



Working Party on Digital Health

## LEXICON

### Artificial intelligence<sup>2</sup>

An area of computer science that emphasizes the simulation of human intelligence processes by machines that work and react like human beings.

### Big data<sup>2</sup>

The emerging use of rapidly-collected, complex data in such unprecedented quantities that terabytes ( $10^{12}$  bytes), petabytes ( $10^{15}$  bytes) or even zettabytes ( $10^{21}$  bytes) of storage may be required. The unique properties of big data are defined by four dimensions: volume, velocity, variety and veracity. As more information is accruing at an accelerating pace, both volume and velocity are increasing.

### Chronic disease management services<sup>1</sup>

Chronic disease management services are designed to improve coordination and management of care for individuals with chronic conditions. Better tracking of health status, test results, and other parameters enables closer management and prevention of episodes of acute illness or decline in status. Information tracked over time supports individual care planning as well as program design, resource allocation and research on disease states, benefiting clinicians, administrators, managers and researchers.

### Decision support systems<sup>1</sup>

Decision support systems assist health-care providers in making diagnosis and treatment decisions. These systems combine an individual's current and historical health information with the health-care provider's knowledge, to provide advice intended to result in better quality care and outcomes for the individual.

For example, in the area of medication management, decision support tools draw on electronic knowledge sources, such as clinical practice guidelines and knowledge bases, and apply this knowledge to local patient and clinical data through expert rules to guide medications decision-making. Decision support systems, when coupled with a comprehensive and accurate base of patient information, are able to identify potential drug interactions, dosing inaccuracies and prescribing errors that could lead to serious adverse events.

## Digital divide<sup>2</sup>

Refers to the gap between demographics and regions that have access to modern information and communications technology and those that do not or have restricted access. This technology can include the telephone, television, personal computers and the Internet.

## Digital health<sup>2</sup>

The field of knowledge and practice associated with the development and use of digital technologies to improve health. Digital health expands the concept of eHealth to include digital consumers, with a wider range of smart-devices and connected equipment. It also encompasses other uses of digital technologies for health such as the Internet of things, artificial intelligence, big data and robotics.<sup>5</sup>

## Distance learning for health professionals (eLearning)<sup>1</sup>

eLearning services comprise education and training in electronic form for health professionals. eLearning can improve the quality of education, increase access where learning resources are unavailable, or use new forms of learning. Examples of use include continuing medical education for doctors and nurses, and training on preventive services at the household level for community health workers. eLearning tools vary widely, and may allow interaction between the learner and instructor, access to digital libraries and online courses, networks to share experiences, or the use of mobile devices to access information to support delivery of care.

## e-Consultation

A virtual (via phone, email, or video) consultation between two medical professionals to obtain a second opinion. They may avert the need for a face-to-face visit between specialist and patient.

## e-Health<sup>2</sup>

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.

## e-Visitation

A virtual (via phone, email, or video) consultation between a medical professional and patient (and/or their caregiver, for delivery of health care.

## Electronic health records (EHRs)<sup>1</sup>

An EHR is a computerized health record used to capture, store, access and share summary information for a patient between health-care organizations and providers. Examples of information include demographics, medical history, medication and allergies, immunizations, discharge summaries and other summary information. Typically, EHRs are developed to support the provision of care across health-sector or geographical boundaries. They may also be used by individuals and their caregivers to take a more active role in the management of their own health.

## Electronic medical records (EMRs)<sup>1</sup>

An EMR is a computerized medical record used to capture, store and share information between health-care providers in an organization, supporting the delivery of health services to patients. EMR systems may stand alone or may be integrated with other information systems in a health services organization. They function as the legal record created during the provision of care to the patient.

## Electronic medication services<sup>1</sup>

Electronic medication services benefit health-care professionals and the general public. Services such as electronic prescribing allow the electronic transmission of prescription information from the health professional to the pharmacy, reducing medication errors and replacing paper-based systems. Online (Internet) medication purchase from certified pharmacies can reduce cost and improve convenience and access to medications.

## Health data<sup>2</sup>

The systematic application of information and communications technologies, computer science, and data to support informed decision-making by individuals, the health workforce, and health systems, to strengthen resilience to disease and improve health and wellness. It includes all data pertaining to the health status of a data subject which reveal information relating to the past, current or future physical or mental health status of the data subject. This includes information about the natural person collected in the course of the registration for, or the provision of, health care services to that natural person; a number, symbol or particular assigned to a natural person to uniquely identify the natural person for health purposes.<sup>6</sup>

## Health data<sup>2</sup> (earlier version)

The systematic application of information and communications technologies, computer science, and data to support the record in electronic or other formats describing or illustrating the physical or mental health, reproductive outcome, quality of life, provision of health services, causes of death of an individual or population.

## Health information systems<sup>1</sup>

Health information systems facilitate gathering, aggregating, analyzing and synthesizing data from multiple sources to report on health situation and trends (disease burden, patterns of risk behavior, health service coverage and health system metrics). Countries may have in place one or more health information systems supporting reporting on diseases or programs. They may also have HIS strategies aimed at improving decision-making, policy development, health services management, response to emerging threats and better allocation of health resources.<sup>4</sup>

## Health information systems<sup>2</sup>

A system that integrates data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services.

## Health knowledge resources<sup>1</sup>

Health knowledge resources encompass those services that manage and provide access to trusted information to support health-care providers and individuals. Resources include international electronic journals and resource collections, national electronic journals, and national open

archives.

## ICD-11<sup>2</sup>

The International Classification of Diseases 11th Revision (ICD-11), together with the other members of the WHO Family of Classifications and Terminologies (WHOFIC) serves semantic interoperability in all relevant areas of health information for clinical documentation as well as for statistics, at an individual level, for research and public health, across time and settings. The content coverage includes diseases, injuries, drugs, tumors, incidents, safety, devices, anatomy, infectious agents, interventions, functioning, and more. The digital structure and level of granularity enable big data and processing for decision support, in addition to traditional statistics.

## ICPC<sup>9</sup>

The **International Classification of Primary Care (ICPC)** is a classification method for primary care encounters. It allows for the classification of the patient's reason for encounter (RFE), the problems/diagnosis managed, primary or general health care interventions, and the ordering of the data of the primary care session in an episode of care structure. It was developed by the WONCA International Classification Committee (WICC) and was first published in 1987 by Oxford University Press (OUP). A revision and inclusion of criteria and definitions was published in 1998. The second revision was accepted within the WHO Family of International Classifications

## Infodemic<sup>2</sup>

An infodemic is an acute outpouring of information, including potentially misleading or inaccurate information that, in a digital, hyper-connected society such as the present one, is likely bound to accompany every epidemic or acute health crisis.<sup>7</sup>

## Interoperability<sup>2</sup>

The ability of different applications to access, exchange, integrate and cooperatively use data in a coordinated manner through the use of shared application interfaces and standards, within and across organizational, regional and national boundaries, to provide timely and seamless portability of information and optimize health outcomes.

## Mobile health (mHealth)<sup>1</sup>

mHealth describes services and information provided through mobile technology, such as mobile phones and handheld computers. mHealth has emerged rapidly in developing countries as a result of the large penetration of mobile phones and the lack of other, modern health infrastructure.

Examples include the use of mobile devices for:

- ▶ data collection for surveillance and public health (e.g. outbreak investigation)
- ▶ real-time monitoring of an individual's health
- ▶ treatment support, health advice and medication compliance
- ▶ health information to practitioners, researchers and patients
- ▶ health education and awareness programs
- ▶ diagnostic and treatment support, communication for health-care workers.

## Personal health records (PHRs) <sup>1</sup>

A PHR is a computerized health record created and maintained by an individual who is proactive in the management of her or his own health. The record can be private, or made available to health-care providers. PHRs can store a diverse range of information such as an individual's allergies, adverse drug reactions, chronic diseases, family history, illnesses and hospitalizations, medications, diet and exercise plans, and test results.

## Practice, patient and clinical management systems<sup>1</sup>

Practice, patient and clinical management systems refer to the computer systems that health-care organizations use to manage the delivery of care to individuals. These systems provide the ability to capture, store, access and share health information for patients during their care episode. These systems can also provide a broad range of health-care management and delivery functions for a health-care entity, such as diagnostics management, scheduling and resourcing management, clinical care management and reporting. Practice, patient and clinical management systems form one of the foundations required for collecting, recording and sharing electronic information across a country's health sector.

## Telemedicine (telehealth) <sup>1</sup>

Telemedicine supports the provision of health-care services at a distance; that is, the individual and health-care providers need not be in the same location. Telemedicine enables the delivery of safe and quality care to individuals living in areas with limited access to services. Examples of telemedicine services are provided below.

- ▶ Store-and-forward services involve acquiring medical data (e.g. images) and transmission to a health-care provider (e.g. doctor or medical specialist) for offline assessment and treatment recommendation. Examples include teleradiology and telepathology.
- ▶ Remote monitoring services enable health-care providers to monitor an individual's condition remotely, using technologies such as implanted devices and sensors with wireless or wired connections.
- ▶ Interactive services enable real-time interaction between an individual and her or his health-care provider through means such as telephone, web conference, video conference, and other forms of online and remote communication. Psychiatry and mental health services are classic examples.

Telecare services enable care and support to older individuals and those with special needs. This helps them to remain independent in their homes and increases their sense of connectivity with the broader community. Services include alerts (e.g. domestic accidents such as falls) and monitoring (e.g. vital signs, blood glucose, weight).

## Telemedicine (telehealth) <sup>2</sup>

The delivery of health-care services, where distance is a critical factor, by all health-care professionals using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and the continuing education of health-care workers, with the aim of advancing the health of individuals and communities.<sup>8</sup>

## References

<sup>1</sup> National eHealth Strategy Toolkit, (2012) WHO and ITU

<sup>2</sup> Global Strategy on Digital Health 2020-2025, (2021) WHO

<sup>3</sup> Wyber R, Vaillancourt S, Perry W, Mannava P, Folaranmi T, Celi LA. Big data in global health: improving health in low-and middle-income countries. Bulletin of the World Health Organization 2015; 93:203-208 (doi: <http://dx.doi.org/10.2471/BLT.14.139022>, accessed 18 December 2019).

<sup>4</sup> Health Metrics Network (HMN). Framework for Health Information Systems Strengthening: [www.who.int/healthmetrics/documents/framework/en/index.html](http://www.who.int/healthmetrics/documents/framework/en/index.html).

<sup>5</sup> This definition encompasses eHealth, in line with that in document EB142/20 on mHealth, noted by the Executive Board at its 142nd session (see document EB142/2017/REC/2, summary records of thirteenth meeting, section 2), which stated that “Today the term ‘digital health’ is often used as a broad umbrella term encompassing eHealth as well as developing areas such as the use of advanced computing sciences (in the fields of “big data”, genomics and artificial intelligence, for example)”

<sup>6</sup> Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), COM(2012) 11 final, 25 January 2012, 2012/0011 (COD) (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012PC0011&from=en>, accessed 7 October 2020).

<sup>7</sup> World Health Organization. Joint call for papers - Special issues on Infodemiology. 18 August 2020 (<https://www.who.int/news-room/articles-detail/joint-call-for-papers-special-issues-on-infodemiology>, accessed 7 October 2020).

<sup>8</sup> Telemedicine: opportunities and developments in Member States – report on the second global survey on eHealth. Global Observatory for eHealth series – Volume 2. Geneva: World Health Organization; 2010 ([http://www.who.int/goe/publications/goe\\_telemedicine\\_2010.pdf](http://www.who.int/goe/publications/goe_telemedicine_2010.pdf), accessed 7 October 2020).

<sup>9</sup> Wikipedia, [https://en.wikipedia.org/wiki/International\\_Classification\\_of\\_Primary\\_Care\\_Accessed\\_5.Aug,2021](https://en.wikipedia.org/wiki/International_Classification_of_Primary_Care_Accessed_5.Aug,2021)

Terms excluded from WHO Global strategy on digital health 2020-2025

- Appropriate use of digital technologies
- Blockchain
- Digital Hospital
- Digital public goods
- Digital trial
- Enterprise architecture
- IoT, Internet of Things
- Multistakeholder groups
- National interoperable digital health ecosystem