used in this sector. Main feature is that technology is helping to connect the health provider with the health consumer at ease of their home. It is more widely used in rural areas as to reduce the time travel by both the health care provider as well as the seeker. eHealthcare was explained in depth by different healthcare consumers and providers. A quiz was taking to know the current and futuristic aspects of eHealthcare

METHODLOGY - Videos and recordings were shown along with the presentations, quiz was also done to know the current and the future aspects of ehealth and eHealthcare models via clinical practices.

KEY LEARNINGS -

- Definitions of eHealth from both health consumers and professionals.

- Developed an insight into the fundamental principles of eHealth.
- Appraised my own awareness of eHealth in current practice.
- To learn the current and future challenges of eHealth for both health consumers and health practitioners.

APPLICATIONS-

1. Virtual reality – it is a powerful tool used for diagnosis which helps doctors and physicians to carry out accurate diagnosis. It can be done in combination with other methods such as MR/CT scans and eliminates the need of any kind of invasive techniques, making it a pain-free experience for patients. It provides a patient – specific 360 view.
2. Robotics - It helps in relieving health care providers from the routine task and also make medical procedures safer and lesser costly.
3. Digital imaging – It is used to provide services via internet like telemedicine. It also uses IoT devices for electronic record.
4. Computer assisted surgery- It uses robots and wireless communication to perform surgery.
5. E-Ambulance – It is a smart ambulance of wearable devices in a wireless sensor network for an e-health application.

MODULE 2- Health in Our Hands

OBJECTIVE- To know, learn and understand what exactly health in our hands means and how social media and apps help to achieve the health goals for any individual.

CONTENT- The module two includes the understanding of one's health in one's hand. It focuses on the human computer interaction by helping to understand that how people use apps to meet healthcare goals. A cycle is involved to study the user, sharing ideas, and then moving on to building the systems. The cycle continues once the user has used the app, then they are asked again and observed how they have used it and then do some more designing.

The research in the effectiveness of apps and mobile technology is still growing. The young and well CRC has made some developments in strides of mental health. It allows to examine the quality of information about mental health provided through apps. The next outcome of this is to evaluate it on number of scales and to also adapt it for different areas of health. The Young and Well Centre, Australia studies the role of technology on young people's lives. The consumer is not only able to take health into one's hands but also monitors the circumstances while taking control of it, especially in chronic ailments.

METHODOLOGY – Videos and presentations were used to explain the concepts along with an assignment was done on reviewing one's favourite app.

KEY LEARNINGS-

- Learned how technologies helps consumers participate in healthcare.
- Evaluating health solutions.
- Understanding the use of health apps.
- Highlighting the important of having health app makes decision faster.

APPLICATIONS-

1. M-health (Mobile health) e.g. mobile apps

2. Healthcare score cards - They have the potential to improve the patient experience by storing medical key data and medication history and by serving as an electronic prescription.
3. Portable/Wearable Devices e.g. Fitbits, Holter meter
4. Online health information – It helps by making healthcare access to all and provides a platform where the consumer is well aware of his/her conditions.
5. Social Media – It provides health care professionals a platform to debate health care policy and practice issues to promote health behaviours, to engage with public and to educate and interact with patients, caregivers, and students.

MODULE 3 – Data and the “Quantified self”

OBJECTIVE- To acquire knowledge on the kind of health data collect now and its transformation in future.

CONTENT- The most exciting and challenging aspect to managing healthcare data relates to how we link the data from all devices and apps and mainstream it and use the data stored and shared with our health professionals. Digitalizing medical records helps in tracking patient’s medical history over time. It also helps to provide downstream information on individual or team performance and to link with quality improvement programs. The ability to use digital care to transform care is yet to be achieved. The data is available in massive, this can be related to our genomes or can be collected from mobiles, tests, and procedures. Improvements in data storage analysis helps in expanding the knowledge of individual and community health and wellbeing. E.g.- To incorporate the application of super computers to know patients respond to the treatment.

Collecting numerous data especially health care comes with a cost i.e. to keep it safe. eHealthcare is a machine with all its clogs, privacy and security are like the oil that lubricates the clog, without it everything may just breakdown. Data can be secured by securing it in cloud or by processing data in genomics which requires trust, there are number of algorithms and software pipelines used. The data collected is being researched in terms of clinical practice, quality improvement and professional development.

KEY LEARNINGS-

- Learn about electronic health records and their application.
- Use of patient reported data in practice.
- Privacy and security of data.
- Data used for improving future performance.

METHODOLOGY - Well explained videos were used along with presentations to help understand the concepts.

APPLICATIONS –

1. EMR (electronic Medical record) – It is a digital version of patient’s medical history from a single facility, many organizations use applications to allow patients record to be viewed by multiple facilities.
2. Multi-media (e.g. CDROM) - It plays an important role for the people with spine medical informatics, rehabilitation, and assistive and preventive healthcare.
3. Wearable and portable monitoring systems - It plays a role in non-invasive monitoring of physiological functions i.e. the measurement of the body vital signs, like ECG and variables such as respiratory rate, heart rate, temperature, and blood oxygen saturation.
4. Health portals – It helps in providing an easy access to the patient’s healthcare information and services. An effective e healthcare may backend medical services effectively.

5. Computer-based patient record systems - It helps in providing clinical functions like health information and data, results management, order entry, support, and decision support.
6. Healthcare audits
7. Clinical Decision System (CDS)

MODULE 4 - Interacting with Health Professionals using Technologies

OBJECTIVE- To understand the link between technology and health professionals.

CONTENT- Technology has always been a part of e health, 1930s it became a huge part of Australia to support rural care. As well as to support seas and remote areas. Tele health is becoming a increasing routine. Virtual consultation takes place and patients are counselled and given advices over skype. E Health not only uses technology to consult patients but also uses technology for other treatments. Many like telemedicine, tele health, mobile health, tele conferencing are used to adapt eHealthcare with patients. The technology has been used over 100 years to enhance communication in healthcare. Tele medicine is integrated with mainstream health to realize the full benefits. The drawback is that the synergy and connections between and across the range of disciplines that deal with complex problem is not crated. The community is diverse and unaware of education and health programs that we need to start young.

Health professionals are still trying to come up with a good my health page were, patients past and present history is clearly available while linking it to the modern systems and monitoring the health of the patient. Professionals like engineering, IT, clinicians, health care specialists but also social sciences and humanities are coming together to build a community of research, education and practice which is unparalleled and unique.

KEY LEARNINGS –

- Improving access to healthcare.
- Innovations in healthcare.
- Supporting health professionals.

METHODLOGY- Videos and concepts were explained well and quiz was taken to learn how doctors' practice clinical using ehealth.

APPLICATIONS –

1. Find and book a specialist online
2. Telemedicine- It is used when the patient and health care professionals are geographically distant. It is also used for educating patients, carers, and relatives on managing health problems by facilitating remote monitoring and delivery.
3. Rehabilitation - The use of rehabilitation in e healthcare is for providing rehabilitation care i.e. after a stroke or a surgery, virtual reality, telerehabilitation.
4. Get online consultation (E-consultation)
5. Low cost therapies – Online consultation are able at cheaper costs then e.g. Mental Health
6. Patient Communication- It includes mobile telemedicine, emergencies, health monitoring, surveillance, and access to information for health care professionals at the point of care.

CONCLUSION

This course provided insight into the use of healthcare data, including an overview of best practices and the practical realities of obtaining useful information from digital health systems via the understanding of the fundamental concepts of health data analytics. I understood why data quality is essential in modern healthcare, as they are guided through various stages of the data life cycle, starting with the generation of quality health data, through to discovering patterns and extracting knowledge from health data using common methodologies and tools in the basic analysis, visualization and communication of health data. It enabled me to –

1. Identify digital health technologies, health data sources, and the evolving roles of health workforce in digital health environments
2. Understand key health data concepts and terminology, including the significance of data integrity and stakeholder roles in the data life cycle
3. Use health data and basic data analysis to inform and improve decision making and practice.
4. Apply effective methods of communication of health data to facilitate safe and quality care.

I also acquired knowledge of how eHealth technologies are developed and used in practice, by means of a variety of case studies, assignments, and examples.