Public health – From reactivity to prevention

Sascha Marschang, Acting Secretary General

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
“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.”
“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/Al 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]
Thank you!

epra
European Public Health Alliance