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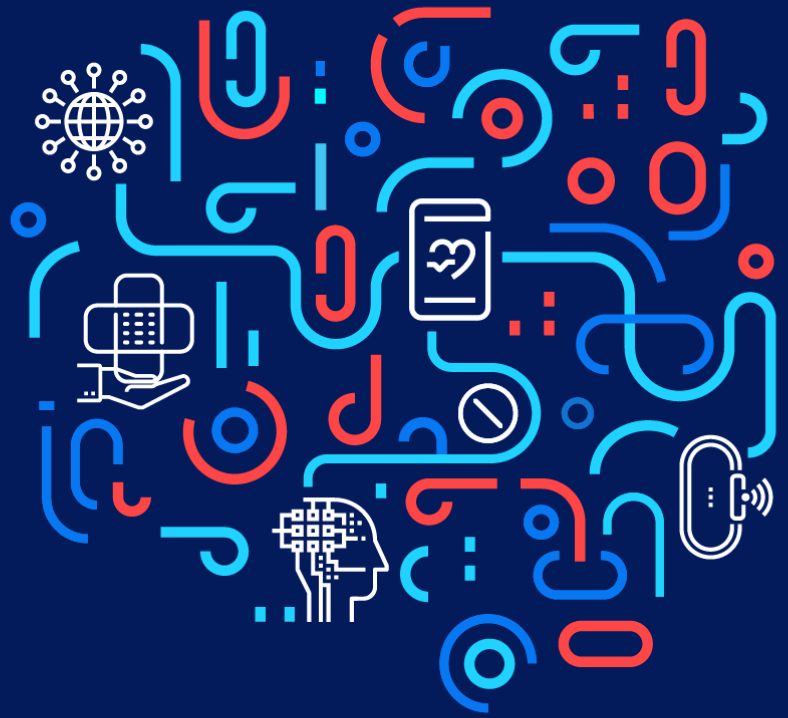
Public health – From reactivity to prevention



Sascha Marschang, Acting Secretary General

epha european public health alliance

Digital transformation in the area of health

17 – 19 November 2020 online conference

Overview

- What is EPHA?
- Changing the paradigm: From reactivity to prevention
- Current policy developments (EU/WHO)
- Importance of personal health data
- Digital solutions for improved (public) health
- Creating a sustainable digital health ecosystem

Who are we?

Representing the wider public health community

Voicing the Public Interest

- **Risk factors -** Alcohol, tobacco, nutrition...
- **Disease-specific -** Heart, lung, liver, cancer, diabetes…
- **Health professionals -** Doctors and specialists, nurses, pharmacists, CAM professionals, students, volunteers…
- **Patients**
- **Researchers**
- **Advocates for specific groups / issues:** e.g., children, patients, gender, homeless, migrants, Roma, older people, mental health…

From reactivity to prevention: The problem

- Only 3-5% of health budgets spent on prevention
- Many diseases / conditions are preventable, e.g.
  - +/- 30% of cancers
  - +/- 90% of type 2 diabetes
  - +/- 80% of cardiovascular diseases, incl. heart disease & stroke
  - Obesity
- Ageing population + general rise in chronic conditions, multi-morbidity
- Very costly : 700 billion EUR/year spent on treating NCDs, premature deaths
- Need interventions in many areas to address determinants of health
- Low patient engagement
- Persistent health inequalities across Europe
- Ad hoc introduction of digital tools: low uptake, data silos

Vision for eTransformation – European Commission

"Digital solutions can radically change the way health and care services are delivered - and help them **respond better to crises** like COVID-19.

They can improve **accessibility and communication**.

They can **empower citizens**, enabling them to actively participate in the management and monitoring of their own health.

They **bring health professionals together** to make more efficient use of knowledge and resources.

And they allow **better use of health data in research and innovation**, enabling stronger and more resilient health and social care systems .

And as we embrace the possibilities of a digital future,
we must always keep the human being in its centre."

EU Health Commissioner **Stella Kyriakides,** 2020 World Health Summit

Vision for eTransformation – WHO Europe

"It was clearly demonstrated that digitalization is challenging our understanding of how and where health care can be delivered and **is driving a transition to predictive and preventative models of care**."

"Digitalisation of health systems is not simply a notion of 'continuing what we're doing now, faster and more efficiently', but is **putting the individual at the centre of their own health and well-being**, addressing how the rights and consent of individuals can be respected and acted upon, **and harnessing the value of data for health**."

Dr Hans Kluge, WHO Europe RD

Eurohealth, No,2, 2019
commenting on *WHO Europe Digital Symposium*

Digital health: select key actions and legislation

European Commission

- European Health Union / lesson learnt COVID-19: data central to “next steps”
- Digital funding mainstreamed across MFF
- EU Strategy for Data
- Common EU Health Data Space (legislative proposal 2021)
- Ethical, human-centric EU approach to AI & robotics, guidance on apps
- eHealth Digital Services Infrastructure – MyHealth@EU
- European Reference Networks, 1+ million Genomes Initiative
- General Data Protection Regulation, ePrivacy, cybersecurity
- Digital Services Act

WHO

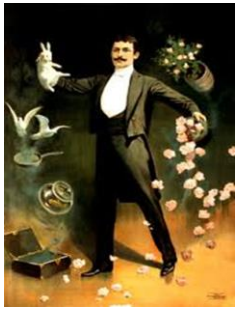
- WHO Europe Flagship initiative, “Empowerment through Digital Health”
- Global Strategy on Digital Health 2020-2025

[Fragmented] health data

- Healthcare system data, incl. GP records, hospital data, patient registries, etc.
- Electronic Health Records
- Behavioural data, self-generated or monitored
  - mHealth apps
  - Fitness trackers
  - Wearables, implants
  - Sensors
  - Medical devices
- Lab / testing data, incl. medical images
- ‘omics data, biobanks
- Social media entries
- Commercial data

The role of Artificial Intelligence (AI)

- **'Big Data' are too large for people to process and analyse**
  - AI / algorithms to simplify, structure, save time, lower costs, add value
  - AI isn't "magic" but part of everyday digital life



- **Without vast amounts of data there is no AI**
  - Important for predictive & preventative models
  - Developing a whole person view, throughout the life-course
  - Need algorithmic transparency / interpretability
  - Need human oversight / validation methods to **avoid bias & 'wrong' interpretation**
  - **Public health values** must drive future integration
  - Build up data/AI expertise *within* the healthcare sector

EU Health Data Space

- **Four main areas:**
  - Governance and rules
  - Quality of data
  - Infrastructure
  - Technical interoperability, capacity building and digital skills

- **Purpose?**
  - Foster collaboration & harness data for better healthcare, research & evidence-based policy making for the benefit of patients
  - Safe and secure access to health data across borders
  - Contribute to patient-centred care models to empower citizens and give them greater control to manage their own health

"Digital in All Policies"

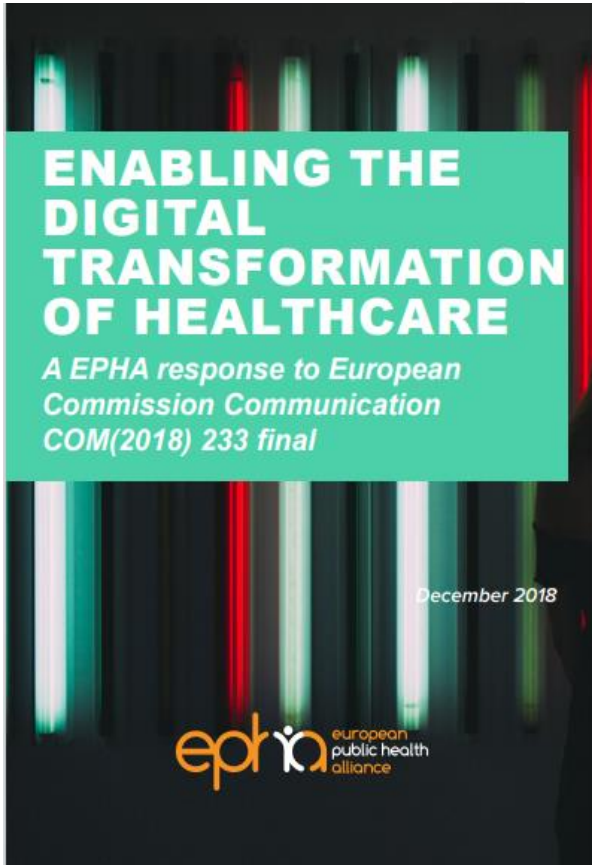
- **Health**
  - Europe's Beating Cancer Plan
  - Pharmaceutical Strategy
  - Pandemic preparedness & surveillance
- **Economic**
  - Health system strengthening & recovery
- **Agriculture**
  - Farm to Fork Strategy
  - Smart farming
- **Environment**
  - Green Deal objectives, including energy transition, carbon neutrality
  - Smart transport / mobility, urban policies
- **Governance / democracy**
- **Education**
- **eCommerce**
- **Trade**

The digital transformation is not daunting if everyone is invited to take part!

"**Meaningful involvement of end users** means establishing an effective co-creation process for digital health tools, in order to ensure that the development and implementation of digital health policy is driven by **actual health and practical needs of people**…rather than by the demands of the market."

EPHA paper, 2018

- Digitalisation as enabler for attaining Sustainable Development Goals & UHC



Digital solutions for improved (public) health

- **COVID as a 'gateway'**
  - Telemedicine accessibility & effectiveness
  - Epidemiological surveillance
  - Development of public health apps
  - Assessment of medical products (incl. vaccines)
  - Crisis communication

- **But also drawbacks…**
  - Disruption of life-saving treatments & interventions, e.g. cardiovascular, cancer
  - Disruption / unavailability of prevention services
  - Surge in mental health problems
  - Further marginalisation & stigmatisation

Protecting population health

Despite a number of teething problems and delays, coronavirus apps hold great potential:

- Crucial population health functionalities (e.g., DE app):
  - Tracing other users (via Bluetooth)
  - Symptom diary
  - Warning function (if contacts tested positive)
  - Risk assessment (e.g. proximity, length of encounter)
  - Recommended actions
  - Based on voluntary user participation / data entry

- Soon connecting 20 different national apps at EU level (6 right now)
- Providing accurate, real-time info (downloaded by 70 million+ EU citizens)
- Contributing to better preparedness / HS capacity
- Could help avoiding disruption to social & economic life

Tackling chronic diseases

- AI for diagnostics (e.g. skin / breast / lung cancers)
- Early detection of NCDs
- Prevention solutions (nutrition, physical activity, smoking cessation)
- Continuous, real-time checks of patient conditions
- Treatment / medicine adherence
- Info available 24/7, different formats, languages, personalised features

Example: diabetes management

- Facilitating crucial, time-sensitive, routine tasks
- Importance of daily monitoring
- Rare contact with HCPs

- Action 4:
  Elaborate a pan-European system for data collection, policy evaluation and accountability
- Action 6:
  Launch a “Health in All Policies” online policy portal

Other uses

- Mental health
  - Teleconsultations, incl. anonymous
  - Real-time interaction to fight depression, anxiety, addiction…
  - Overcoming stigma
  - COVID-induced stress & economic worries
  - Virtual reality, serious gaming

- Autonomous / independent living
  - Resignation, isolation, exclusion experienced by older people
  - Coordinating care plans with family, carers
  - Making it easier to see, speak, hear, identify objects, call for help
  - Remote monitoring
  - Ambient assisted living / robotics / domotics

Patients: Better healthcare experience

- Improved access, regardless of geographic location
- Easier communication with HCPs, other patients
- Better patient information
- Info / nudges / reminders re: prevention actions
- Patient safety: fewer medical errors, wrong diagnoses, adverse reactions
- Reduced waiting times
- Agency in disease management, active role in data collection & analysis
- Continuity of care
- Easier ordering / dispensing of medicines
- Options for personalisation, education

From ‘healthcare jungle’…. to peace of mind

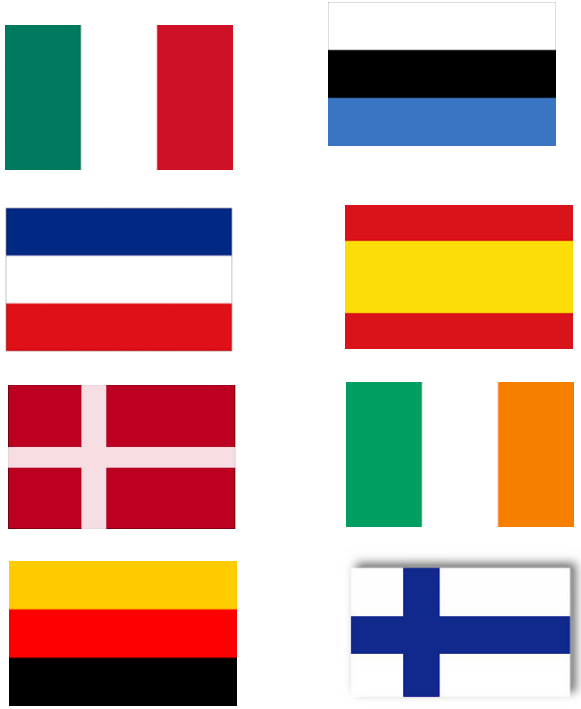
- What is my blood group?
- Who treated me and when?
- Which diseases did I have in my childhood?
- When did I get vaccinated & against what?
- What could this symptom mean?
- Where do I find health information?
- Where are my X-rays, medical images stored?
- What prescriptions did I receive?
- Who can I talk to about (…)?
- When is my next appointment?
- **What *can I do* to lead a healthier life?**

Health system strengthening

- Lower costs (fewer tests, faster diagnosis, less duplication, better treatments...)
- Integrating health promotion & prevention into primary care
- New care models
- Interdisciplinary teamwork & coordination
- Optimisation of hospital operations
- Reducing frontline workload (nurses / doctors / ICU)
- More time for patient contact & co-decision
- Remote treatment & monitoring
- Fewer emergency visits
- Better research
- Long-distance collaborations
- Better anticipation of epidemics

National examples: EU countries ‘on the move’

- Examples of digital health achievements
  - National Electronic Health Records
  - National health portals
  - ePrescription (e.g. EST-FIN)
  - Virtual digital care networks / hospitals
  - Health worker decision support systems
  - App libraries & app prescriptions
  - Providing patient access to digital health data
  - *Digital Healthcare Act* (reimbursement)



Remaining challenges

- Integration into national HS vs. legacy systems
- Interoperability standards for systems collecting data
- EU-wide compatibility (e.g., patient summaries, prescriptions, apps)
- Quality & granularity of data
- Data protection, privacy & consent issues
- Trust in solutions, providers
- (Digital) (Health) Literacy
- Validation, certification
- Skills gap (e.g. data analytics, algorithms)
- User-friendliness & availability of ‘entry points’
- Influence of non-health sectors

Creating a sustainable health ecosystem

Recommendations: Digital Ecosystems

- Embed healthcare into broader societal dialogue re: digitalisation of society
- Develop innovative procurement & investment options via MFF
- End user engagement: put patient/HCP needs at centre, involve them from design to implementation & evaluation, build up digital skills
- EU-wide, interoperable solutions combining data from different sources
- Protect & promote EU health values, patients' rights
- Communicate it better: data save lives!
- Ensure 'Nobody's Left Outside'
- [See also *UN Principles for Digital Development*]

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Thank you!

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