Digequal

E-health

How technology changes the way we manage our health
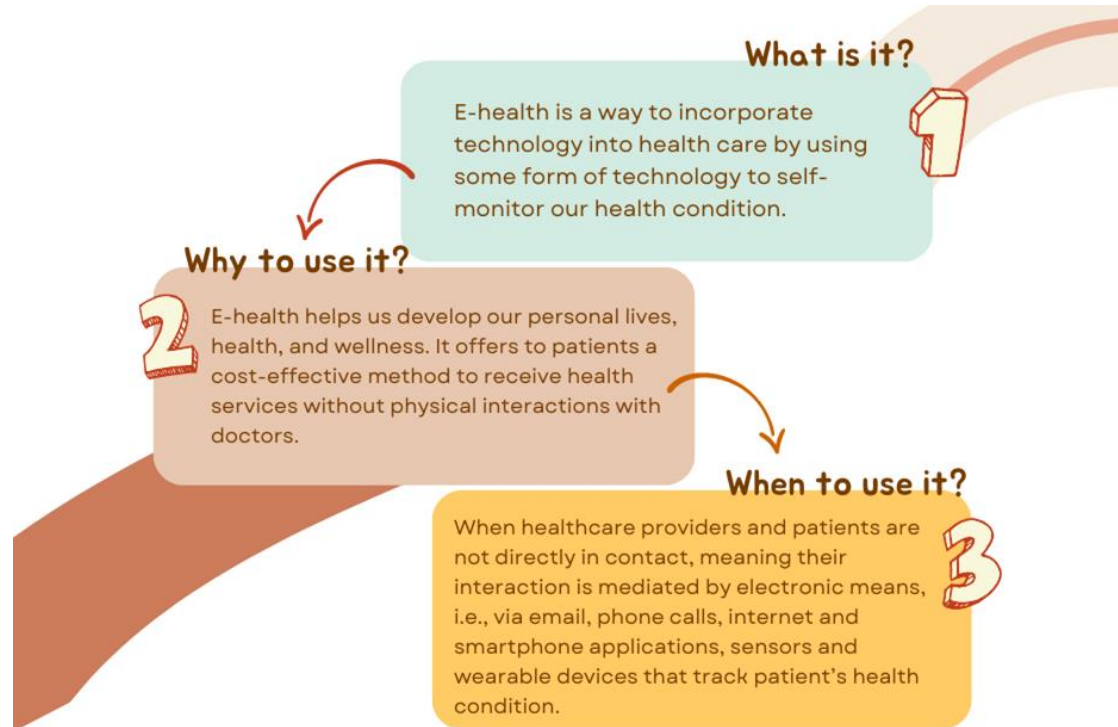
Lesson 1.
The importance of literacy in e-health

Co-funded by the European Union

Let's make an introduction to e-health:

What is it?

E-health is a way to incorporate technology into health care by using some form of technology to self-monitor our health condition.

Why to use it?

E-health helps us develop our personal lives, health, and wellness. It offers to patients a cost-effective method to receive health services without physical interactions with doctors.

When to use it?

When healthcare providers and patients are not directly in contact, meaning their interaction is mediated by electronic means, i.e., via email, phone calls, internet and smartphone applications, sensors and wearable devices that track patient's health condition.

Without literacy there is no e-health

E-health literacy is the ability to search, find, understand and evaluate health information from electronic sources, i.e., Internet, and apply the gain knowledge in order to address of solve health problems.

Example:
I feel sick and I am not sure what my symptoms mean. I surf on the internet and find many sites that refer to my symptoms but all of them have different findings. I must contact my doctor but I cannot be physically present because of work. So, I contact my doctor via phone, to guide me that the sources I've discovered are trustworthy and the information is reliable.

E-health literacy can be useful when:

Scheduling an online appointment

✓ Allows patients to book or reschedule appointments with their healthcare providers.

Receiving telemedicine consultations

✓ Allow patients to receive medical consultations through video or voice calls, avoiding the need for an in-person visit.

E-health literacy can be useful when:

Managing personal health records

✓ Allow patients to access and manage their personal health information, including test results, medications, and medical history.

Have access to health information resources

✓ Provide access to articles, videos, and educational materials on various health topics, as well as access to online communities and forums for support and advice.

E-health literacy can be useful when:

Remote monitoring while using sensors and wearables

✓ Using wearable devices or digital sensors to monitor patients' health status and share the data with healthcare providers.

Managing medication

✓ Providing reminders and alerts for taking

medications, ordering refills, and tracking medication history.

Tracking progress through fitness and wellness apps

✓ Offers personalized exercise and nutrition programs, tracking progress and providing support to maintain healthy habits.

Assess your own knowledge on e-health literacy

Let's see if you can assess your own knowledge on e-health literacy and online services!

Move on to the next slide.....

In class Activity 1: E-health literacy

How do you think e-health literacy could affect you personally?
How good are you at using online services to manage your health?
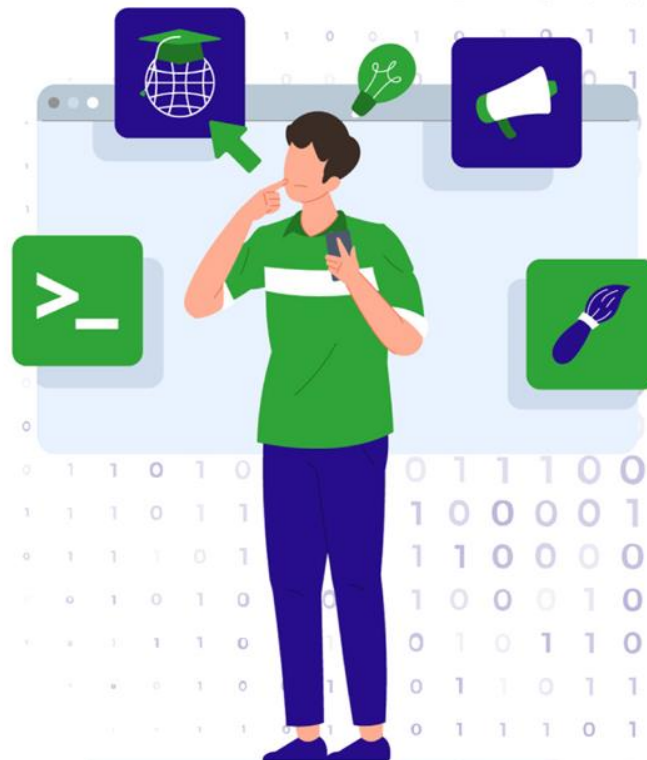Do you think e-health services are useful? To what extent?

Take the e-health literacy
test to find out.

Thank you!

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E-health

How technology changes the way we manage our health

Lesson 2.

Understanding our nutrition, fitness and health management knowledge

When using online services….

- Access a vast array of resources and information right at our fingertips, i.e., researching symptoms, finding reputable medical articles, or connecting with healthcare professionals through telemedicine,

- Empower ourselves with knowledge and make informed decisions about our health.

Nutrition Management when using online services

Online platforms and applications:

- Enable users to access a wealth of nutritional information, including ingredient lists, portion sizes, and nutrient breakdowns, facilitating informed food choices.
- Offer incredible range of resources and tools to support individuals' dietary and nutritional goals, from personalized meal plans, recipe databases, calorie trackers, even to virtual nutrition coaching.
- Offer valuable insights, track our progress, and provide healthier choices to achieve a healthier lifestyle.

Fitness Management when using online services

Online platforms and applications:

- Provide access to a wide range of workout routines, exercise tutorials, and fitness plans tailored to specific needs and preferences, including features like progress tracking, virtual coaching, and community support, which can help individuals stay motivated and accountable.
- Offer interactive features such as live streaming classes or virtual personal training sessions, allowing users to exercise from the comfort of their own homes.
- Manage our fitness routines, track our progress, and make significant strides towards a healthier lifestyle.

Health Knowledge Management when using online services

Online platforms and applications:

- Enable us to educate ourselves about specific conditions, treatments, and preventive measures.
- Provide tools for tracking personal health data, such as fitness levels, sleep patterns, and vital signs, which can help us monitor their overall well-being.
- Access wealth of information at our disposal through resources, including medical articles, research studies, symptom checkers, and health forums, allowing us to access information on various health topics.
- Empower ourselves with valuable insights, to be able to make informed decisions about our health, and actively participate in our own well-being.

Most known healthcare applications

✓ Gives a comprehensive view of someone's fitness, activity details, workouts, daily steps and diet tracking, sleep schedule, reminders to log schedules medications, health records storage as allergies, lab results, chronic conditions like diabetes, heart failure etc., shares location with emergency contacts in case of emergency, i.e., heart attack.

❑ **Apple Fitness+**
❑ **Apple Health**
❑ **My Fitness Pal**
❑ **Rimidi App**
❑ **Medical ID App**

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Most known Healthcare Games

✓ Special video-games are considered to be learning resources for people wishing to learn more about diseases, healthcare tips, medication, sleep, mental health, energy, body composition, digestion, and fitness.

❑ Mango Health App
❑ Hartgame
❑ Health IQ Test

Most known wearable technology

✓ Wearable devices such as smart clothing, wristbands, glasses, watches, shoes, socks, hats, bracelets, etc., monitor and collect information on our health and physical condition, i.e., track vital signs as heart rate, blood pressure, steps, calories, sleep quality, fall detection, medication adherence, blood sugar levels, etc.
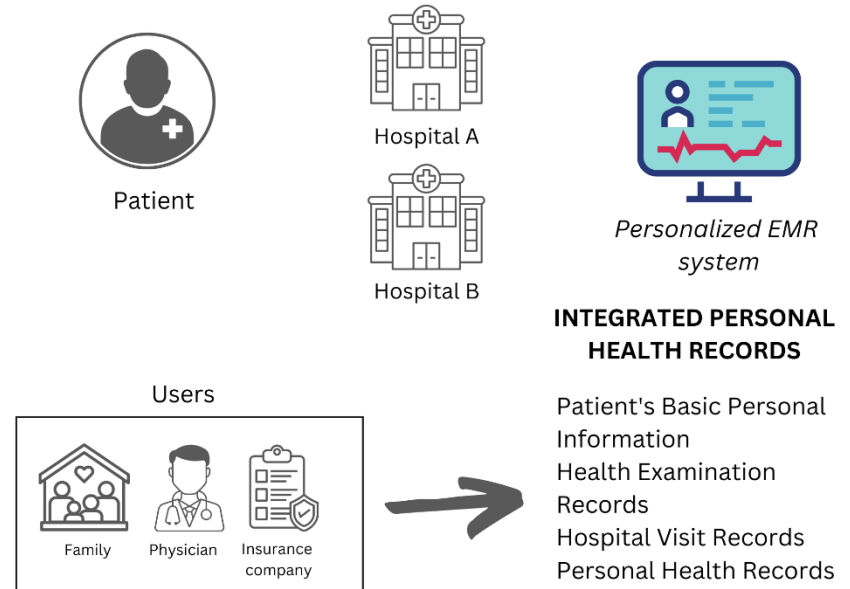
❑ Health Watches
❑ Blood Pressure Monitors
❑ Glucose Meters
❑ ECG Monitors

Most known types of e-health and their meaning
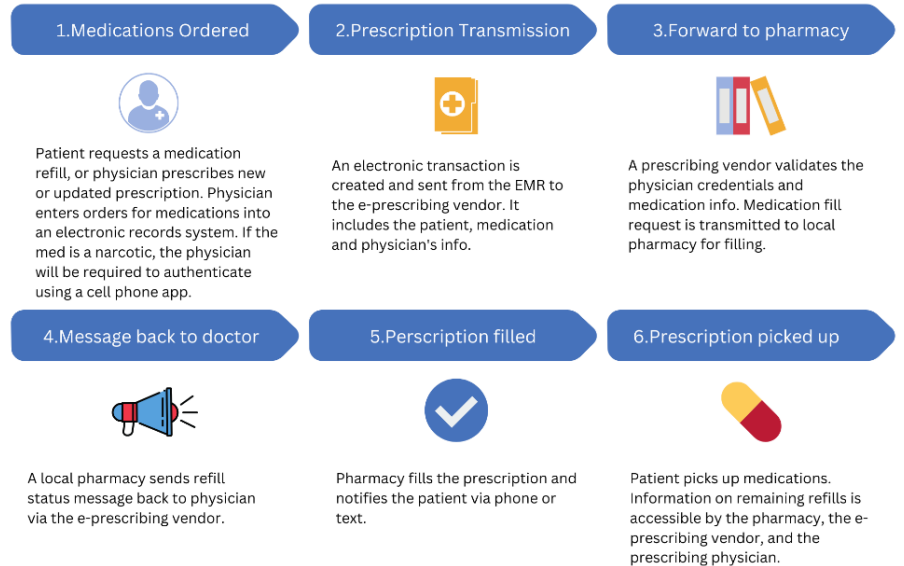
1. **Electronic Health Record (EHR):**

✓ Collects electronic health information about a patient, which includes their medical history, medications and allergies, immunisation status, laboratory test results, radiographs, vital signs, personal statistics such as age and weight, progress notes and problem details.

Patient

Hospital A

Hospital B

Personalized EMR system

Users

Family   Physician   Insurance company

INTEGRATED PERSONAL HEALTH RECORDS

Patient's Basic Personal Information
Health Examination Records
Hospital Visit Records
Personal Health Records

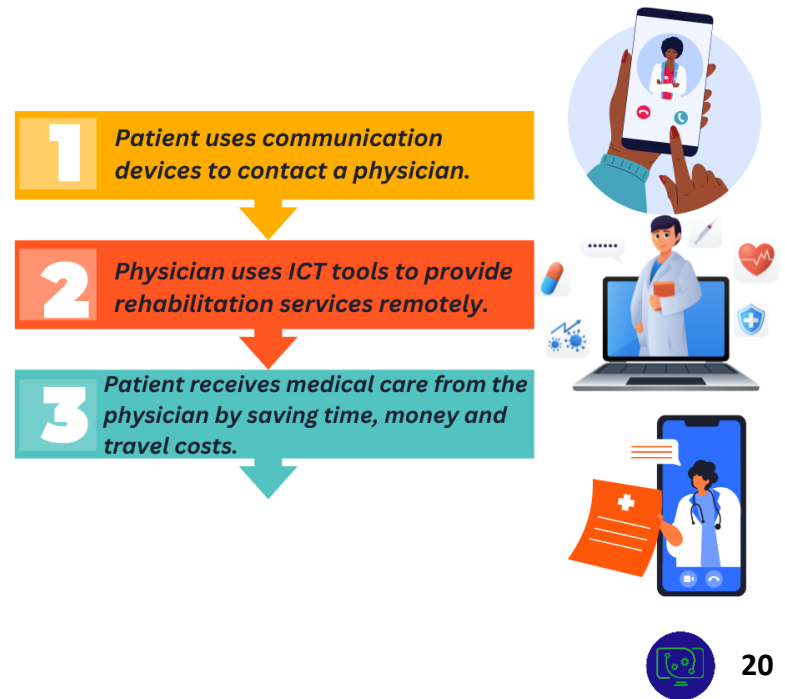# Most known types of e-health and their meaning

2. E-Prescribing:

✓ Access to prescribing options, printing prescriptions to patients and sometimes electronic transmission of prescriptions from doctors to pharmacists.

1.Medications Ordered

Patient requests a medication refill, or physician prescribes new or updated prescription. Physician enters orders for medications into an electronic records system. If the med is a narcotic, the physician will be required to authenticate using a cell phone app.

2.Prescription Transmission

An electronic transaction is created and sent from the EMR to the e-prescribing vendor. It includes the patient, medication and physician's info.

3.Forward to pharmacy

A prescribing vendor validates the physician credentials and medication info. Medication fill request is transmitted to local pharmacy for filling.

4.Message back to doctor

A local pharmacy sends refill status message back to physician via the e-prescribing vendor.

5.Perscription filled

Pharmacy fills the prescription and notifies the patient via phone or text.

6.Prescription picked up

Patient picks up medications. Information on remaining refills is accessible by the pharmacy, the e-prescribing vendor, and the prescribing physician.

Most known types of e-health and their meaning

3. Telehealth, telemedicine & telerehabilitation:
✓ Telemedicine is the remote physical and psychological diagnosis and treatment, including telemonitoring of patient data and video conferencing.
✓ Telerehabilitation is the use of information and communication technologies (ICT) to provide rehabilitation services to people remotely in their home or other environments, also known as, telecommunication (communication over a distance).
✓ Telehealth: people in remote areas with limited access to healthcare can get the medical care they need by saving time, money and travel costs for doctors and patients.

1 Patient uses communication devices to contact a physician.

2 Physician uses ICT tools to provide rehabilitation services remotely.

3 Patient receives medical care from the physician by saving time, money and travel costs.

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Most known types of e-health and their meaning

4. Consumer Health Informatics (CHI):

✔ Patients use electronic resources, i.e., Internet, as a research tool for condition and treatment information on medical topics in order to manage their health concerns. Thus, patients interact directly with the healthcare system online, without the presence of a healthcare professional.

✔ Patients can use devices, such as computers, mobile phones/tablets or any monitoring devices at home, by different methods, i.e., voice, SMS, Internet, emails, which are organized in an application way, in order to interact with health care providers (physicians, hospitals).

Consumer Health Informatics (CHI)

Device   Application

Patient   Method   Contact
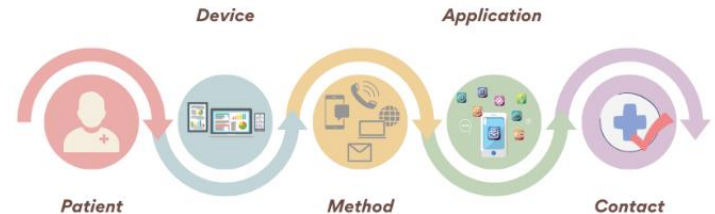
Most known types of e-health and their meaning

5. M-health:

✓ The use of mobile devices, smartphones and portable electronic devices for health purposes.
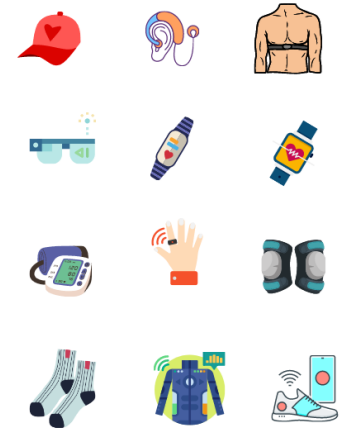
Most known types of e-health and their meaning

6. Sensors and Wearable Devices:

✓ Such devices allow continuous health monitoring and prevention at low cost. Sensors can be integrated into various accessories such as clothing, hats, wristbands, socks, shoes, glasses and other devices such as wristwatches, headphones and smartphones.

✓ In case of e-health devices, wearable technologies collect a very large amount of personal data, stored in cloud platforms, monitored by medical practitioners and trigger notifications in case of unusual data, i.e., heart attack, etc.

Wearable devices offer a personalised health monitoring system which records an individual's chronic and acute events in relation to health"

WEARABLE TECHNOLOGY

In class Activity 2: Test your nutrition, fitness and health knowledge

Do you think managing our health online is important? Why?
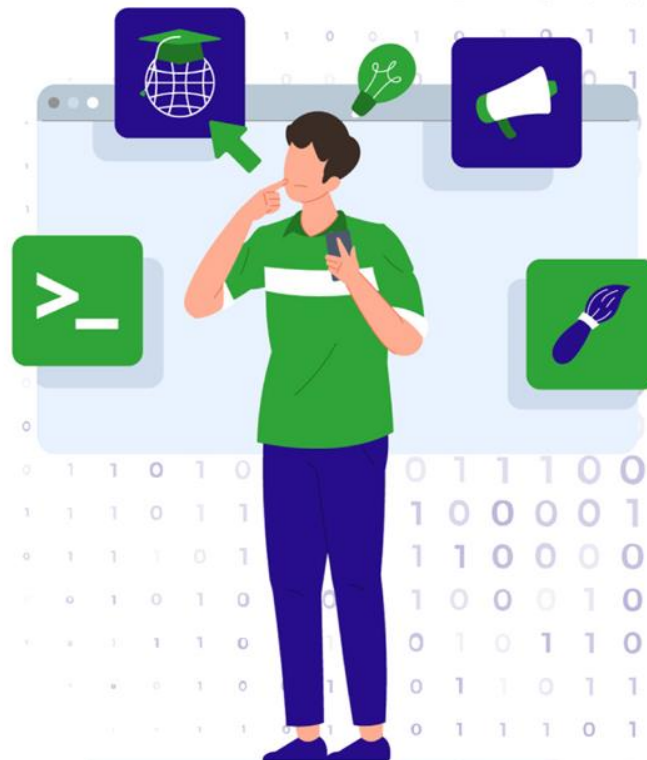How useful do you find health online services?

Test your knowledge to find out.

Thank you!

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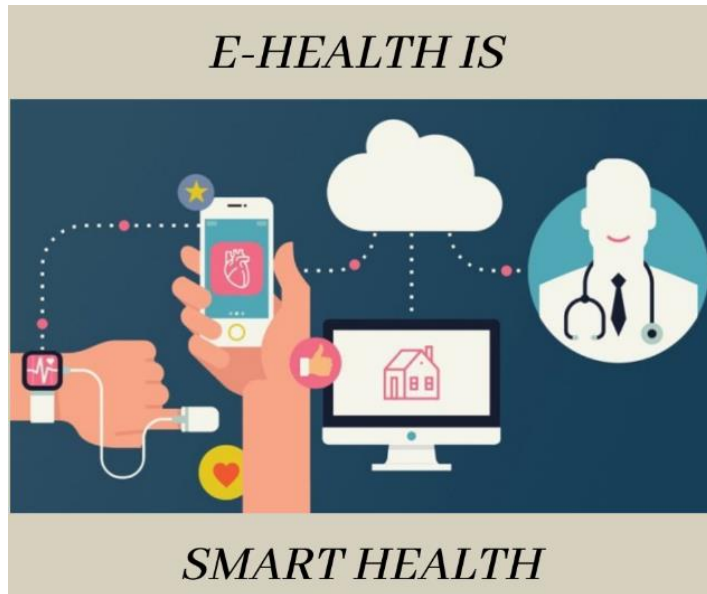
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E-health

How technology changes the way we manage our health

Lesson 3.
The importance of online services in e-health

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E-HEALTH IS SMART HEALTH: Current Technologies and Services

Five reasons that e-health is a smart health for patients:

- ✓ Improves access to medical records
- ✓ Reduces costs
- ✓ Increases quality
- ✓ Provides personalized medicine
- ✓ Enables managing and tracking health and wellness activities efficiently.

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Benefits of using e-health services

1. **Improved patient monitoring**

Communication is easier with this new digital channel, helping to bridge the gap between doctors and patients. Technology also means the patient's condition can be monitored, and their progress can be recorded in real-time

Benefits of using e-health services

2. More informed patients

As patients, we can make better health decisions when we understand them and have the power to manage our own health. ICTs also provide access to guidebooks and best practices, which are very useful, for instance, during the pandemic if they come from reliable sources

Benefits of using e-health services

3. Encouraging healthier habits

New technologies are changing the way we look after ourselves with apps and devices that track what we eat, how much exercise we do, how long or soundly we sleep and how fast our heart rate is.

Benefits of using e-health services

4. Easier decision-making for healthcare staff
E-Health also transforms how professionals deal with diseases. ICTs can help, for instance, to identify optimal treatments more easily or detect illnesses at an early stage.

Benefits of using e-health services

5. More accessible and equal healthcare

Access to healthcare is no longer limited by time and space, which means avoiding unnecessary travel. Moreover, technology brings healthcare to more people, especially patients at risk of exclusion, which means equal opportunities for everyone.

Benefits of using e-health services

6. More efficient hospitals and health clinics

Connected facilities mean a streamlined health system, minimising the chance of human error and cutting costs.

Now let's see it in practice…

What is an E-health Profile?

It is an online document that brings together all the information about the health of an individual and can keep a person's helpers (family members, friends, doctors, etc.) up to-date about the person's health.
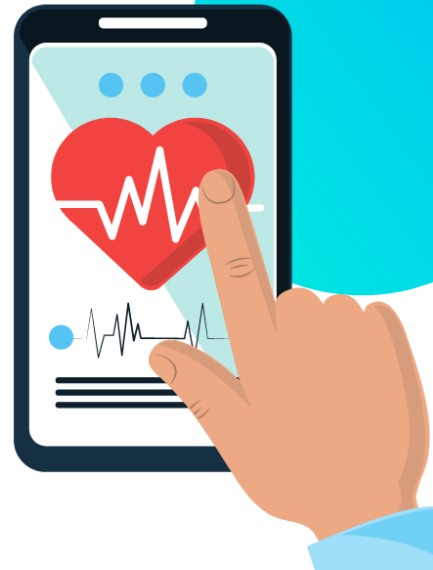
In class Activity 3: Set up your e-Health Profile

Why to set it up?

In order to maintain a good-quality monitoring that will identify problems and help you understand what caused them and what sort of changes are needed to address them.

- Get reminded whether you are high active or low active,
- Whether you are drinking enough water or not,
- Get reminded to take your medicine on time,
- track your daily steps and activity,
- Measure your blood sugar levels and other health related problems, etc.

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In class Activity 3: Set up your e-Health Profile

How easy is to set it up?

The following instructions will guide you to do so. Keep paying attention!

At the end you will be able to track and monitor your health data and receive reminder notifications about your medication(s).

These instructions are addressed to iPhone users

In class Activity 3: Set up your e-Health Profile

Are you an iOS user?

You can follow the instructions on the next slide ☺

Do you know how to set up your e-Health Profile?

PART A: SET UP YOUR E-HEALTH PROFILE

01. Open the Health app and find the Summary tab.

02. Tap your profile picture in the top right-hand corner.

03. Tap Health Details, then tap Edit.

04. Add your information, such as name, date of birth, age, sex, blood type, etc.

05. Tap Done.

Do you know how to set up your e-Health Profile?

Note I: You can also set up your Medical ID by adding medical conditions, allergies & reactions, or medications, or register to be an organ donor from your profile.

Note II: You can also add emergency contacts. Emergency contacts will receive a message saying that you have called emergency services when you use Emergency SOS. Your current location will be included in these messages

PART B: ADD INFORMATION ABOUT YOUR HEALTH

01. **Open** the Health app and **tap** the Browse tab at the bottom.

02. **Tap** a category, such as Medications.

03. **Tap** Add a Medication.

04. **Add** Medication Name and **tab** Next.

05. **Choose** the Medication Type and **tab** Next.

06. **Add** the Medication Strength i.e., mg, mcg, g, ml, %, and **tab** Next.

07. **Tab** Skip if you don't want to proceed with step 06.

08. **Add** frequency of Medication and tab Next.

09. **Choose** the shape of medicine or skip it, then tab Next.

10. **Review** your details and **add** any optional details or notes.

11. When you finish, **tap** Done.

Do you know how to set up your e-Health Profile?

❇️ *Congratulations! You did it!* ❇️

Did you have a hard time when setting up your Health Profile?

Do you think it is helpful? Why?

In class Activity 3: Set up your e-Health Profile

Are you an Android user?

You can follow the instructions on the next slide ☺

Do you know how to set up your e-Health Profile?

Step 1: Search for health and fitness applications on the Google Play Store and read reviews and descriptions to find one that suits your needs. Popular options include Google Fit, Samsung Health, MyFitnessPal, or Fitbit.

Step 2: Once you've decided on an app, tap the "Install" button on its Google Play Store page and wait for it to download and install on your Android device.

Step 3: Open the App and look for an option like "Sign Up," "Register," or "Create Account". Then, follow the on-screen instructions to provide the necessary information, such as your email address, username, and password.

Do you know how to set up your e-Health Profile?

Step 4: Once you've created an account or logged in, the app will usually guide you through the process of setting up your health profile. You may be asked to enter details such as your age, gender, height, weight, and activity level.

Step 5: If you have any compatible fitness trackers, smartwatches, or other wearables, you may have the option to connect them to the app. This enables more accurate data tracking and provides a holistic view of your health and fitness.

Step 6: Once you've set up your health profile, take some time to explore the app's features. Familiarize yourself with the app's interface and start using it to track and monitor your health progress.

Do you know how to set up your e-Health Profile?

❀ *Congratulations! You did it!* ❀

Did you have a hard time when setting up your Health Profile?

Do you think it is helpful? Why?

Thank you!

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