



Terminology Guide for Digital Health in 2021



Digital Health Terminology Dashboard

An aggregation of the most important digital healthcare terms you will hear in 2021 and their definitions

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Digital Healthcare (DH)

Connecting, empowering and supporting populations in the management of health and wellness through digital technologies.

Digital health connects and empowers people and populations to manage health and wellness. This is augmented by accessible and supportive provider teams working within flexible, integrated, interoperable, and digitally-enabled care environments. These environments strategically leverage digital tools, technologies and services to transform care delivery.

Source: [HIMSS 2020](#)



Telemedicine

Telemedicine is the remote administration of treatment.

Telemedicine denotes the administration of medical services from afar. Providers use telemedicine to consult with patients, conduct exams, and administer treatment. It allows for more frequent interaction between caregivers and patients, and can increase adherence to care plans. Some telemedicine services enable the monitoring of vital signs, which can be beneficial for patients with chronic disease. Those with limited mobility, or financial constraints can also benefit from telemedicine, as it eliminates the need for transportation to a medical facility.

Examples of telemedicine include periodic or continuous remote monitoring, interactive video and the domain of TeleRadiology.



Telehealth

Telehealth is the remote delivery of healthcare.

Telehealth is defined as the delivery and facilitation of health and health-related services including medical care, provider and patient education, health information services, and self-care via telecommunications and digital communication technologies. Live video conferencing, mobile health apps, “store and forward” electronic transmission, and remote patient monitoring (RPM) are examples of technologies used in telehealth.

The terms telehealth and telemedicine are often used interchangeably, but telehealth has evolved to encapsulate a broader array of digital healthcare activities and services.



eHealth

The use of ICT to support health and wellness.

eHealth is the use of information and communications technologies (ICT) in support of health and health-related fields, including health-care services, health surveillance, health literature, health education, knowledge and research.

Source: [WHO](#)



mHealth

Use of wireless devices for healthcare and personal wellness.

The use of wireless devices for healthcare or personal wellness comprises a cornerstone of connected health, known as mHealth. Any use of a mobile app, wearable, or other digitally connected piece of mobile technology is considered mHealth.

Many mHealth products and apps are devoted to providing the consumers the tools and quantitative data needed to facilitate personal wellness. Preventative health care services are popular, however mHealth can also be utilised to track and manage chronic conditions, check for symptoms of disease, and improve patient treatment and medication compliance. Telehealth apps accessible on mobile platforms fall into the “mHealth” category.



Electronic Medical Record (EMR)

Digital chart listing a patient's medical history.

Electronic medical records (EMRs) are a digital version of the paper charts in the clinician's office. An EMR contains the medical and treatment history of the patients in one practice. EMRs have advantages over paper records. For example, EMRs allow clinicians to:

- ▶ Track data over time
- ▶ Easily identify which patients are due for preventive screenings or check-ups
- ▶ Check how their patients are doing on certain parameters such as blood pressure readings or vaccinations
- ▶ Monitor and improve overall quality of care within the practice



Electronic Health Record (EHR)

Patient chart that focuses on the total health of the patient in addition to the medical history.

An electronic health record (EHR) is a digital version of a patient's paper chart. EHRs are real-time, patient-centred records that make information available instantly and securely to authorized users. While an EHR does contain the medical and treatment histories of patients, an EHR system is built to go beyond standard clinical data collected in a provider's office (Electronic Medical Record) and can be inclusive of a broader view of a patient's care. EHRs are a vital part of digital health and can:

- ▶ Contain a patient's medical history, diagnoses, medications, treatment plans, immunisation dates, allergies, radiology images, and laboratory and test results
- ▶ Allow access to evidence-based tools that providers can use to make decisions about a patient's care
- ▶ Automate and streamline provider workflow



Internet of Things (IoT)

A network of hardware and software that communicate with each other.

The Internet of Things (IoT) comprises the network of physical devices, vehicles, and other items embedded with electronics, software, sensors, and network connectivity which enable these objects to collect and exchange data.



Big Data

Datasets so large they require technically advanced applications and software to be managed and analysed.

Big data represents large volume, velocity and variety of data that surpasses the traditionally used amount of storage, processing and analytical power.

- ▶ Volume is indicative of the large amount of data
- ▶ Velocity indicates the speed or rate of data collection and making it accessible for further analysis
- ▶ Variety remarks on the different types of organised and unorganised data that any firm or system can collect, such as transaction-level data, video, audio, text or log files

Source: [Dash et al. 2019](#)



Artificial Intelligence (AI)

A computer doing a human thing...

The term "Artificial Intelligence" is applied when a machine mimics "cognitive" functions that are associated with human cognition, such as "learning" and "problem solving". AI has many subcategories due to the different manifestations of intelligence. Within the learning domain, "Deep Learning" and "Machine Learning" are the most present ones.



Machine Learning (ML)

A subset of AI; a computer is learning...

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it to learn for themselves.



Deep Learning (DL)

A subset of Machine Learning: A computer is learning in a specific way...

Deep learning is a type of machine learning (ML) and artificial intelligence (AI) that imitates the way humans gain certain types of knowledge. Deep learning is an important element of data science, which includes statistics and predictive modelling.

Common types of DL include:

- ▶ Supervised learning – labelled data (confidence scores included in ML to separate content according your labels)
- ▶ Unsupervised learning – no labels, providing dataset to computer to system and doing organisation without human interference. Clustering is usually the approach either by topic, colour, keyword, etc...



Cloud and Cloud Computing

Server containing applications, operating systems and databases that can be accessed via the internet.

"The cloud" refers to servers that are accessed over the internet, and the software and databases that run on those servers. Cloud servers are located in data centres all over the world. By using cloud computing, users and companies do not have to manage physical servers themselves or run software applications on their own machines.

Cloud computing is possible because of a technology called virtualisation. Virtualisation allows for the creation of a simulated, digital-only "virtual" computer that behaves as if it were a physical computer with its own hardware.



Blockchain

Irreversible blocks of data connected to each other that track and record information on the “movement” of assets.

Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.

Source: [IBM](#)



Data Mining

Automated extraction of information from large datasets.

Data mining is the process of collecting, searching through, and analysing a large amount of data in a database to predict outcomes. Using a broad range of techniques, the information can be used to discover patterns or relationships, increase revenues, cut costs, reduce risks and more

Source: [SAS Insights](#)



Smart Device

A gadget connected to a network and able to remotely interact with its user as well as other devices.

A smart device, is an electronic gadget that is able to connect to a network, share and interact remotely with its user and other smart devices. Some of the most commonly used smart devices are smartphones, tablets, phablets, smartwatches, smart glasses and other personal electronics with Bluetooth, infrared or internet connecting capabilities.



Wearable (DH context)

Technology worn on the body, which can provide information about the person wearing it or an environment.

Wearables are miniaturised technology intended to be worn on the body. They can provide information about the person wearing them or information about the person's surroundings.

Personal information could be anything from monitoring heart rate and ECG (electrocardiography), glucose levels, hydration, even migraines. Providing information about the external environment could include something like a food-based allergen sensor or even a fentanyl detector that could give you real time-information.



Virtual Reality

A simulation where a person can interact with an artificial 3D environment.

Virtual reality (VR) refers to a computer-generated simulation in which a person can interact within an artificial three-dimensional environment using electronic devices, such as special goggles with a screen or gloves fitted with sensors. In this simulated artificial environment, the user is able to have a realistic-feeling experience.



Digital Biomarker

A biomarker derived from the analysis of data.

A digital biomarker is a biomarker developed from data that are analysed using advanced analytics and AI to extract previously invisible insights.

The key defining elements of a digital biomarker include:

- ▶ Continuous and non-invasive collection of data via a digital device like a smartphone, voice recorder, camera, or any wearable device
- ▶ Using advanced analytics and AI algorithms to analyse the data – such analysis would not be possible via humans alone
- ▶ Extracting novel or previously invisible insights





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THANK YOU

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