DIGITALISATION: A MISSING CONNECTOR FOR HEALTH SYSTEMS IN EUROPE?

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Summary: Many European Union (EU) Member States implement digital health strategies, while the European Commission is working to strengthen the architecture of the European Health Union, with the EU4Health programme and European Health Data Space (EHDS) at the forefront. Although there are still many disparities in digitalisation, a new infrastructure for data exchange is emerging to connect health systems and data silos towards providing better access to health services, stimulating advances in medicine and life sciences, and supporting innovative solutions. However, this transformation must accelerate if Europe wants to ensure digital health sovereignty and create a modern, accessible and equitable health system based on democratic values and social solidarity.

Keywords: Digitisation, Digital Health, Connected Health, European Health Data Space, European Health Union

Background

The digitalisation of European health systems is maturing too slowly in order to improve efficiency, accessibility and quality of health services. Digital health has for years been seen as a facilitator of the shift towards evidence-based, patient-oriented, prevention-focused health care. However, uptake of technologies like electronic patient records (EPRs), telecare, mobile health apps or artificial intelligence (AI) is more challenging than expected, mainly due to data interoperability and the complexity of health systems. How can we leap from digital health pilot projects and strategies to benefits for all citizens?

The pace of technology overwhelmed strategies and policies

Physicians want to make decisions based on complete patient health and well-being data, tailoring care and treatment to individual expectations and taking account of the social determinants of health. Citizens expect a better experience: easy navigation through health systems, flexible access to health services, human touch in a digital age, and continuity of care. And policymakers aim to create a cost-effective and accessible health system.

In order to meet the priorities of these three stakeholders, one ingredient is critical: data. Not just paper files turned into electronic equivalents, but interoperable data available in trusted...
and safe health care infrastructure, easily accessible to end-users through user-friendly applications.

The digitisation of health care systems in Europe has made significant progress since it took off 30–40 years ago. In 2020, an average of 81% of doctors in EU Member States used basic functionalities of electronic health records (diagnoses, lab tests results, basic medical parameters, medical history, symptoms, clinical notes, ordered tests). In some countries, such as Croatia, Denmark, Estonia, Finland, Slovenia and Sweden, this percentage reaches 100%. As a result of the COVID-19 pandemic, the share of the population that has received a remote general practitioner consultation in Europe is 40%. E-prescriptions, mobile health apps and wearables collecting diverse biomarkers or patient portals – among many digital health innovations – are gaining momentum.

"Europe is still at the beginning of harnessing digital health"

Widespread computerisation starting in the 1990s, followed by massive internetisation and exponential growth in the use of smartphones in the last ten years, has led to the rapid development of e-health and mobile health (mHealth) solutions. However, technologies developed mostly by the private sector were not followed by policy and system changes in health care. Common agreements on data format and structure were lacking and, as a result, electronic files could not leave the physical location where it was collected, which hampered the main benefits of digital health care. On top of that, health care and digital health remained disconnected.

But it’s changing slowly – in recent years, digital health strategies developed in the EU Member States have led to investments in data exchange infrastructure, the establishment of interoperability standards, and the design of secure data access and patient privacy initiatives. As a result of the COVID-19 pandemic, many EU countries have introduced reimbursement for virtual health services, making them more accessible to patients (see Box 1). And the European Commission’s Communication on the Transformation of Digital Health and Care of 2018 gave impulse to cross-border data exchange and processing.

Although there are still significant differences in the speed of digitisation of EU Member States’ health systems, e-health has become a shared priority.

The right policies enable the transition from fragmented e-health solutions to cohesive health ecosystems

This scene-setting of health care transformation is essential to understanding barriers and facilitators to the uptake of novel technologies among patients and health providers. From the anarchy of different technologies and lack of integration across points of care came growing frustration among doctors, general disillusionment with digital health and confusion among politicians. The digital revolution took many by surprise. With limited benchmarking possibilities, countries experimented with technologies by launching numerous pilot projects. But without proper governance and funding, they ended up where they started: on pilots with no vision for their long-term integration into health systems.

Fortunately, we are entering the next phase of what can be called “sustainable digitalisation.” The catalyst for this incremental process was, among other factors, the COVID-19 pandemic. It has become clear that it is essential to create a new health care delivery model, harmoniously combining, and where needed upskilling, health care workers’ competencies and the possibilities of digital technologies. This is especially so, since “old, well-known” threats – rising prevalence of non-communicable diseases (NCDs), ageing population, health care worker shortages – mingled with new

Box 1: Advancing digital health: moving out of the implementation impasse

The COVID-19 pandemic has unearthed the added value of digital solutions in health, from real-time capacity monitoring of ICU beds and essential health care delivery to telemedicine, pandemic modelling, genomic surveillance, and interoperable contact tracing apps. Health systems across Europe accelerated the adoption of such technologies by breaking down existing legal and practical barriers, including enabling the reimbursement of digital tools and adapting existing regulations to facilitate their use.

Prior to the pandemic, uptake of digital tools was slow and unevenly distributed across different European countries. Their role changed overnight as they shifted from promising technologies to fundamental building blocks of emergency response. The progress made over the past two years has demonstrated that organisational and systemic barriers, not technological ones, were primarily responsible for hampering the widespread adoption of such tools at the European level.

Going forward, the momentum generated during this global emergency must be preserved to inspire a more permanent transformation at a system level, including the establishment of adaptive legal, financial, and regulatory frameworks, investment in infrastructure and innovation pipelines, as well as multilevel initiatives to allow the uptake of digital technologies to permeate daily clinical practice.

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changing the policies: towards a true European health union

hazards such as pandemics, climate crisis or rising socio-economic inequalities in many countries.

Like data security and patient privacy, interoperability quickly became a fundamental challenge. EU countries are now approaching a digital-driven shift towards health care in a smarter way. Since the emergence of many policy papers and growing number of scientific publications on e-health, the know-how of decision-makers on the components determining the success of digital transformation has improved.

"designing a new health ecosystem with the patient at its centre"

Digitalisation is no longer perceived as an add-on to current health systems. Instead, it has become an enabler, a facilitator in designing a new health ecosystem with the patient at its centre. Estonia, Denmark and the Netherlands – for years considered digital pioneers in the European Union (EU) – were followed by those who have belatedly elevated digitisation on the national agenda. France, Germany, Poland, Spain and other countries have made significant progress in the last three years due to centrally coordinated actions, new legislative frameworks and strong leadership. Countries just embarking on the digital health revolution can learn from the mistakes of others. For example, France’s recent roadmap for e-health prioritises governance, security and interoperability, reimbursement and funding of innovation. Today, we know that these factors are critical for a successful shift toward modern health care.

Health systems have also recognised the value of digital health in achieving goals toward universal health coverage and the health-related Sustainable Development Goals. A contribution to process-based change management in health care using new technologies is ‘The global strategy on digital health 2020–2025’ published in 2019 by the World Health Organization (WHO). It points out that digital health can improve the efficiency and cost-effectiveness of care by enabling new business models for service and process delivery. Furthermore, digital health can improve health outcomes if supported by sufficient investment in governance, institutional and workforce capacity to enable digital systems changes and training in data use, planning and management.

WHO’s engagement in supporting countries to digitise their national health systems highlights how important this is for future health systems. Like many other studies and analyses, the strategy highlights the importance of the human factor. Digitisation requires governance and leadership on the one hand and strengthening digital health literacy among citizens and health care workers on the other. The assumption that digital transformation should be regarded as a critical determinant of health is also constituted in The Lancet and Financial Times Commission on governing health futures 2030: growing up in a digital world, published in 2021.

Box 2: Breakthrough technologies must contribute to integration across the healthcare delivery

The implementation and up-scaling of integrated digital-enabled person-centred care services is a necessity for better patient outcomes and performance of health systems. Discrete attempts at improvement, whether it is about services, finances, education, legislation or technology aspects, are insufficient and often not successful in making health systems change.

Successful health system change requires both a bottom-up and top-down approach: i.e., addressing practical integration and improvement issues at an operational level while aligning higher system aspects like finances, regulation and authorities. The leading principle in this approach is that all actions are aimed at optimising services that anticipate people’s needs.

The redesign of health and social services, as well as collaboration between relevant regional professionals and actors, should be central while implementing enabling technologies, and data should intrinsically be part of this process. Patient-centred co-creation and joint development with other users will ensure a better adaptation of technology as part of integrated health services.

Accordingly, the implementation of technology will be more successful. Although health service transformation is mainly a local and regional effort, every relevant stakeholder and authority at higher system levels should be involved in order to align policies and direct measures to create appropriate conditions for transformation and facilitate local actions.

Cross-border health care, whether provided across regions or countries, largely depends on agreement and adoption of standards for interoperability regarding services (e.g., clinical guidelines) and related information (e.g., outcome indicators) as well as data and technology. Considering the implication of these requirements, countries need a joint vision, strategy, an action plan and commitment at all levels to make the compulsory transformation for better and sustainable health care successful.

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Health care is increasingly finding its place in digital reality. During the COVID-19 pandemic, we’ve witnessed increased adaptation of virtual visits and remote monitoring. The ecosystem of digital health startups, supported by EU-funded acceleration programs like the ones run by European Institute of Innovation and Technology (EIT) Health, is growing. Politicians are getting aware of the importance of breakthrough technologies and data. By introducing so-called Digital Health Applications (DiGAs), prescribable digital therapeutics, Germany has inspired many countries around Europe to start introducing clinically validated tools with benefits for patients.

We can have both: data privacy and safety as well as modern, equitable health care

The aforementioned Commission report on governing health futures 2030: growing up in a digital world points out that digital technologies will considerably impact our lives, including our health. The question is, what must be done to ensure this impact is positive also for future generations?

Criticised for lagging behind leaders such as China and the United States (US) in building an innovation-based economy, but also praised for its data protection and privacy policies, Europe is slowly beginning to put its own vision for digital health into action. This is becoming urgent – access to data will determine whether AI algorithms powering innovative health technology will flourish in Europe or whether we will become passive consumers of AI-based solutions. It is also a question of digital sovereignty which cannot be ignored in the context of the geopolitical implications of digital technologies.

The COVID-19 pandemic proved the value of the EU in cross-border crisis management: Pharmaceutical Strategy for Europe aims to mitigate shortages of medicines, Recovery and Resilience Plans support EU Member States in economic recovery after the pandemic, while the European Green Act addresses the climate crisis. These joint agreements between 27 different countries demonstrate the power of collective action.

A similar willingness to unite will be needed to pass the Regulation for the European Health Data Space (EHDS), one of the central elements of the European Health Union

The EHDS aims to ensure that individuals have access to and control their health data – in their home countries and in every EU Member State. The second priority is enabling the secondary use of data for research purposes, policymaking and prevention. This could also boost – along with other transformation components like the EU4Health programme – the growth of innovative companies creating new services based on AI algorithms trained on data ‘generated in Europe,’ accurately reflecting cohorts of citizens. Maintaining data security and patient privacy standards could additionally be the new European trademark.

A vision is not enough. Firstly, EU Member States need to secure an equal level of digitalisation of national health systems to avoid digital gaps. Secondly, the courage to shape the digital future of Europe instead of the current reactivity to emerging technologies must be shared among all EU health leaders (see Box 2). Finally, what could be a better glue for the European Health Union than data exchanged across the borders – data to unfold research, connect doctors for better decision-making and care about citizens no matter where they are.

New Green Deal for digitalisation in health care

Thanks to the eHealth Digital Service Infrastructure (eHDSI), the first EU countries can already exchange e-prescriptions and Patient Summaries. Increasing interoperability to drive the flow of information is removing the last walls left in European data protection.

Nevertheless, Europe is still at the beginning of harnessing digital health. While interoperable medical health records are tangible progress, it is not yet a transformational power to reduce the impact of medical staff shortages, minimise medical errors, provide a precise diagnosis and individual treatment, and personalised health prevention.

In order to create next-generation health care, it is crucial to take a broad look at innovations in health care. We need to strategically adopt new solutions such as remote monitoring, big data analytics, smart wearables, AI and augmented/virtual reality, but to do so smartly so that patients get solutions that offer therapeutic benefits. We also need a trusted legislative framework at the national and EU level, reimagined reimbursement policies, modern digital education, and attractive conditions for innovation growth. Digitalisation of health is a cross-sectoral challenge.

Europe lacks a radical Digital Deal on the scale of the Green Deal, with leaders driving digital change that is true to European values and inspires citizens’ trust. We need to combine the enormous potential of science with entrepreneurship to generate breakthrough technologies; we need local innovation hubs connected by a European data exchange infrastructure in a single digital market to thrive progress in health care.

The European Health Union should be a union of health data and innovation.
The Politics of Healthy Ageing
Myths and realities

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Research from the European Observatory’s Economics of Healthy and Active Ageing series finds overwhelmingly that population ageing is not a major problem for the sustainability of health care systems or societies. So why is it so often treated as a threat?

This brief draws on a book presenting and synthesising the international evidence on this question. It first identifies and discusses three myths that are widely influential in debates about ageing. It then reviews evidence on the possibility of ‘win–win’ politics that produce good outcomes for people of all ages. In terms of policy design, this means focusing on life-course policies. Life-course approaches have extensive implications for policy because they suggest ways to make policies that invest for the future at every stage of people’s lives. They also have distinctive politics because they ask for political leaders, interests and advocates to form coalitions among different groups that mutually benefit from the same policies. The brief concludes with lessons on ways to develop political coalitions in support of life-course policies.

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