

SUMMER TRAINING REPORT

BY

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Really, nothing can be accomplished alone. It's the direction, guidance, involvement, support and prayers of many that results into realization.

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ABBREVIATIONS

- Covid19 – Corona Virus Disease
- WHO – World Health Organization
- RNA – Ribonucleic Acid
- ICMR – Indian Council of Medical Research
- NFHS – National Family Health Survey
- eHealth – Electronic health
- HCI – Human Computer Interaction
- MARS – Mobile Application Rating Scale
- EMR – Electronic Medical Record
- EHR – Electronic Health Record
- PCEHR – Personally Controlled Electronic Health Record

PART 1 : REPORT ON WORK FROM HOME (ASSIGNED BY FACULTY)

LOCKDOWN IMPACT ON HEALTH SEEKING BEHAVIOR

OF INDIVIDUALS IN INDIA

AGED 15-75 YEARS

INTRODUCTION

The outbreak of Covid19 has caused concerns throughout the world. It has been declared as Pandemic by the WHO. The outbreak of Covid19 globally, occurred in China in late December 2019, in Wuhan city. In India, first case of Covid19 was reported on 30 January 2020. Corona viruses are single stranded RNA viruses, which can infect humans as well as animals. Owing to the outer appearance of the virus in the form of surface projections like solar corona (crown like projections), these viruses are named as Corona viruses.

The measure taken by the Govt. of India in order to combat this pandemic was lockdown (on 24th March 2020) all over the country when the COVID-19 cases in India were approximately 500. Lockdown was carried out in four phases from 24th march 2020 to 31st May 2020 and after that Unlock phases were carried out from 1st June 2020.

Lockdown has changed the lives of people, both in the positive as well as the negative manner. Covid19 has impacted the education, jobs, businesses and economy at large. The people who were not aware of the steps of hand washing and their benefits, are now following it very genuinely and, also informing others of the same. People, who always used to rely on the outside food, are trying to make healthy and delicious food for them. Lockdown has led people relish their memories spent with others, talking to old friends, and making new relations.

Lockdown has advanced to many transitions, these changes are in several forms, like the way of greeting people has changed, i.e., from handshake to namaskar. Our unnecessarily stepping out of homes has reduced. We have started stockpiling the food supplies and using

the resources in a judicious way. We have learnt to limit our wants and demands in life and trying to stay happy with what we have at present.

Online learning is one of the huge changes due to Covid19; online education has got a major boost. Schools and colleges have started taking online classes, conducting webinars, online courses etc. such that the studies of students are not hampered in any way. Second major change is Work from home activity; employed people have started working online from home, in order to be equally productive even in this situation of pandemic. The third major change, as already mentioned above, is that we have become more hygiene conscious. Fourthly, people have become more health conscious and started doing physical activities like yoga at home. Also, with that the rest of the family members other than females have started doing domestic chores. The fifth major change due to lockdown is the reduction in consumption of alcohol and cigarettes/bidis, may be due to non-availability of them during lockdown.

Now, the big question arises that whether people continued these changes, once the lockdown was lifted?

To get the answer of this question to some extent, we have created a survey for the people of India of age group 15-75 to understand the fact that whether people would like to continue with these changes or will return to their original lives as before.

Our research work is based on the effect of lockdown mainly on 4 health related behaviors of lifestyle-

In a broad way, we can say lifestyle is a way or style of living; it is the interests, opinions and behavioral orientations of an individual, group or culture. There may be many variables associated with lifestyle like gender, age, parental and household characteristics, substance use (like smoking and alcohol use), physical activity, dietary intake, sedentary behavior etc.

- Physical activity
- Eating habits
- Alcohol Consumption
- Smoking/tobacco consumption

Alcohol consumption has been increasing in India gradually. Although, majority of the people are not the regular alcohol consumers but are occasional drinkers. According to recent data published by the WHO, globally the total per capita of alcoholic beverages consumption by individuals above 15 years of age is 6.2 lit of pure alcohol per year, and to about 5.4 billion liters alcohol consumption in 2016 in India.

Around 34.6% adults in India are smokers (out of which 47.95 are males and 20.3% are females). 145 adults use smoking tobacco, while 25.9% adults use smokeless tobacco. The prevalence of smoking has dropped down in India. From about 11.5% prevalence rate in 2005, it has reduced to 9.8% in 2020 and is estimated to further decrease to 8.5% by 2025. The reason may be the strict implementation of the tobacco control policies.

According to ICMR, physical inactivity is very common in India. A report shows that more than 50% Indians are physically inactive and about less than 10% engage in recreational physical activity. At present, people are very much accustomed to the sedentary lifestyle.

According to NFHS, most of the Indians eat unbalanced diet. Over half of the Indians, especially women, have access to unbalanced diet which is devoid of fruits, green leafy vegetables, pulses, meat and milk products, that are very much essential to lead a healthy life.

RESEARCH QUESTION – What is the effect of lockdown on the health-related behaviors of individuals in India of age group 15-75 years?

GENERAL OBJECTIVE – To study the change in lifestyle related health parameter among people during lockdown.

SPECIFIC OBJECTIVE -

- To study the change in smoking/tobacco consumption, alcohol consumption, physical activity and eating habits of people.
- To evaluate the difference in the health-related behaviors of men and women.

METHODOLOGY

Study Design –

- Descriptive Case Report (Cross-sectional Survey)
- Qualitative Study

Sample Size - 152 responses were collected.

1. Primary data collection
2. Questionnaire was used

Primary data was collected in the form of a questionnaire by the creation of Google form.

The data collected was analyzed and findings were made as indicated below.

RESULTS AND CONCLUSION

The responses have been collected by 152 persons across the country, out of which 88 (58%) were females, and 64 (42%) were males.

FINDINGS

I. PHYSICAL ACTIVITY

92% people believe that lockdown imposed a change on their physical activity.

Different Physical Activity by people Pre, During and Post Lockdown

Physical Activity	Pre lockdown	During lockdown	Post lockdown
Walk/Gym	124/152 =81.57%	72/152 = 47.36%	104/152 = 68.42%
Domestic task/Household work	33/152 = 21.7%	61/152 = 40.13%	38/152 = 25%
Dance/Aerobics/Zumba	23/152 = 15.13%	39/152 = 25.65%	26/152 = 17.10%
Yoga/Meditation	10/152 = 6.57%	32/152 = 21.05%	25/152 = 16.44%
Exercise	22/152 = 14.47%	27/152 = 17.76%	26/152 = 17.10%
Playing outdoor games	30/152 = 19.73%	28/152 = 18.42%	29/152 = 19.07%
Cycling	4/152 = 2.63%	0%	6/152 = 3.94%
Swimming	7/152 = 4.60%	2/152 = 1.31%	4/152 = 2.63%

- The above findings clearly show that the different physical activities adopted by people have increased during the lockdown as compared to pre lockdown conditions, except few of the activities like gymming, cycling, swimming and playing outdoor games, which the people might be unable to do due to Covid19 restrictions (as they were bound to stay home).
- The major increase has been observed in domestic task or the household work from around 21% pre lockdown to 40% during lockdown. Similarly, some other activities like Dance, Yoga and Exercise have also notably increased.

- On the other hand, if we compare the physical activities during and post lockdown, majority of the physical activities have reduced further with the end of lockdown. This may signify that physical activity was improved during the lockdown period but has come back to original conditions as before lockdown. But few activities like cycling, swimming, playing outdoor games and going to gym have resumed again after the completion of lockdown.

Duration of Physical Activity Per Day (Pre, During and Post Lockdown)

Time Duration	Pre lockdown	During lockdown	Post lockdown
Less than 30 minutes	36 respondents	53 respondents	40 respondents
30-60 minutes	70 respondents	60 respondents	72 respondents
60-90 minutes	35 respondents	26 respondents	26 respondents
More than 90 minutes	11 respondents	13 respondents	14 respondents

- The above findings may show that the number of people who were performing physical activity for 30 minutes or less have increased from 36 respondents (23.7%) to 53 respondents (34.9%) during the time of lockdown, which could imply that people started the physical workout during the period of lockdown.
- Also, the number of respondents performing physical activity for 30-60 minutes has increased from 60 respondents (39.5%) during lockdown to 72 respondents (47.4%) post lockdown.
- When asked, whether the people with improved physical activity during the lockdown, would like to incorporate this change in future also, 91 (60%) respondents say ‘Yes’. 35 (23%) respondents say “No” and 26 (17%) people found this question ‘not applicable’ (which indicate that lockdown had no impact on their physical activity).
- Therefore, it indicates that majority of the respondents are willing to improve their physical activity health related behavior in future, as compared to pre lockdown conditions.

II. EATING HABITS

84% respondents believe that lockdown has imposed a change on their eating habits.

Food Consumption Pre, During and Post lockdown

Type of food	Pre lockdown	During lockdown	Post lockdown
Fruits and vegetables	102/152 = 67.10%	102/152 = 67.10%	104/152 = 68.42%
Homemade food	104/152 = 68.42%	140/152 = 92.10%	122/152 = 80.26%
Fast food	99/152 = 65.13%	15/152 = 9.86%	32/152 = 21.05%
Nutritious food/ Balanced diet	48/152 = 31.57%	63/152 = 41.44%	62/152 = 40.78%

- Most of the people were consuming all the three meals (breakfast, lunch and dinner) of the day properly during the lockdown and when asked about which kind of food consumption has been reduced by the people during lockdown, majority of the people say that their fast food consumption has been reduced and most of the people are willing to follow this kind of eating habit in future, i.e. intake of less fast food.
- Therefore, it indicates that most of the respondents are willing to change their eating behavior; 45% people responded “Yes, to some extent” and 45% people responded “Yes, definitely.”

III. SMOKING

Out of the 152 responses collected, only 12 are smokers, rest of the 140 respondents are non-smokers. (Male=10, Female=2)

The cigarette/bidi consumption by the smokers Pre, During and Post lockdown

Cigarette intake	Pre lockdown	During lockdown	Post lockdown
Less than 5 cigarettes	9 respondents	7 respondents	8 respondents

5-20 cigarettes	2 respondents	4 respondents	3 respondents
More than 20 cigarettes	1 respondent	1 respondent	1 respondent

- The above data indicates that consumption of cigarettes has reduced after lockdown and people are willing to take less than 5 cigarettes.
- When asked that whether people who smoke less during lockdown, would like to continue this habit further, 67% people said 'Yes', 8% people said 'No' and 25% said 'Maybe'.
- Therefore, it indicates that people are willing to change their smoking health related behavior post lockdown.

IV. **ALCOHOL CONSUMPTION**

Of the total 152 responses, only 31 respondents are alcohol consumers (Male=24 and Female=7). Out of the 31 responses, only 4 are regular drinkers and rest 27 are occasional drinkers.

Alcohol consumption pattern Pre, During and Post Lockdown

Alcohol intake	Pre lockdown	During lockdown	Post lockdown
No consumption	10 respondents	16 respondents	12 respondents
Less than 30 ml	5 respondents	6 respondents	7 respondents
30 ml	3 respondents	3 respondents	5 respondents
60 ml	8 respondents	3 respondents	5 respondents
90 ml	1 respondent	0 respondent	0 respondent
120 ml	3 respondents	2 respondents	1 respondent
More than 120 ml	1 respondent	1 respondent	1 respondent

The above data indicates that alcohol consumption has reduced a bit as compared to pre lockdown and further increased post lockdown. During lockdown the consumption

was not as much as compared to pre lockdown, may be due to the non-availability of alcohol as per the COVID-19 restrictions.

- Therefore, most of the people did not change their alcohol related health behavior post lockdown.
- When asked that whether people with reduced alcohol consumption during the lockdown period, would like to continue this change in future also, 10 (32%) responses were 'Yes', 4 (13%) were 'No', 13 (42%) were 'Maybe' and 4 (13%) were 'Not applicable'.

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PART 2 : REPORT ON ONLINE COURSE

eHealth: More than just an electronic record

This course is multidisciplinary in nature, and aims to equip the global audience of health clinicians, students, managers, administrators, and researchers to reflect on the overall impact of ehealth on the integration of care. It explores the breadth of technology application, current and emerging trends, and showcases both local and international ehealth practice and research.

The entire ehealth course is composed of 5 modules:

Module 1	What is ehealth?
Module 2	Health in our hands
Module 3	Data and the “Quantified Self”
Module 4	Interacting with health professionals using New Technologies
Module 5	ehealth in professional practice

Objectives of the Course:

- The basics of ehealth and where it is heading.
- What kind of health data we are collecting at present and how it will transform healthcare in future.
- How new technologies are helping health consumers participate in their own healthcare.
- How ehealth can improve the coordination and efficiency of healthcare and what might be the barriers.

Learning methodology used in the course:

There are total 5 modules in this course. The modules are divided into Lessons, which in turn consist of several **videos, readings, case studies and assignments**. The videos are delivered by the healthcare professionals, thereby explaining the whole layout of the course and further going deep into the discussions with other health experts of various fields.

COURSE CONTENTS

MODULE 1: WHAT IS eHEALTH

Introduction to ehealth

The first thing which comes to our mind regarding ehealth is electronic medical record, but ehealth is not only confined to this facet and has many more activities associated with it; one of it may include as how we are using technology to support communication between healthcare providers and healthcare consumers.

The most rapidly enlarging and transformational area of ehealth relates to what we are actually being accustomed to i.e. health in hands of consumers. This includes use of apps, websites, social media and wearable devices.

eHealth means differently to different people. Some may perceive ehealth as exciting as it enables to provide best care to patients by enabling all healthcare team members to have access to patient information whenever and wherever possible. Some may believe ehealth to be very pervasive, resembling it to ‘oxygen’ of health. People are nowadays using apps to track and monitor their health. ehealth can be the constructive way to deliver healthcare to variety of people, including those who are rural based.

eHealth is health just in online format, ranging from fitbits to surgical robots and helping doctors to perform surgeries using robots.

Model for ehealth includes 3 overlapping domains:

- Health in the hands of consumers: It comprises the use of wearable devices, various applications and social media to keep track of our health.
- Interacting with and between health professionals: Earlier, ehealth has been referred to as Telehealth, but it is much more than simply videoconferencing for rural patients. It also cover the growing areas of health like health coaching and maintenance of fitness.
- Data records and the quantified self: This includes the comparison as to how we have stored data in traditional medical records through how we store data associated with devices and apps. This domain also includes big data, genomics, predictive and precision healthcare.

Ideally one program being developed should combine one or more aspects of these 3 domains for maximum health impact.

What experts say about ehealth?

There are many challenges associated with the implementation of ehealth. The prerequisite for implementing ehealth is a mind shift to think differently about how we are providing healthcare. The major challenge is patient acceptance. *According to Lange*, “ehealth sustainability not only hinges on appropriate infrastructure and common platforms but crucially also calls for the readiness of people and organizations to embrace the change”.

We need things to look gorgeous on one hand and useful on the other and sometimes its hard to do both. The other challenge to ehealth is accessibility and speed, faster speed of internet and greater reach of the same through multimedia and satellite is required and for that the basic thing needed is education; we need better education and understanding.

As far as future of ehealth is concerned; from a patient’s perspective, ehealth will be about access, healthcare delivery, recording our health information. Telemedicine and telehealth is bringing things to people in their homes. Ehealth has notably changed over last 20 years, being started from static websites; telepsychiatry has morphed into this amazing array of different technologies.

MODULE 2: HEALTH IN OUR HANDS

These days, everyone is having good android phones and people can track their health in their hands itself by having access to several applications or apps, online health information and social media. All these things are currently used in order to motivate healthy behaviors and monitor existing conditions.

Wearable devices and related apps can be used for large range of motives like capturing and displaying personal health data, to track health progress, the information can even be shared with health professionals.

Everyone nowadays own the basic knowledge to work with apps, people can count their footsteps a day, can record their sleep patterns. In addition to it, ehealth has made the patients more empowered; they are now more informed about their own issues and able to self monitor.

Collecting your own data

There are plenty of devices or wearables which can be used to collect our own health data such as sleep tracker which may recognize if a person has sleep apnea; fitbit, which can track gym sessions; wearing a holter meter or using a sensor attached to phone that records 24 hrs of ECG. All the personal health data which we control in our mobile phones is of much clinical value as the user gets an objective baseline of his or her activity levels. One more perk associated with it is in behavior change perspective.

Apps, social media and health online

All the use of mobile apps, devices, sensors etc. is commonly known as **mhealth** or **mobile health**. Mhealth is a powerful and everchanging element of ehealth. It is not only easy to use but also helps the people to self monitor their health, which can even prevent them from unmanageable circumstances. About 70% of population now handles mobile apps on daily basis to get a check of health related information. We can say that ehealth i.e health on an online platform is time saving and efficient.

Designing and evaluating ehealth solutions

As patient centered care is implemented as a new paradigm in healthcare since few years, healthcare providers developed integrated care models and explore technological solutions to help people living with certain diseases. HCI is about creating interface that people can use effectively.

There is a way to evaluate the health apps. Five broad categories and criteria were identified including four objective quality scales- Engagement, Functionality, Aesthetics and Information Quality and one subjective quality scale, which were refined and developed into 23-item MARS tool. The results show that MARS is simple, objective and a good tool which

can be used to determine the quality of mhealth apps. It can also be used to prepare a checklist for the design and development of new high quality health apps.

MODULE 3: DATA AND THE “QUANTIFIED SELF”

Quantified self is the step of using personal data to rise one’s quality of life, as a result of this, people are now more informed of their personal health. With the help of mhealth and electronic medical records, people can now monitor their health at their home itself.

Electronic health records

Computerized paper records is very beneficial, it facilitates a patient’s medical history to be tracked over time. Digital records may even alarm patients for routine, follow up consultations and to monitor patient’s vital signs. In addition to it, EMR are patient centered; patients could share their medical information with the doctors and consult them and above all, EMR also include safety effectiveness, timeliness, efficiency and equity.

Like everything has two faces, so does the EMR, it is also been attached with some disadvantages. First of all, the ability to use digital information to transform care is yet to be achieved in many parts of the world. Next challenge which may be associated with it is the matter of confidentiality i.e. privacy and security concerns. Other challenge may be temporary loss of productivity with EHR adoption. Seeing the challenges to ehealth, the Australian Govt. chose to develop a thing which they call as **PCEHR**, which is now renamed as My Health Record. PCEHR is actually the health summary set up by the Australian Govt. with implementation overseen by the National Electronic Health Transition Authority. In simple words, PCEHR system permit the secure sharing of health information between an individual’s healthcare providers, at the same time, enabling the individual to control who can access their PCEHR.

A case study has been described in this lesson, demonstrating how electronic records support remote care. Suddenly, when a patient is brought to the hospital, the attendant or the relative may not even be carrying the medical records and even the list of medications, the patient is taking at present. At that moment, EMR is of great value; the attendant may then go to any nearby computer and find out all the care that the patient had been receiving in that facility

and beyond. At this time, even the General Practitioner (GP) and the nursing staff are in a difficult situation to cope up with, as they could not even receive any kind of information from the patient, who is unconscious. With the help of ehealth, the GP and the staff may get an intensivist on phone, which might be able to look at the EMR of patient. The intensivist could go through various test results like those of angiography, x-rays etc., according to which appropriate action and treatment could be undertaken.

Predictive and Precision Medicine

Predictive and Precision medicine are the emerging fields in ehealth. Predictive medicine is a field of medicine that involves predicting the probability of disease and establishing preventive measures in order to either prevent the disease wholly or reduce its impact on patient. Precision medicine is the new approach for disease treatment and prevention that takes into account individual variability in genes, environment and lifestyle for each person.

Our health is determined by the various species of organisms surviving with us in this community. Our diet also plays a major role in influencing our health, all of this ultimately impacts on the way that we build up our environment and service our food needs, our exercise and sleep is another element of our critical environmental interface. So, this is the real challenge of ehealth i.e., to enable us manage the relationship between biology and our environment.

We, the health consumers had always little access to our own information. So what can be done such that the patients could be responsible or be the custodian of their own health data. According to *Dr. Karen Luxford, Director, Patient based care, Clinical Excellence Committee NSW*, patients are the experts nowadays and they are the persons who know best about themselves and have great opportunity to contribute and use that information. *Prof. Hugh Durrant - Whyte Director, Centre for Translational Science*, believes in concept of ‘un-patient’, in which the health records are owned by people and not the govt. or doctors. He personally records his health data on i-pad.

Patient reported data in practice

These days, we can find a lot of information about the patients, by doing various clinical tests such as blood pressure test and so on. But, there are quiet many things which can't be found unless they are asked to patients directly like levels of distress, anxiety etc. So, in that case we can ask patient reported outcomes and collecting this patient reported outcome is as essential as performing other tests, for gaining more integrated patient care information. So, ehealth enables us collecting patient reported outcomes from the patient and futher support the analysis and testing which could be useful to doctors or other healthcare providers.

Privacy and Security

As discussed earlier, confidentiality poses a big challenge to ehealth implementation. Cryptographic and non-cryptographic approaches have been used to ensure the preservation of security and privacy of health data. Also, patient centric access control schemes are commonly being used to come over this privacy issue in ehealth. Besides any legislative requirements for security and privacy, the end user who is entrusting the healthcare providers in keeping their data, needs to trust that these healthcare providers will protect it correctly and might be that, this approach to privacy within eHealth is what will make it work efficiently. Homomorphic encryption is a new technique which can be used for privacy preserving outsourced storage and computation. In this technique, data is processed in an encrypted form only. The original requester can decode the result to get the result of their original query, while third party who worked on the data has no idea as to what actually the result or query was.

Using data to improve performance

Many a times, health teams have very little access to data beyond basic information on individual patients. Little or no information was available on the populations of patients that they treat or trends in their care and outcomes. So, a need is triggered to make better use of medical record data in order to enhance the performance. Considering a patient in health system, they are surrounded by **three domains of data**. First one is the currently available data, which is restricted to pathological data, imaging, history and some information on how patients respond to treatment. Second is emerging data, including genomic data and items like patient reported outcome measures. The third domain of data is new data, involving

massive link data that surrounds us all like the data which can be collected from the health apps in our mobile phones and fitness centres. We can also consider three domains of health, i.e., clinical practice, quality improvement and professional development.

MODULE 4: INTERACTING WITH HEALTH PROFESSIONALS USING NEW TECHNOLOGIES

Interacting in new ways

From time being, simple method of communication is used by healthcare professionals and patients to communicate with each other. The question arises as to what types of communication can be delivered by technology in order to smoothen this process. Nowadays, use of telehealth is becoming increasingly a routine for the delivery of care.

According to *Karen Finnin, director and Musculoskeletal Physios Online*, the most successful health businesses and services moving forward are the ones which effectively tackle the junction between computerization and personalization.

In view of *Prof. James Burn (Professor and CEO, Young and Well Cooperative research Centre)*, initially ehealth was confined to static websites, telepsychiatry, but at present, it is the most exciting field to work in. It ranges from assistive technologies from biometric devices, apps, gaming. It's a fascinating mix of new and emerging technologies and how this together could be brought in systems to change the way in which health team provide care to their clients or patients.

Improving Care- 10 ehealth advantages

The advantages of ehealth include-

- Improved consumer access – Ehealth enables the people in remote areas to get in contact with the healthcare professionals and easily access care. So, patients at home itself can get a full assessment of their injury, doctors can diagnose them and a rehabilitation plan, all at a distance.
- Care stays local – In order to connect with so many patients, not always face to face conversation is the best way of connecting. Sometimes, patients don't have that much time

spare in a week for their supportive care results; in that case, Skype or video conferencing can be a good way of connecting with those patients.

- Benefits smaller centres – This allows the health team to deliver care to the patients that are at a distance from the hub centre, and also to follow up the patients for diagnostic and therapeutic changes. The reason for this is that sometimes, patients could not find appropriate treatment in the smaller hospital due to lack of the specialist doctor.
- Expands providers reach – ehealth indeed increases the access to a broader patient group, that is otherwise not possible in terms of traditional face to face conversations.
- Diagnosis ‘on the move’ – Nowadays, handheld devices are being used by the doctors to access the imaging data and the radiology reports, so they can visualize what is wrong with the image and thereby helping them to make decisions, thus making ehealth one of the huge benefits for them.
- More service delivery options – ehealth offers some new options for the patients, in terms of empowering them to use other technologies.
- Fast tracks diagnosis – ehealth enables the doctors to diagnose the patients in less time as compared to the traditional methods.
- Integrates care and daily life – With ehealth, patients can schedule their appointment with doctors at home only, which as a result, saves time, cost and extra efforts, as patient need not move out of their homes to access care. Ehealth fundamentally changes the way people work.
- Supports professional development – ehealth enables the professional development. For eg. an educator may be allowed tools for blended learning, may be allowed to customize the education, it allows education to be put into workflow and applied practically.
- Offers professional flexibility – It allows professional flexibility in terms that healthcare professionals can simply work from anywhere in order to provide patient access to care.

Face to face vs. online

It is found that error in diagnosis in online results when compared to face to face is actually not a great deal of difference. No more mistakes are made by the healthcare workers in diagnosing the patients on an online platform. It is often seen that patients self- treat themselves in online consultation as they are given the tools i.e. the exercises and retest

mechanisms to measure how they are going themselves and outcomes are more or less the same if not better than a face to face consultation.

Telehealth and new models of healthcare

As we know, technology is used to augment communication in healthcare in the form of telemedicine, telehealth, mobile health, tele-conferencing and video-conferencing. But , the key to use technology in communication is how we incorporate it into our existing models of healthcare, or more necessary, how new models of healthcare can be supported by technology.

There are four main things to be focused as to implement research translations, as said by The Director at Napean Telehealth Technology Centre. These four things are - between the hospital communication, within the hospital, hospital to community communications, and hospital back to patient's home. Technology gives the way for using things in a different manner, like video camera can be used not only for video-conferencing, but also help to access patient's medical records including medical images. The ceiling camera which is capable of conveying the audio and video data to the hospital also enables the health professionals to communicate with patients, with their relatives and also with nurses. Technology has been used to improve communication in healthcare for over 100 years.

When healthcare and social media intersect

Nowadays, young population finds it easy to work on their mobile phones and tablets than sitting at the computers. Use of online communication via social media can provide opportunities to communicate better than the face to face communication. At present times, as majority of the population is engaged in social media, so healthcare going social would be very beneficial for all. The intersection of healthcare and social media would ultimately help the professionals drive population health efforts to manage the diseases in a better way and will also decrease patient readmissions and ER visits for patients who need help in managing a health problem.

Using apps to personalize healthcare

Various apps are used these days in order to provide personalized care to the patients. For eg. Myphysio App has numerous benefits to the patients, particularly in regard to adherence of exercise program; it allows health team to see how their clients are using that particular program as a result of which the patients can't hide behind the excuses about not using it. Mobile apps can help doctors and hospital staff to easily coordinate with patients. Apps maintain the record of the persons involving past medical history to performance metrics, their feedback, present treatment schedules etc.

eHealth enabled professional development

eHealth has helped the healthcare professionals to carry out the diagnosis in a better and efficient way. One of the examples includes the Breast Reader Assessment Strategy, which is sponsored by the Cancer Institute of New South Wales, the National Breast Cancer Foundation, and the Federal government. This technique seeks to upgrade the performance of radiologists when they go through the mammograph, in order to get accurate diagnosis of the patient. This strategy requires ongoing training for the professionals and their continual development. So, all this improves the overall performance of the health team and also the patients with that disease could be diagnosed at the earliest.

Another example includes the development of a system called as EG clinic in order to smoothen the process of interaction between doctors and patients at remote locations. It would involve the computing technologies in which the emotions in the conversation are automatically detected.

How do we enable interdisciplinary ehealth?

One of the key and perhaps yet to be realised opportunities in eHealth, is how technology enhanced communication, can streamline care and support coordinated and multidisciplinary care. The most crucial point in eHealth at present is 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.

MODULE 5: eHEALTH IN PROFESSIONAL PRACTICE

Few case studies are incorporated into Module 5 including topics like-

- Using Myphysio app
- Electronic records supporting remote care
- Physios online
- The 'My Home Dialysis' program
- 'Synergy' online hub for mental health and wellbeing
- Supporting wellness after cancer treatment

KEY LEARNINGS FROM THE COURSE:

- As the name of the course suggests, ehealth is much more than just a single facet associated with it, i.e., electronic medical record.
- The scope of ehealth is increasing gradually. Now, the term health consultation is not only limited to the doctor patient face to face interaction, but also to acquire the healthcare delivery at distant places with technology aid.
- Although, there are many challenges associated with the implementation of ehealth, patient acceptance, accessibility and speed of internet in remote places are some of the main barriers.
- At present, everyone is likely and able to take care of their health themselves, by the use of wearable devices and the healthcare applications installed in their smart phones (known as m-health or mobile health).
- There are many advantages and disadvantages linked with ehealth. The benefits may include the better healthcare delivery, improved communication between doctor and the patient, reduction in length of stay due to operational efficiency, patient-centeredness, improved consumer access, healthcare efficiency and equity. On the other hand, the lacuna may be privacy and the security concerns, patient acceptance, accessibility, faster speed of internet and enhanced technical knowledge.
- Unlike before, when the only method used to be the face to face interaction among doctors and patients, now-a-days, telehealth has majorly become a routine for the delivery of healthcare by the means of telecommunication technology.