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New Standards of Care

Digital Health Transformation in Europe – Recommendations are on the Horizon

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DigitalHealthEurope's work indicates the importance of the development and uptake of data-driven decision-support tools for better health and care delivery and policy-making. While European funding should further support and reinforce better collaboration in times of pandemics, plenty of non-communicable diseases will need to be supported by 'digital' and data.

☑ Key Points

- COVID-19 has acted as a real force for scaling-up use of digital health.

- Today, Europe is advancing its vision of digital health and care proactively.

- DigitalHealthEurope, a coordination and support action, has played an active role in supporting thinking and acting to facilitate digital transformation in health and care.

- Exciting developments include active twinning schemes between Europe regions and sites.

- Important current impacts include the way in which DigitalHealthEurope can act as an important platform for communication among people working towards the digital transformation of health and care.

- A set of potential recommendations is on the horizon: Areas already exist in outline.

COVID-19 and Digital Health

The COVID-19 pandemic, with its many variants, continues to threaten people around the globe. Yet one key benefit is that countries' responses to the pandemic have enabled a faster transformation of health and care systems through the use of digital technologies: this can be seen in Europe especially. There are many European digital tools increasingly used to fight the pandemic: at least six can be listed.

1. automatic testing and diagnosis;

2. a pan-European approach to the use of mobile applications and mobility data;

3. the use of Artificial Intelligence to speed up diagnosis of the virus;

4. the use of AI to improve the future treatment of patients;

5. the use of supercomputing technologies to analyse billions of combinations of the structure of the virus; and

6. the introduction of robotics in clinical settings to enable medical staff to minimise the risk of contagion.

By summer 2020, at least

65 DIGITAL SOLUTIONS

had been identified that support the fight against COVID-19.

European Vision of Digital Transformation

The digital transformation of health and care has the capacity to act as a key enabler to enhance health and care. It can help drive health and care systems to become more resilient, accessible, and effective in providing quality care for European citizens.

Well before the emergence of the threat of COVID-19, the European Commission and Member States identified three high-level policy priorities to advance the digital transformation of health and care in the European Union (European Commission 2018):

- Enabling citizens' secure access to and sharing of health data across borders,
- Providing better data to advance research, disease prevention and personalised health and care,
- Using digital tools for citizen empowerment and person-centred care.

These three trends led to a major European focus on the use of digital solutions as well as data.

Digital Solutions

Digital solutions can help tackle key challenges in the healthcare sector. Besides the very obvious difficulties in 2020-2021 emerging from the effects of a major pandemic, many other clinical and organisational examples have been flagged up. Illustrations include ageing; multi-morbidities; the rising burden of preventable non-communicable diseases; challenges related to neuro-degenerative and rare diseases; and health workforce shortages.

Digitisation can support the reform of health systems and their transition to new care models, centred on people's needs. It can also enable a shift from hospital-centred systems to more community-based and integrated care structures. New business models, in particular, are likely to be among the expected results.

Data

Health and care data could be used in new ways to help improve the functioning of Europe's healthcare sector. Currently, however, the use of health data is handicapped by many limitations. Among the several shortcomings, data is available in many forms which are not managed the same way in all European Member States or in national health systems. Data is often not available to public authorities, medical professionals, and researchers (to help them develop and deliver better diagnoses, treatments, or personalised care) or even to patients themselves. Its use is often dependent on technologies that are far from being interoperable. Many challenges arise from these difficulties with digital solutions and data.

Right now, European health systems lack key information to optimise their services. Health providers find it hard to ensure economies of scale that would lead to efficient digital health and care solutions and support cross-border use of health services. Market fragmentation and a lack of interoperability across health systems stand in the way of an integrated approach to disease prevention, care, and cure. European patients and citizens are not yet able to benefit from the operation of a digital single market in this area.

Despite this obvious fragmentation, many of the difficulties and challenges facing Member States in terms of their health and care systems are common to them all. If the problems were to be analysed and faced together, they could be addressed jointly. Certainly, Europe experiences common safety concerns in matters of public health where the competences are shared between the European Commission and the Member States (European Union 2012).

The European Commission is currently supporting cooperation among the Member States, for example, to improve the complementarity of their health services across borders, for example, in relation to the use of electronic health records (European Commission 2019). In close collaboration with the Member States, it could also, take action to stimulate innovation, economic growth, and the further development of the Digital Single Market in directions supportive of health and care.

DigitalHealthEurope's Support for Digital Transformation

DigitalHealthEurope is a coordination and support action. It is an initiative funded by the European Commission to facilitate concrete progress in the three chief policy priorities. They are the secure sharing of health data, health data use for secondary purposes like research, but also basically for citizen and patient empowerment.

The action provides comprehensive support to European digital health and care stakeholders on two levels. First, it delivers practical, on-the-ground support to large scale deployment of digital solutions for person-centred care. Second, it supports collaboration and knowledge exchange among stakeholders in order to elaborate and define policy recommendations and actions that can contribute to the priorities' further adoption.

Support for Large-scale Deployment of Digital Solutions for Person-centred Integrated Care

DigitalHealthEurope assessment has identified, analysed, and selected a number of successful initiatives which are highly impactful and replicable. Structured advice has been offered on European funding instruments and financing sources for advancing digital health topics. The project's activities are especially focused on a dedicated funding instrument called a twinning.

Support for Innovation Through Collaboration in Multi-stakeholder Communities

DigitalHealthEurope has facilitated the creation of a shared platform for multi-stakeholder communities. These communities have addressed the three European policy priorities, and

taken these priorities further in very concrete ways. With the help of associated experts and contributors, white papers, guidelines, and policy recommendations are all under development: digitalhealtheurope.eu/results-and-publications.

Together, these two DigitalHealthEurope activities are contributing to the development of a vision for the digital transformation of health and care, which will include solid advice and recommended actions. DigitalHealthEurope's activities are organised in a clear, structured way as illustrated in Figure 1.

DigitalHealthEurope's 25 Twinning Schemes

In total, 25 twinning schemes have been financed by Digital-HealthEurope. Their overall aim has been to spread the adoption of concrete solutions and digital approaches. Twinning is a mechanism that has been used to facilitate the further adoption and spread of successful digital health initiatives, thereby advancing the three policy priorities for the digital transformation of health and care. The DigitalHealthEurope twinnings

have involved more than 75 organisations from 20 countries committed to adopting digital health and care practices practices: digitalhealtheurope.eu/twinnings/dhe-twinning-results.

Descriptions of two twinning examples follow. One twinning was organised on a region-to-region basis. Another has been managed between a single institution in one country and adopters in several other countries. Each of the two originators is from a country holding the present or a soon-to-be upcoming presidency of the European Union. This implies that their progress is likely to see widespread public coverage across the continent.

AppSaludable – An Approach to Ensuring Safety and Quality in Mobile Health Apps

AppSaludable: (digitalhealtheurope.eu/twinnings/dhe-twinning-results/appsaludable) is a twinning scheme that addresses the challenges that arise from an ever-growing number of health applications being available to patients and citizens, often without vetting or quality
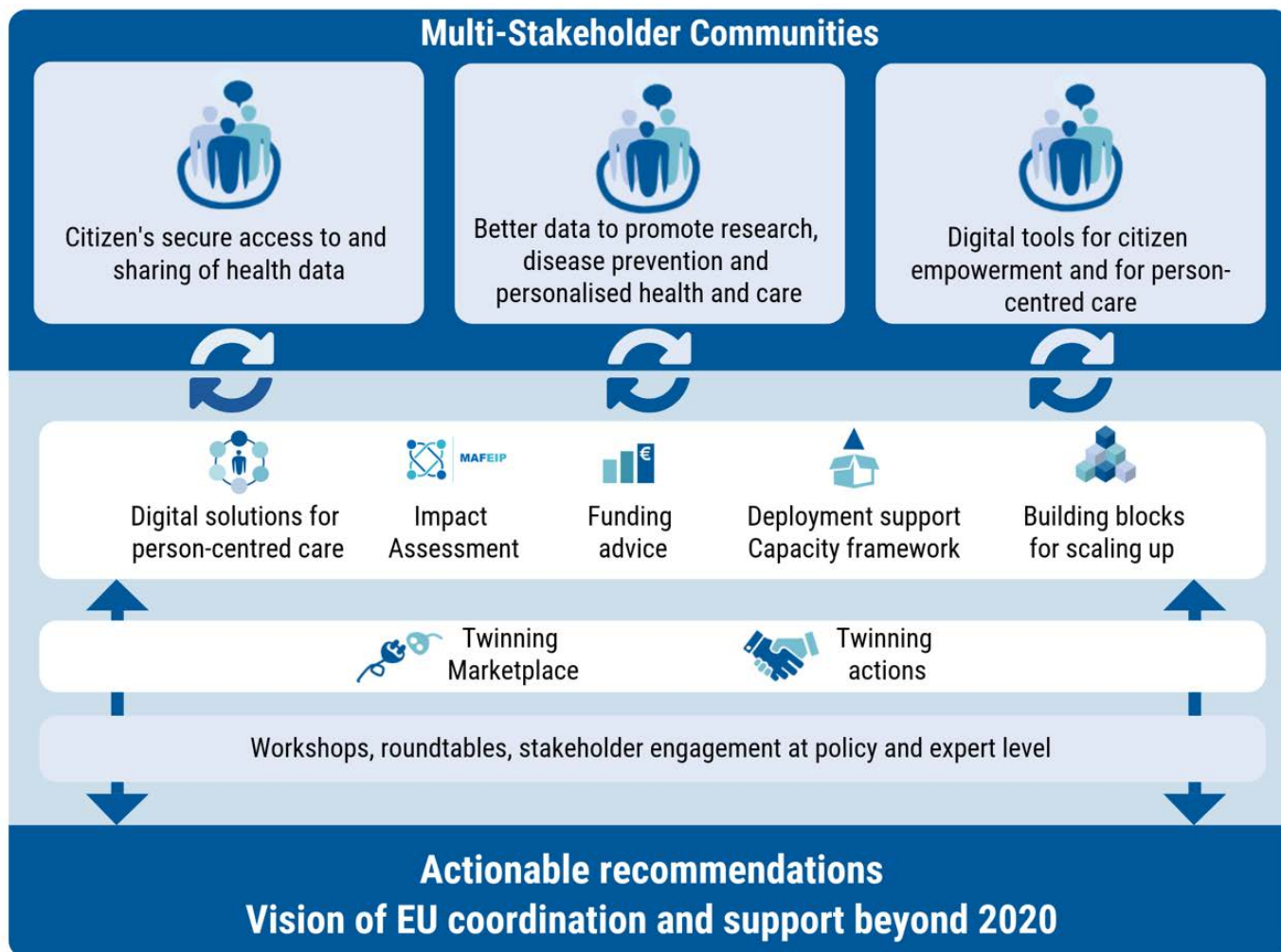

Figure 1 – DigitalHealthEurope's focus: Towards actionable recommendations digitalhealtheurope.eu/overview

control. As a result, governments and healthcare authorities need to ensure that their citizens can choose applications that are safe, secure, effective, and provide added value. The AppSaludable twinning has brought Andalusia in Spain together with Portugal.

The two partners have developed common requirements for mHealth app design, use, and assessment: (Digital Health Europe 2021a). Their approach has been based on the experience of the Andalusian Agency for Healthcare Quality (ACSA) and the Andalusian Public Health System. ACSA has taught the Serviços Partilhados do Ministério da Saúde (SPMS) of the Ministry of Health in Portugal about the AppSaludable model ("Safety and Quality Strategy in Mobile Health Apps").

DigitalHealthEurope's Outcomes From 2019 Onwards

DigitalHealthEurope has been extremely busy during the project's two years of operation. Many summaries of the policy directions followed by the project players can be read here (digitalhealtheurope.eu/results-and-publications). Examples include:
- Health data spaces and their future directions.
- Citizen and/or patient empowerment in digital health.
- The governance of digital health.
- The support for demand and supply in digital health.
- The role(s) of digital infrastructure.
- The role of industry in digital health and care.

Digitisation can support the reform of health systems and their transition to new care models, centred on people's needs

Developed by originator, ACSA, a decade ago, the model has been used as the basis for improving adopter, SPMS's own model, MySNS Selecção.

The recommendations resulting from the twinning are to be included in an updated version of MySNS Selecção's in order to ensure better value for the citizens and health professionals who will use the certified health apps. Today, the originator, adopter, and additional collaborators, are all interested in continuing their partnership around the use of mHealth apps.

REHAB-LAB-4ALL – Self-designed 3D printed assistive devices in Europe

The REHAB-LAB-4ALL (digitalhealtheurope.eu/twinnings/dhe-twinning-results/rehab-lab-4all) twinning scheme has focused on empowering patients with disabilities. It has encouraged people who are disabled to take part in developing everyday objects that take their disabilities into direct account. The twinning originator is the Centre Mutualiste de Rééducation et de Réadaptation Fonctionnelles de Kerpape (France). It has developed a 'first of its kind' fabrication laboratory ('fab lab'). The lab is based around the concept of enabling healthcare providers to work collaboratively with patients, producing three-dimensional printed assistive devices together. Kerpape has shared this participative approach with adopters from six countries: Belgium, Denmark, Italy, Romania, Spain, and Switzerland. A video discussing the scheme can be found here.

Many further twinnings funded by DigitalHealthEurope can be browsed online here.

These specific COVID-19 resources are also available:
- A catalogue of digital solutions for fighting COVID-19.
- Sixty-five good digital solutions selected practices on health and care.
- Support offered by the sequencing of 1+million genomes to preventative medicine.

DigitalHealthEurope's Practical Impacts

DigitalHealthEurope's has had important impacts as a platform for people and patients interested in health data spaces. DigitalHealthEurope has established itself as the go-to platform for stakeholders who want to share information, receive support, and learn about the digital transformation of health and care in Europe. Its website (digitalhealtheurope.eu) has had 18,000+ individual visits from people from almost 80 countries. There have been more than 3,700 unique downloads of DigitalHealthEurope resources. The initiative's Twitter account (@DHE_2020) has over 1,000 followers. Indeed, more than 500 subscribers receive regular updates of the DigitalHealthEurope Digest, a bi-monthly newsletter (Digital Health Europe 2020). In terms of sustainability, the plan is to maintain the project website beyond the project end, and to continue to offer a forum for the exchange of information about the digital transformation of health and care. Yet DigitalHealthEurope has even more to offer – Recommendations are next on the horizon.

DigitalHealthEurope's Future Recommendations

By September 2021, DigitalHealthEurope will lay out a set of potential recommendations for policy directions in the field of the digital transformation of health and care. A number of possible directions can already be foreseen, based around

discussions held in a series of expert workshops and round tables. Broadly, they relate to European Health Data Space(s); legal challenges in health data use; the use of health data by patients and citizens; and, last but not least, funding mechanisms to ensure better health and care.

European Health Data Space(s): The governance of a common European Health Data Space (or spaces) would enable safe and secure data sharing that empowers citizens, health authorities, and companies to share insights that follow the highest ethical and technical standards. Health-related industry

collaboration in times of pandemics. This may have many aspects. For example, it could include supporting digital preparedness; strengthening a coordinated approach among all stakeholders for the uptake and integration of digital solutions along the continuum of health and care; consolidating achievements in the fields of interoperability, telemedicine, and remote monitoring; and focusing on a common approach to mHealth quality and safety. Directions are likely to focus on the development and uptake of data-driven decision-support tools for better health and care delivery and policy-making.

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experts were consulted on this topic by DigitalHealthEurope: they called for such spaces to act as a centralised access point to data coming from multiple European Union countries. They suggested that the spaces could expand the market for the use of data for innovation, especially for small and medium-sized enterprises. Ensuring recommendations may well go in the direction of data governance rules, common principles, access agreements, and technical standards.

Legal challenges in health data use: In a DigitalHealthEurope focus group concentrating on the views of European and international lawyers, opinions indicated that legislation should focus on 'citizen protection' and not only on data protection. Laws should act as 'enablers'. The demand side in health and care has a right and a responsibility to request interoperability-friendly regulation(s) that would ensure 'bottom-up' conditions for data flow(s). Opinions expressed indicated that, in relation to interoperability and health data standards, an incentive structure is needed that would stimulate the use of data by the demand side.

Citizens' use of data: A DigitalHealthEurope focus group concentrating on the views of patients and citizens indicated that they want to combine the data in their electronic health records with their own self-management and lifestyle data. Participants emphasised the need for greater investment in digital and data health literacy to empower people and patients. They supported the use of people's health data to improve the quality of health services, for both public health and research purposes whether funded from public sources or industry.

Future Funding Mechanisms in Health and Care in Europe
DigitalHealthEurope's current work indicates that European funding should further support and reinforce better

While currently infectious diseases are the most urgent on the agenda, it is easy to see how there will be a build-up of the need to investigate and treat all those conditions and diseases which have lain untreated for several years. Cancer and mental health are potential areas of future focus.

Conflict of Interest
None. ◼

REFERENCES

Digital Health Europe (2021a) Common requirements for mHealth app design, use and assessment in Andalusia and Portugal thanks to DigitalHealthEurope twinnings. Available at: digitalhealtheurope. eu/news/common-requirements-for-mhealth-app-design-use-and-assessment-in-andalusia-and-portugal-thanks-to-digitalhealtheurope-twinnings/

Digital Health Europe (2020) The DHE Digest #1 is OUT! Available at: digitalhealtheurope.eu/news/the-dhe-digest-1-is-out/

Digital Health Europe (2021b) The REHAB-LAB innovative concept for designed 3D printed assistive devices successfully transferred to three adopters. Available at: digitalhealtheurope.eu/news/the-rehab-lab-innovative-concept-for-designed-3d-printed-assistive-devices-successfully-transferred-to-three-adopters/

European Commission (2018) Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society. Brussels: European Commission: digital-strategy.ec.europa.eu/en/library/communication-enabling-digital-transformation-health-and-care-digital-single-market-empowering

European Commission (2019) Commission Recommendation on a European Electronic Health record exchange format (C(2019)800) of 6 February 2019: digital-strategy.ec.europa.eu/en/library/recommendation-european-electronic-health-record-exchange-format

European Union (2012) Consolidated version of the Treaty on the Functioning of the European Union. Brussels: Official Journal of the European Union: C326/47-385 eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT.