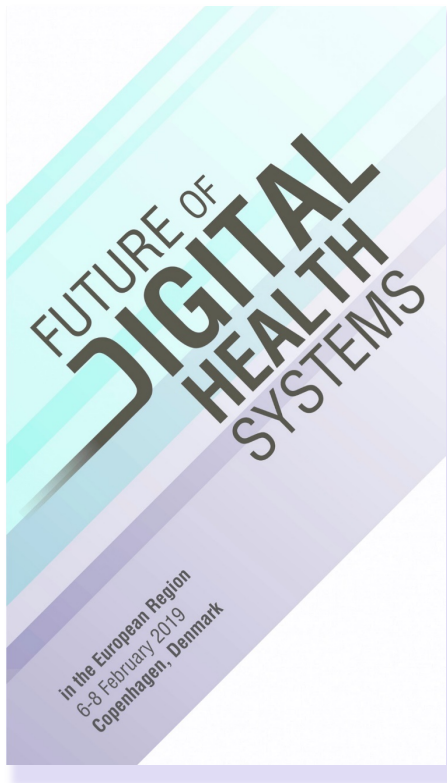# WHO Symposium FUTURE OF DIGITAL HEALTH SYSTEMS in the European Region.
6-8 February 2019 Copenhagen.

What you need to know about digital health Systems
(source WHO web site)

1) Digital health goes beyond the use of mobile and internet technologies
Today the term digital health often encompasses electronic health (health-related information, resources and services provided electronically) as well as developing areas such as advanced computing science (for example, big data – large volumes of data from different sources that can provide valuable insights into population health) and artificial intelligence (AI), wherein computer systems perform tasks that would normally require human capacities, such as decision-making.
The technologies that digital health draws upon include telemedicine, mobile phones and applications, wearable devices, robotics, virtual reality, AI and genomics – a discipline that uses the genome sequencing data of an individual to diagnose diseases.

2) Digitalization can help make health systems responsive and sustainable
Longer life expectancies, increasing numbers of people living with chronic conditions and rising costs of health care are putting pressure on health systems around the world.
Digital health technologies can improve access to health services, reduce costs, improve quality of care and enhance the efficiency of health systems. They can also provide opportunities for self-care. For example, remote monitoring devices and wearables help people better manage their own health, thereby reducing the burden on health systems and helping to make them more sustainable. Technologies that help people live healthier lives can also reduce costs for health systems.
Digital health innovations, particularly AI, can make health systems more effective and personalized. From detecting skin cancers early by analyzing moles to assessing someone's predisposition to certain diseases to developing medicines tailored to individuals, AI can have far-reaching impacts on health systems.

3) Digital health enables the transition from treatment to prevention
Digital health technologies offer ways to self-manage health, with a focus on preventing disease and illness rather than simply treating them. Digital devices are already helping to track heart rate and blood sugar. By alerting a person if they should visit a health-care provider, they can reduce expensive visits to emergency rooms. In providing ways to capture and use health-related information, these devices help people live healthier lives.

4) Digital health systems call for modified roles of health-care professionals
Digital health technologies can enable patients to receive care without physically going to a hospital or clinic. This means that health-care professionals will need to have the skills to use digital health tools, and to guide patients in understanding and using digital solutions to improve their health.

Digital health systems can empower and engage patients, making them co-designers of care. This shared decision-making between health workers and patients demands trust, a sense of partnership and transparency in their interactions. Health-care professionals become collaborators in a patient's journey to health, while still providing empathy and a human touch in support of patients' well-being.

5) Digitalization allows health-care professionals more time to practise medicine
People often ask whether digital health innovations, particularly AI, will make health-care professionals redundant. In fact, technologies such as AI will help to reduce health-care professionals' administrative burden and other repetitive aspects of their jobs, allowing them more time to do what they do best – practice medicine.
For example, digital solutions that automatically capture and analyze data can ease professionals' workload, giving them more time with patients and enabling them to achieve better treatment outcomes. Digital devices that help people follow their medication regime or post-operative protocol free up health workers to spend more time with individual patients when they need them. Digital health systems can also help deal with current and projected shortages of health-care professionals.

6) Digital health systems can help reduce inequalities in health
Telemedicine already offers remote medical services using information and communication technologies. It can serve people in isolated areas by providing access to medical services that may not otherwise be available or affordable.
Digital health systems can also make quality health information more accessible, promote health literacy, promote healthy behaviors and provide access to support networks for patients. All of these factors contribute to reducing inequalities in health.

Key ideas grabbed through the sessions of the symposium.
Bibliography enclosed

Digitalization is a tool to improve and support health system development.
Will change the way health services will be provided.
Right time right place.
IPCHS is enabled by digital health.
UN sustainable development goals agenda is related to support digitalization. WHO is committed and is taking action in digital health, supporting PC in particular.

Tackle challenges: who owns the data, regulations, who can use it, and how.
Future comes for itself, progress not: you have to push it.
Future will not be necessarily better, if we do not support change for a better future.
Focus on prevention, avoid becoming patients.
Gadgets to truckle our health, produce data on behavior.
From data to information, from information to knowledge.
From reactive healthcare systems to proactive ones.

Key ideas on what does it mean patients at the center
Data must follow patients.
Cross border solutions: not sending data (export) but access.
Security becomes a key element in this environment.
Technology will change jobs, not eliminate jobs: change to low skills jobs to high skills jobs.
Health workforce: reorganize to enhance technological capabilities: what workforce will do if now some of their activity can be done by machines.
AI helps to enhance health professionals' capabilities, no replace them.

Key ideas on what does it mean Connected care

Complicate processes can be standardized, complex processes require objectives and flexibility to adapt.

Outcomes that matters to patients not to the system.

Key ideas on Governance

eGovernance is a key element for digital ecosystems to move forward, much more than technology improvement or organizational issues.

Governance is determinant in enabling a right development of digital health systems.

Policy makers must address challenges in a coordinated way with all stakeholders that contribute to digital development, either public or private.

Governance is critical: balance between let the flowers bloom and lead their beauty.

Key ideas on how we foresee the future

Future: moving from Treatment to Prevention and, possibly to Prediction.

Pillars for moving forward: empower communities, different healthcare providers working together (network, collaborate, interact) to make effective PCHS (People centered health services).

It is not the same what is possible and what is really passing.

Out Invaders in healthcare sector: data we give to industry without regulation in place.

No decision about me without me.

Data at date!.

Data and evidence. It is not the same

The balance: people data-people rights.

Mindset: digital health=digital technology and genomic revolution, health, healthcare and society.

Three WORDS for the future: share, transparency, access

Key ideas on Artificial Intelligence

AI can predict the future.

AI more than meets the human eye!.

I-deal Health: promote facing risk. **It's all about individual risks**: discuss with the patient and make change tangible. Show practically that if you change risk factors you change outcomes.

None of us is average.

Algorithms are not impartial judges, **they are opinions embedded in codes**: model maybe right, decision may be wrong.

Collision: social values- financial reality

Key ideas about opportunities digitalization brings

From reactive to proactive healthcare, from **medical data to behavioral data, prediction.**

If Digitalization reduces costs (more for less) contributes to sustainability; improves accessibility; improves equity of healthcare systems. But we must prove that's this is so. Healthcare systems hate to change! The price of err is huge.

Risk of moving forward<<risk of status quo.

As long as you are riding the wave of change you will be in the main stream.

Digital health and **evidence -based healthcare**: the problem is that we don't now the question we should ask: it is about changing thinking culture.

Democratize data: if every body has access to the same data, if you have same data as policy makers, you can question the questions and the answers.

Pay for value (no activity) and shortage of professionals,… the delivery of care has to change.

Change of health model: from mass productions/population based to personalized medicine.

Digital strategy: improve connectivity and sharing to enhance doctor capabilities, **patients capabilities,** and **decision taking capabilities**

Key ideas about data, interoperability, standards
Data challenges: access, share good practices.
Human centered management of data.
MyData profile: we must be sure people control their data and get benefit from sharing them.
Initiatives all around Europe.
It is a big challenge and a great opportunity sharing data between different organizations, even private-public partners.
Data exchange and interoperability in Europe- a little less conversation, a little more action.
Interconnectivity
IPS uses, eStandards
Test and certify IT vendors if they use their standards: certification of IT systems.

Data: questions to analyze
- Ownership
- Access
- Usage

Be pragmatic: keep it simple!!!

What is it needed to create an ecosystem for digital health (infrastructure, policies, public service oriented?)
Based on the public interest… what is all about?
- Is about **everybody** in our society
- Is about **all type of services** for people.
- Is about taking care of people rightly, is about **benefit people** (quality of healthcare)

What is it building an ecosystem in that context?
- It is working against fragmentation of the system.
- It is about generate and share data.
- It is about univocal identification.
- It is about interconnect different IS.

Magic word: interoperability
- A digital ecosystem is also fragmented
- Must be a common shared strategy
- Duty of policy makers: create an interoperability framework for Digital Health. It is a duty of the governance, and even more if private partners get into the system.
- Data sharing: technical standards, formats, protocols, etc. and AGREEMENT (there's nothing new on earth).

Public interest in sharing Data: Interoperability, need to invest in interoperability systems.
New paradigm: from SEND DATA to SHARE DATA
Standards and data exchange:
- Consensus (slow but firm), to ensure multi-supplier strategy, because there is diversity and competition between providers which is important to maintain.
- Pilot projects: first, testing daily use, second pilot implementation in all relevant IT systems: demonstrate!
- National implementation, all relevant stakeholders (professionals, managers, providers, …)

Key ideas on mobile Health

mHealth: enabling individuals and health professionals, learning and improving healthcare processes process. It is accessibility and ubiquity.
Data that makes the difference, if helps to a better managed healthcare

Key ideas on CPP in digital health

CPP in digital health is mandatory.
From the public side: holistic approach, population health, impact on society, budget, philanthropic approach, broad knowledge
From private side: specialist system, knowledge, ability to scale, incentives on the economic part, experience in implementation, create jobs, value and possibly export.

Public: control the core... private sector must help to develop project around this core strategy.

Key ideas on the need to measure progress in digitalization.

Technology is the less important part to measure.
Functionality and usefulness, and results need to be evaluated
Condition, technology, value proposition, adopters

Digitalization as part of a wider challenge of implementation.
Digitalization also must support learning

Useful webs:
http://www.euro.who.int/en/media-centre/events/events/2019/02/who-symposium-on-the-future-of-digital-health-systems-in-the-european-region Here you will reach useful information about the symposium. Opening speech at the WHO Symposium on the Future of Digital Health Systems in the European Region

https://thl.fi/en/web/thlfi-en/research-and-expertwork/projects-and-programmes/nordic-ehealth-research-network-nern Norwegian Center for E-health Research, measuring progress in digitalization.
https://www.medcom.dk/medcom-in-english/about-medcom Danish Health Data Network, data exchange and interoperability.
https://www.oulu.fi/cht/   Centre for health and technology, University of Oulu
National Danish e-health portal https://www.sundhed.dk
https://www.himss.eu/about-himss/himss-international HIMSS Europe, promoting healthcare transformation thought digitalization. Healthcare Information and Management Systems Society.