# Making the link: mobile Health (mHealth)

POLICY PRÉCIS

This issue of Policy Précis takes stock of relevant EU policies and programmes relating to mobile health (mHealth) and the significance for health inequalities. It also looks at best practice and how progress can be made.

The Situation

mHealth is referred to as "medical and public health practices supported by mobile devices"[1]. Mobile devices can now be used to monitor, record, analyse, alerts and communicate health information to reach people and professionals remotely. It may deliver behavioural interventions to support individuals to start, reinforce or reduce specific health behaviours. mHealth has the potential to increase accessibility and to contribute to a more person-focused healthcare system, support shifts towards prevention, and improve system efficiency.[2] It could also contribute to making access to healthcare more equitable.[3]

However technical and literacy skills differ greatly between social groups which, as well as issues related to privacy and security of data, could influence health equity adversely. Generational or socio-economic divides could constitute a risk for health inequalities: some older people may lack technical skills; affordability of appropriate mobile devices could also be an issue.[4]

Global revenues of mHealth
54.9% growth per year (2013 - 2018)
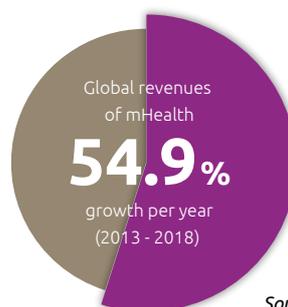
By 2018,
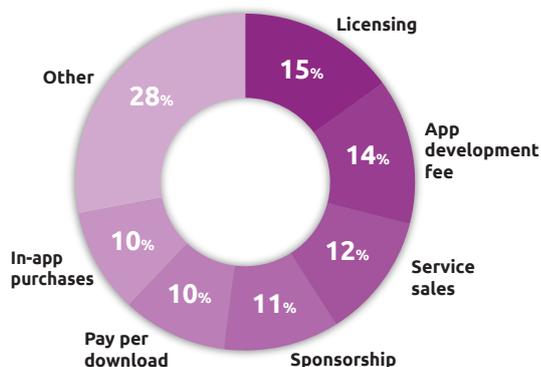**Europe will be the largest mHealth market**
worth EUR 5.9 billion

Source: Deloitte (2015) Connected health, p. 2

mHealth applications depend on a number of non-traditional health actors, such as manufacturers, telecom operators and internet search engines.[5] The greatest source of revenue is licensing, i.e. allowing another party to use, modify, or resell property (i.e. data) in exchange for compensation.[6] The business models and beneficiaries of mHealth advances may be disruptive for quality and continuity of health and care systems.

… will sensors we wear on our body enable us to detect cancer at an earlier stage … or will those technologies mainly help companies to increase insurance rates for those diagnosed with cancer?
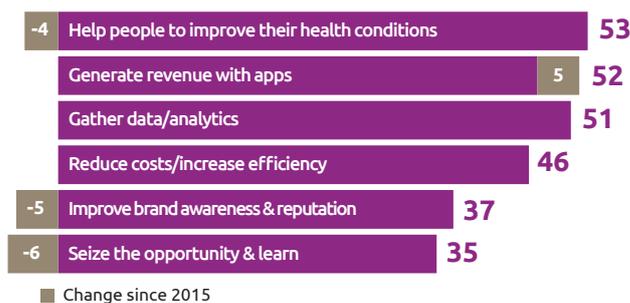
- European Parliamentary Research Service, 2017, Ten more technologies which could change our lives, p. 21

mHealth publisher's main revenue sources

- Licensing **15%**
- App development fee **14%**
- Service sales **12%**
- Sponsorship **11%**
- Pay per download **10%**
- In-app purchases **10%**
- Other **28%**

The mHealth publisher's goal when developing mHealth apps

Goal	Change since 2015	Value
Help people to improve their health conditions	-4	53
Generate revenue with apps	5	52
Gather data/analytics		51
Reduce costs/increase efficiency		46
Improve brand awareness & reputation	-5	37
Seize the opportunity & learn	-6	35

■ Change since 2015

Source: Research2guide, 2016, mHealth App Developer Economics 2016, p. 2-4

EuroHealthNet
EUROPEAN PARTNERSHIP FOR IMPROVING HEALTH, EQUITY & WELLBEING

EU Policies and Programmes

A "connected digital EU Single Market" is one of the top ten priorities of the European Commission (EC) in its 2018 Work Programme. For health systems planning at national and European levels, policy and practice momentum has been accelerating.

In 2014, the EC *Green Paper on mobile health*[7] and the accompanying consultation addressed data protection and security of health data, big data, interoperability, and reimbursement models etc. Safety and transparency were identified as key for mHealth uptake.[8]

The EC then launched several new initiatives:

❯ The *eHealth network subgroup on mHealth* has detailed strategies, activities and perspectives on mHealth in the Member States.[9]

❯ The *mHealth Hub* project aimed to foster research and innovation in the field, and to bolster policy-making efforts to implement mHealth strategies for the countries and regions involved.[10]

❯ The EC has been facilitating the *industry-led Privacy Code of Conduct for mHealth apps*. Intends to raise awareness of and facilitate compliance with EU data protection rules for app developers. Once approved, app developers can voluntarily commit to follow its rules, which are based on EU data protection legislation.[11]

❯ The *working group to draft mHealth assessment guidelines* has been established. It includes representatives of patients, health professionals, providers, payers, industry, academia, and public authorities.[12]

In mid-2017 the EC launched the *consultation on transforming health and care in the Digital Single Market*[13], which covers mHealth. This will feed into a Communication on the need and scope of measures on digital health and care in relation to personal data protection, patient rights, and electronic identification. (find EuroHealthNet's consultation response on our website). Headline indications from 1500 consultation responses, of which 90% supported an EU role in digital health, were that:

➥ The EC should develop quality data standards

➥ Digital records should be standardised

➥ Cross border support is needed for interoperability
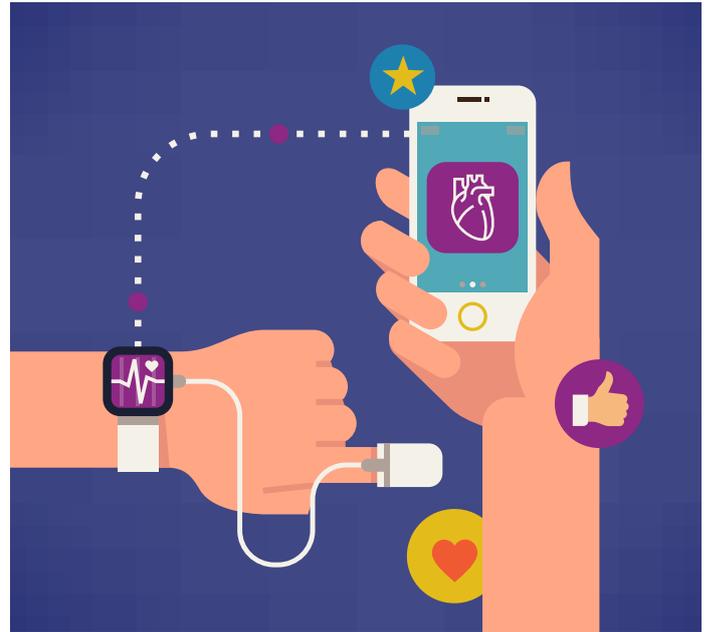
A *draft e-Privacy regulation* was also published by the EC in 2017 and is expected to enter into force in May 2018. The scope of the draft regulation has been extended considerably to apply to developers in other parts of the world, and it requires communication data to be anonymised or deleted, unless consent has been granted by the user.[14]

In autumn 2017, the Estonian Presidency of the Council of the EU prepared a "Declaration of the Digital Health Society" to feed into debates for Council Conclusions regarding the challenges related to digital health, within an overall EU Digital Strategy. Four Task Forces have been established open for informed authorities and organisations to participate:[15]

➥ Convergence roadmap on interoperability standards

➥ Citizen-controlled data governance and data donors

➥ Legal framework for free flow and secondary use of health data

➥ Digital transformation and change management in health and social care organisations

The European Innovation Partnership on Active and Healthy Ageing (EU EIP-AHA) is taking a proactive approach in stimulating innovations, investments and knowledge sharing of digital solutions for health and well-being for older people across Europe.[16]

Making It Happen

Members and associate members of EuroHealthNet are taking action, putting national policies into practice.

France

The **Tabac Info Service app** is a personalised solution for smokers who want to stop smoking or avoid relapse. It is developed with National Health Insurance support and is part of a new strategy by *Sante Publique* France. The smoker receives personalised coaching plus can manage weight and stress with expert advice, exercises and videos of relaxation and positive visualisation. A tobacco specialist can be contacted through the app if needed. Furthermore, users can see how stopping is benefitting their health and finances. Progress can be shared on Facebook, offering support from a Tabac Info Service community.[17]
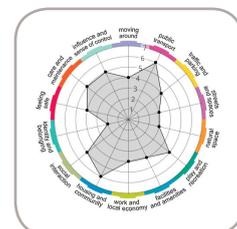
Wales

The *National Health Service Wales* launched the **One Drink One Click app** to offer the Welsh public an opportunity to 'stop and think' about their level of alcohol consumption and for people to take control of their own health by giving them the right information and tools to do so. Users are asked to input data on their level of alcohol consumption and will, based on this data, receive information on the number of units this contains and their level of health risk.[18]

Belgium

The *Vlaams Instituut Gezond Leven* (Flemish Institute for Healthy Living) launched an online platform and mobile app to strengthen the Flemish population's mental resilience. The **Fit in je Hoofd app (Fit in your Head)** will enable people to learn to feel in control. They are given tools to appreciate themselves, cope with stress and setbacks and they can get started in improving their resilience through ten tips.[19]

Slovenia

The **DrogArt app** (DrogApp) provided by the *Association DrogArt* is a part of an intervention for illicit drugs and alcohol, used mostly in recreational settings. DrogApp provides information about drugs and risks connected with their use, harm reduction advice, information about possible health complications and emergencies and basic first aid protocols in case of those emergencies. The app also provides alerts about highly dangerous substances or adulterants.[20] The intervention is especially targeted at young people. The objective is to reduce damage from drug consumption and help young people to set life goals and follow them.[21] The intervention also involves field work (in the night clubs and open air spaces), drug checking and counselling (web, via telephone and face-to-face).

Scotland

The **Place Standard app** is based on the Place Standard Tool (www.placestandard.scot), developed jointly by the *Scottish Government, NHS Health Scotland*, and *Architecture and Design Scotland*, which helps to structure the conversations between planners and communities to design healthy spaces and places. It allows the physical as well as social aspects of a place to be considered together. The tool has helped to minimise 'silo mentality' and contribute to better working across different disciplines. It has increased community engagement; the results have been used to support successful grant applications to improve areas.[22]

Pathways To Progress

In EuroHealthNet's REJUVENATE strategy leading towards modern, effective, sustainable and equitable health promotion approaches and health promoting systems by 2030, innovative digital and other technological advances play a key part.[23]

EuroHealthNet recommends:

> mHealth is a component part of the overall move towards digital markets generally and digital health in particular. They are innovative fields with considerable opportunities and risks; therefore applying **precautionary principles** can avoid costly and harmful threats to health equity.

> The disruptive nature of digital developments may conflict with the need for continuity, safety, quality, sustainability and equity of existing health and care systems, including health promotion and disease prevention. Therefore establishment of **transparent, reliable authorisation** and governance systems is crucial, including trustworthy information for all citizens.

> Universal access for all is of vital importance; addressing **literacy and digital technical skill levels, including digital and health literacy**, is necessary for citizens and professionals to avoid widening health inequalities within and between states and communities.

> Solutions need to be proven as **useful, usable and used**: if not, they should be discarded. For this, transparent, integrated monitoring and evaluation measures are critical. WHO has published various guides to assist mHealth implementation and preparation, with examples including sexual and reproductive health.[24]

> **Ensuring that health and care professionals as well as users are involved** in design as well as implementation of mHealth solutions is essential to ensure the high standard of quality of health and understanding of diverse needs, cultures, and ethics. Providers sometimes claim they need health professionals to acquire a better digital understanding.

> With the rise of new global and commercial actors in the digital health sector it is important to ensure protection of **cross-border patient and privacy rights**, personal data, **and electronic identification**. While new access to data can be transformational in tackling diseases and understanding specific needs of people, concerns about secondary and other uses of personal data need to be addressed before authorisation and implementation of apps, products and services.

> mHealth has a significant role in improving health care and prevention services, which is one of the 20 principles of the **European Pillar of Social Rights**. Employment and social consequences of digitalisation in health systems needs careful consideration.

> The **Sustainable Development Goals (SDGs)** provide multiple opportunities to promote mHealth as part of universal commitments to intersectoral actions. It can play an important role to ensure healthy lives and promote well-being (SDG Goal 3).

EuroHealthNet operates Thematic Working Groups (TWIGs) of its members and associate members, all of which are relevant for considering equitable digital health solutions, including: Non-Communicable Diseases (NCDs), Health Systems, Healthy Ageing and Mental Health.

www.eurohealthnet.eu for all source information and links to our work in these fields.

This EU co-funded Horizon 2020 research project, co-ordinated by EurohealthNet, is studying how our current lifestyles may be transformed sustainably. It aims to design, implement and test inter-sectoral initiatives to achieve healthier and more sustainable lifestyles. The growing INHERIT database includes examples of approaches involving mHealth:

> **Lifestyle e-coaching** > Applications aiming at changing health and/or sustainable behaviour.

> **Questionmark** > IT tools for consumers in the Netherlands on the nutritional value and sustainability of products purchased.

> **UrbanCyclers** > Cycling route planner app that may encourage people to cycle more.

FOOTNOTES

1. WHO (2014) mHealth – New horizons for health through mobile technologies, p. 6, available at http://www.who.int/goe/publications/goe_mhealth_web.pdf

2. Direito, A., Dale, L. P., Shields, E., Dobson, R., Whittaker, R., & Maddison, R. (2014). Do physical activity and dietary smartphone applications incorporate evidence-based behaviour change techniques?. BMC Public Health, 14(1), 1.

3. European Commission (2014) Green paper on mobile Health ("mHealth"), available at: https://ec.europa.eu/digital-single-market/en/news/green-paper-mobile-health-mhealth

4. Deng, Z., Mo, X., & Liu, S. (2014). Comparison of the middle-aged and older users' adoption of mobile health services in China. International journal of medical informatics, 83(3), 210-224.

5. EPRS | European Parliamentary Research Service (2017) Ten more technologies which could change our lives, In-depth Analysis (PE 598.626), available at http://www.europarl.europa.eu/RegData/etudes/IDAN/2017/598626/EPRS_IDA(2017)598626_EN.pdf

6. Research2guide (2016) mHealth App Developer Economics 2016, available at https://research2guidance.com/product/mhealth-app-developer-economics-2016/

7. European Commission (2014) Green Paper on mHealth, available at https://ec.europa.eu/digital-single-market/en/news/green-paper-mobile-health-mhealth

8. European Commission (2017) Digital Single Market: mHealth, available at https://ec.europa.eu/digital-single-market/en/mhealth

9. European Commission (2016) 10th meeting of the eHealth Network (Brussels, 21 November 2016): https://ec.europa.eu/health/ehealth/events/ev_20161121_en

10. European Commission (2017) WHO - ITU mHealth Hub in EU: http://cordis.europa.eu/project/rcn/208492_en.html

11. European Commission (2017) Code of Conduct on privacy for mHealth apps has been finalised: https://ec.europa.eu/digital-single-market/en/news/code-conduct-privacy-mhealth-apps-has-been-finalised

12. European Commission (2017) Report of the Working Group on mHealth assessment guidelines: https://ec.europa.eu/digital-single-market/en/news/report-working-group-mhealth-assessment-guidelines

13. European Commission (2017) Public consultation on Transformation of Health and Care in the Digital Single Market, available at https://ec.europa.eu/info/consultations/public-consultation-transformation-health-and-care-digital-single-market_en

14. European Parliamentary Research Service (2017) Reform of the e-Privacy Directive (PE 608.661), available at: http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608661/EPRS_BRI(2017)608661_EN.pdf

15. Estonian Presidency (2017) Estonian Presidency invites stakeholders to take part in the consultation of the Digital Health Society Declaration, available at https://www.eu2017.ee/news/insights/estonian-presidency-invites-stakeholders-take-part-consultation-digital-health

16. European Innovation Partnership on Active and Healthy Ageing (2017): https://ec.europa.eu/eip/ageing/home_en

17. Santé Publique France (2016) Launch of the Smoke Free Month(s) operation: a new strategy for Public Health France, available at http://www.santepubliquefrance.fr/Actualites/Lancement-de-l-operation-Moi-s-sans-tabac-une-nouvelle-strategie-pour-Sante-publique-France

18. NHS Wales (2017) 'One Drink One Click' app launch, available at http://www.wales.nhs.uk/onedrinkoneclickapplaunch

19. Fit in je Hoofd, Goed in je Vel! (2017) Reinforce your resilience, available at https://www.fitinjehoofd.be/

20. PINS – peer intervention in nightlife settings project (2016) Mobile application DrogApp, available at http://www.connectingpins.eu/pool-of-knowledge/mobile-application-drogapp/

21. Click for Support (2015) Guidelines for web-based interventions in selective drug prevention; Research and assessment of web-based interventions in 13 EU-countries, available at http://www.clickforsupport.eu/sites/default/files/FinalSummary.pdf

22. NHS Health Scotland (2017) Place Standard process evaluation: learning from case studies in year one (p. 7), available at http://www.healthscotland.scot/media/1394/place-standard-process-evaluation_may2017_english.pdf

23. EuroHealthNet (2017) Call and commitment for action to take REJUVENATE forward 2017 – 2020: http://eurohealthnet.eu/publication/call-and-commitment-action-take-rejuvenate-forward-2017-%E2%80%93-2020

24. WHO (2016) Digital Health Innovations: http://www.who.int/reproductivehealth/publications/mhealth/digital-health-interventions/en/