



EU policy and the digital transformation in health care

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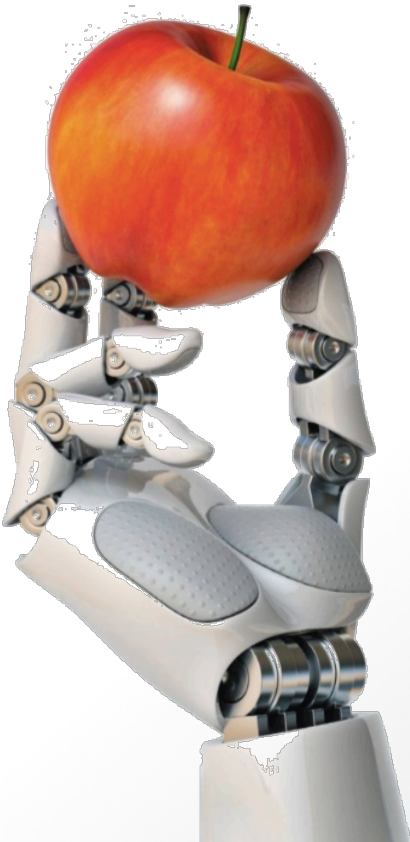
Health



"Virtually everyone who works in AI believes that machines will eventually overtake us"

NYU research psychologist
Gary Marcus 2016

Digital transformation of health



Hopes

- More **targeted** and personalised treatment
- Improved **diagnosis**
- Better **prevention**
- Greater **access** and less **inequalities**
- More **efficient** use of scarce resources...



'Gaps'

**to be
bridged**

**Integrating
digital
approaches**

**Keeping
pace**

funding

Responsibility

**Data (quality &
volume)**

Security

interoperability

**Integrating
training and
upskilling**

trust
liability



Doctors: key
links in the
digital
healthcare
chain



Doctors



Data



Patients

Machines

Digital Health and Care



TRANSFORMATION OF HEALTH AND CARE IN THE DIGITAL SINGLE MARKET - Harnessing the potential of data to empower citizens and build a healthier society

European health challenges

- ⊗ Ageing population and chronic diseases putting pressure on health budgets
- ⊗ Unequal quality and access to healthcare services
- ⊗ Shortage of health professionals

Potential of digital applications and data to improve health

- ✂ Efficient and integrated healthcare systems
- ✂ Personalised health research, diagnosis and treatment
- ✂ Prevention and citizen-centred health services

What EU citizens expect...



Support European Commission:

1 Secure access and exchange of health data



Ambition:

Citizens can securely access and share (e.g. with doctors or pharmacies) their health data anywhere in the EU.

Actions:

- eHealth Digital Service Infrastructure will deliver initial cross-border services (patient summaries and ePrescriptions) and cooperation between participating countries will be strengthened.
- Proposals to extend scope of eHealth cross-border services to additional cases, e.g. full electronic health records.
- Recommended exchange format for interoperability of existing electronic health records in Europe.



2 Health data pooled for research and personalised medicine



Ambition:

Shared health resources (data, infrastructure, expertise...) allowing targeted and faster research, diagnosis and treatment.

Actions:

- Voluntary collaboration mechanisms for health research and clinical practice (starting with "one million genomes by 2022" target).
- Specifications for secure access and exchange of health data.
- Pilot actions on rare diseases, infectious diseases and impact data.

3 Digital tools and data for citizen empowerment and person-centred healthcare



Ambition:

Citizens can monitor their health, adapt their lifestyle and interact with their doctors and carers (receiving and providing feedback).

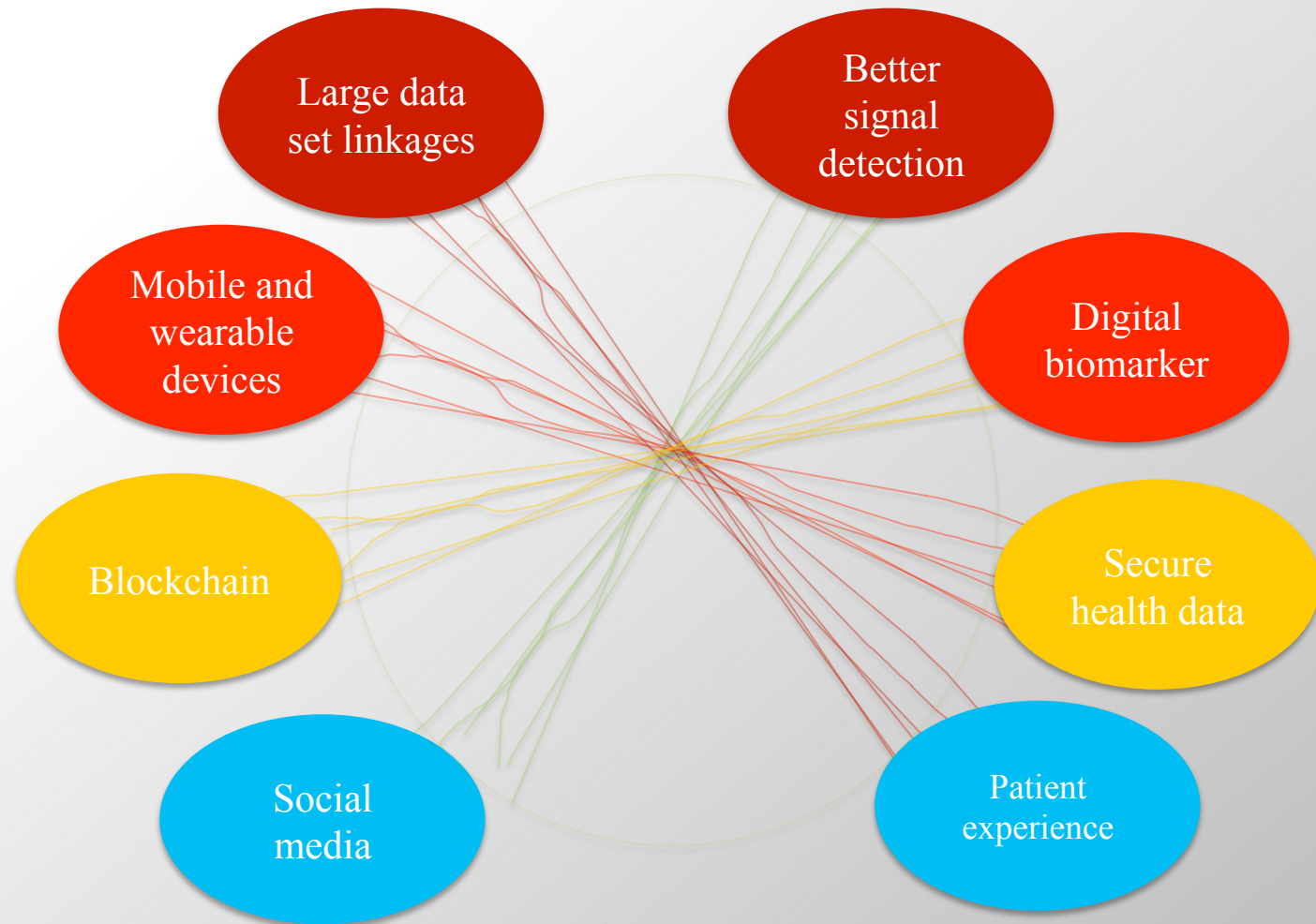
Actions:

- Facilitate supply of innovative digital-based solutions for health, also by SMEs, with common principles and certification.
- Support demand uptake of innovative digital-based solutions for health, notably by healthcare authorities and providers, with exchange of practices and technical assistance.
- Mobilise more efficiently public funding for innovative digital-based solutions for health, including EU funding.

Dots to
be
joined...

Other
examples:

Real World Data in
Pharmacovigilance



European Reference Networks



Digital consultation

**e-learning &
e-training**

Research

**Knowledge
generation**

**Share.
Cure.
Care.**



**26
COUNTRIES**



**24
NETWORKS**



**>300
HOSPITALS**



**>900
HEALTHCARE
UNITS**

Outcome call 2016



24



European
Reference
Networks



Networks

26 COUNTRIES



> 300
HOSPITALS

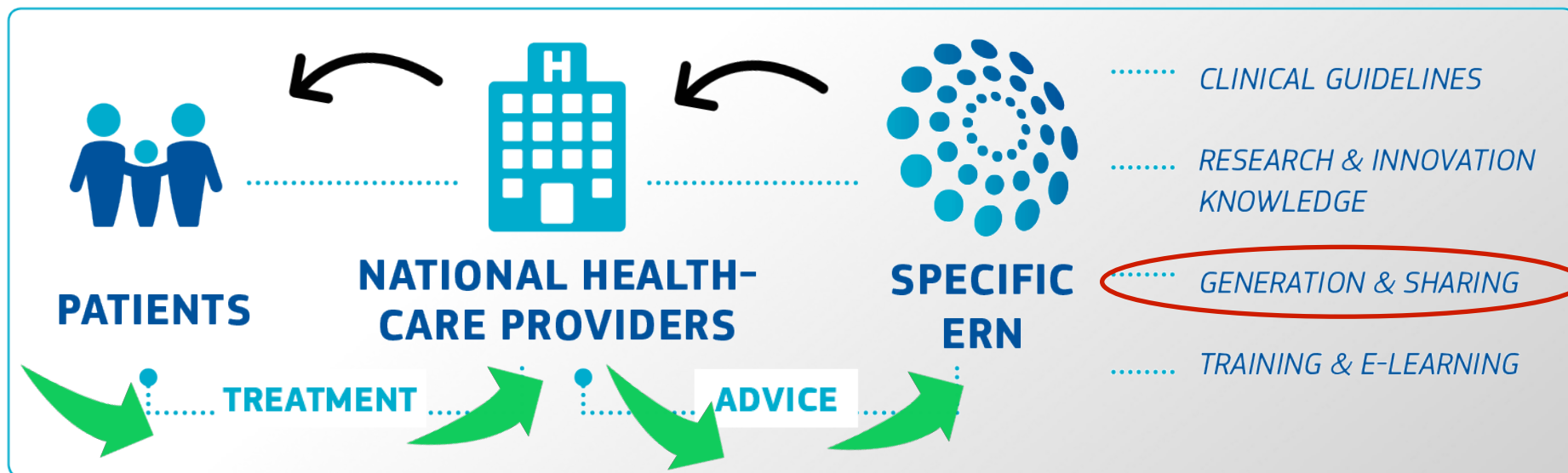
Full
Member



> 900
HEALTHCARE UNITS

Health

Share. Care. Cure.



**Clinical
virtual care**

Research

Knowledge generation

1 Mio Genomes

20

Signatures

1 Mio **genomes accessible** by
2022

Linking access to existing and
future genomic database across
the EU

Providing a sufficient scale for
new clinically impactful
associations in research

EU countries agreed to cooperate in linking genomic data across borders

THEY DID IT!

& more will too



EMA & HMA & BIG DATA



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Big Data taskforce

“Promote use of global, harmonised and comprehensive standards to facilitate interoperability of data”(p. 11)



**Training
and
upskilling**

**Need for needs
assessment**

**Need for curricula
update**

**Need to link to
clinical practice and
health systems**



**LIVER AND DIGESTIVE
SYSTEM CHECK-UP**

- Taking blood sample
- Ultrasonography
- Liver elasticity measurement
- Liver biopsy
- Consultation with the doctor

**Examples of
EU funding
for digital in
the
budgetary
period
(2021-27)**

ESF+

ERASMUS

**HORIZON
EUROPE**

**Digital
Europe**



"Well told and eye opening . . . I kept thinking, 'Exactly!' while reading it."

—Atul Gawande,
author of *Being Mortal*

THE DIGITAL DOCTOR

Hope, Hype, and
Harm at the
Dawn of Medicine's
Computer Age

R O B E R T W A C H T E R

