



University of Wales
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Use of Digital Technology for Health/ e-Health



Dr Ruzanna Gevorgyan
r.gevorgyan@uwtsd.ac.uk

Session Objectives

- To develop an understanding of how digital technology is used for health and in health and social care
- To learn the main aims of e-Health
- To discuss different types of Digital Health Services
- To analyse the advantages of using e-Health
- To identify the challenges posed by the use of e-Health

What is E-Health?

Digital health or e-Health is the use of the ICTs in the healthcare sector.

“WHO defines eHealth as the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research.”

Source: WHO. Available from: <https://www.emro.who.int/health-topics/ehealth/>

Task: Please share your examples of e-Health

Go to www.menti.com and use the code 6374 3979

Word Cloud



[illegible]

Key Aims of e-Health

- Educate populations/increase awareness/digital health promotion campaigns - e.g. <https://111.nhs.uk/>
- E-learning for health & social care professionals - e.g. knowledge HUB/training <https://www.e-lfh.org.uk/>
- Live professional help for staff and patients across countries- <https://www.healthhero.com/>
- Increase access to services- e.g. electronic prescriptions <https://digital.nhs.uk/services/electronic-prescription-service>
- Data collection and analysis e.g. Health data research Hub/Electronic Medical Records <https://www.hdr.uk.ac.uk/helping-with-health-data/health-data-research-hubs/>
- Patients access to hospital ratings and performance <https://www.cqc.org.uk/search/all?filters%5B%5D=services%3Ahospital&radius=all>
- Artificial Intelligence and Internet of Medical Things (IoMT): e.g. Labs, Surgeries, Patients Care

Digital Health Services: Telecare

Telehealth- increases access to people and brings healthcare closer to patients. It's a non-invasive monitoring service that offers remote support to elderly, disabled and vulnerable people who live alone in their own homes, thus keeping them safe at home without adding carers or residential care. It gives people independence and confidence, saves time, money and travel for both doctors and patients.



Digital Health Services: M-Health

Apps- using e-devices (mobile technology and communication tools such as smartphones, tablets, PDAs and wearable devices like smartwatches) to improve patients; access to health prevention, promotion, treatment and maintenance of health, information, and data collection. E.g. personal trainers, sleep monitors, diagnostic tools, apps for both healthcare professionals and patients.



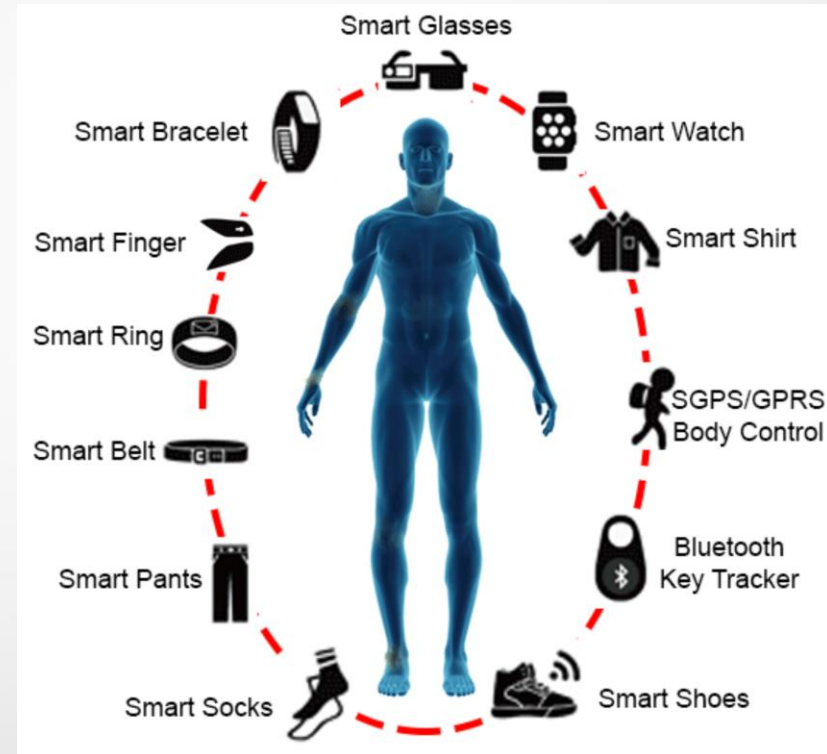
Digital Health Services: Simulation tools

Use of Simulations and gaming. The use of special developed video materials and simulations as a learning resource for healthcare professionals and students to enhance their learning and training, giving some practical skills. E.g. epidemiology
<https://www.sciencegamecenter.org/games/solve-the-outbreak>



Digital Health Services: Wearable technology

Wearable technology. This refers to smart clothing and accessories (e.g. wristbands, glasses and watches, etc.) aimed to monitor and collect information about the health, data on functions of the organs and physical condition of people.



Digital Health Services: Augmented Reality

Augmented reality. This can help health professionals to visualise organs in 3D, for example, or check a patient's record live data. It can even be used in surgical procedures with special headsets.

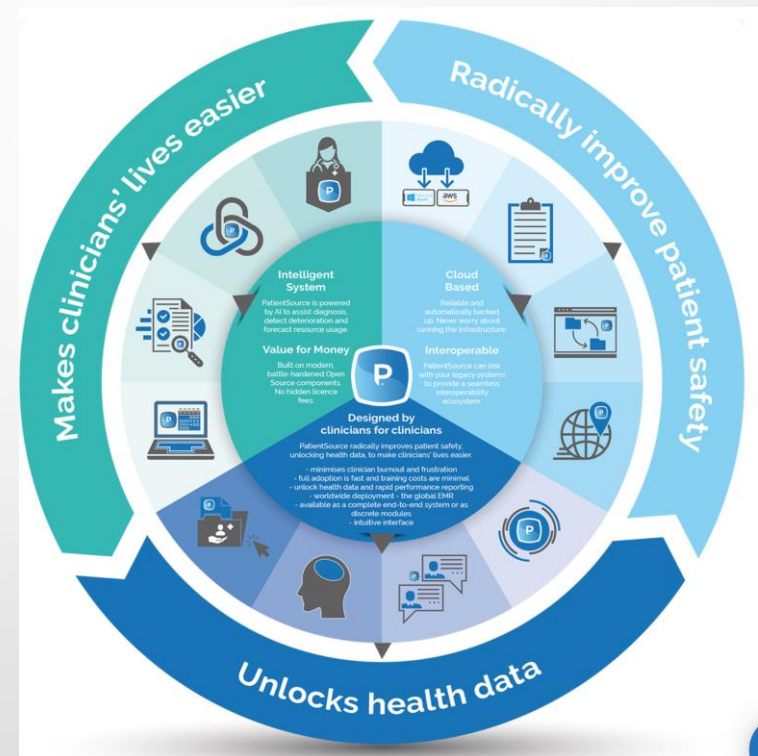
<https://anatomy3datlas.com/>



Digital Health Services: Electronic Medical Record Systems

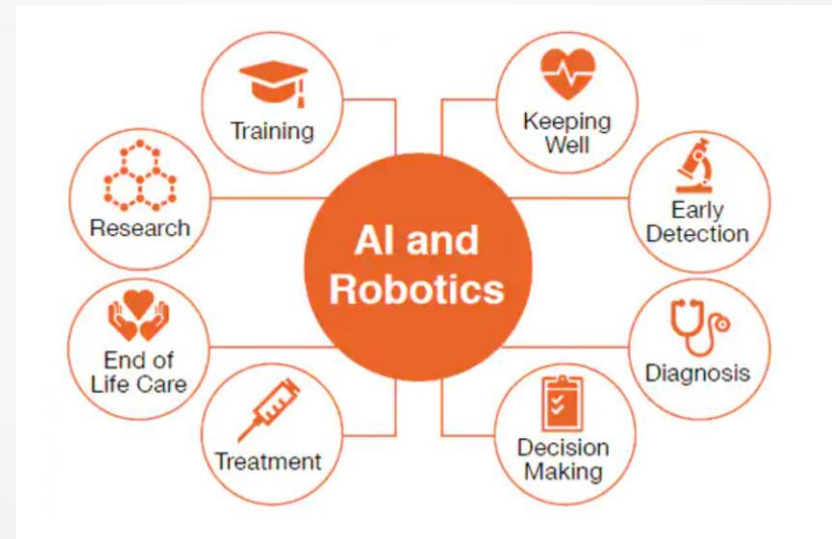
eHealth record. Information follows the patients and a digital health record can be stored in one place while healthcare staff can access it at any time and anywhere to decide on patients' health. Its designed to assure secure and reliable access to data and improve medical decision-making for the best possible care.

<https://www.youtube.com/watch?v=Gtl-cuwwqXQ>



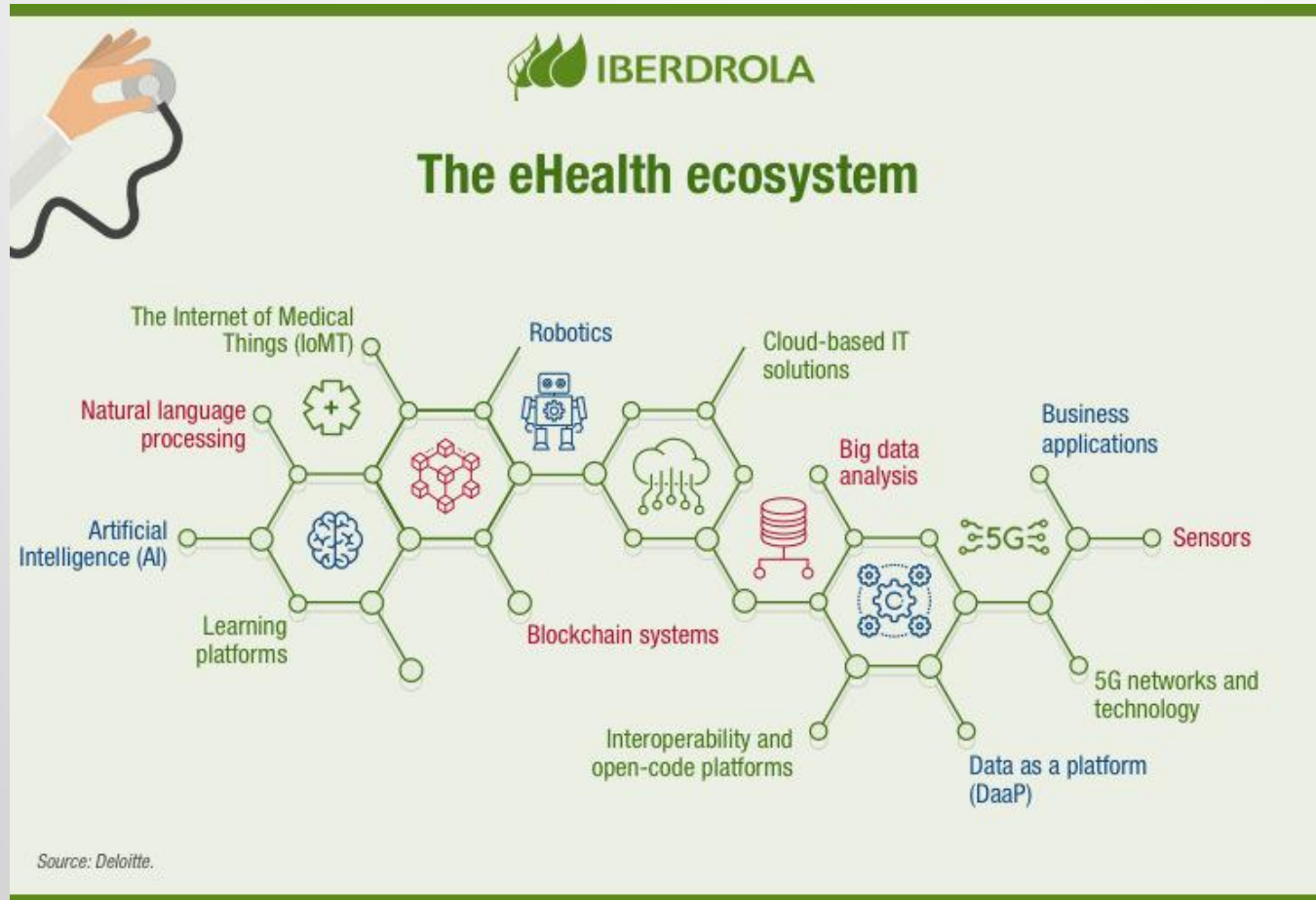
Digital Health Services: AI and Internet of Medical Things (IoMT)

AI and IoMT: Helps clinical decision-making and use of best practices. Technology is becoming more advanced and sophisticated at doing what humans do, but more efficiently, more quickly, and at a lower cost.



Discussion Activity

<https://www.youtube.com/watch?v=BRLPRCbuSx4>



Advantages of E-Health

- Awareness and self-care
- Management of long-term conditions
- Availability and accessibility of the services
- Efficiencies and cost savings
- Addressing loneliness and isolation
- Re-modeling the patient-doctor relationship
- Expanding the reach of health and social care professionals
- Leveling the platform

Key Challenges

- Lack of standards and regulations/quality control
- Training cost
- Cost of technology
- System organisation
- Legal challenges
- Privacy and security
- Implementation and acceptance
- Technical aspects
- Resistance to change

Discussion Activity

- Please watch the video:

<https://www.youtube.com/watch?v=gmZ61Ya-RVY>

- List the examples of the use of Digital Health discussed in the video.
- Share your own experiences using digital technology for health

Thanks & Questions?

