BRIEFING PAPER

PUBLIC DEBATE ON THE FUTURE HEALTH PRIORITIES OF THE EUROPEAN UNION

Implementing digital solutions and AI

What's the topic about?

Digital health describes a diverse range of technologies employed to promote and improve health, including eHealth, mHealth, big data and cutting-edge technologies such as artificial intelligence (AI).[1] According to the European Commission's Coordinated Action Plan on AI, "AI refers to systems that display intelligent behaviour by analysing their environment and taking action – with some degree of autonomy – to achieve specific goals".[2] Digital Health has revolutionized many areas of health care delivery and AI is increasingly gaining traction in many industries, with the promise of maximizing the efficiency of processes, improving resource allocation and generating substantial positive social and economic outcomes for people.[3] From assisting the interpretation of medical images to infectious disease monitoring in public health, AI has already found numerous applications in health care delivery and health systems. However, the use of digital technologies and AI also poses significant challenges and risks related to issues such as data protection and privacy, equity, safety, unpredictability and transparency. As the uptake of digital solutions spreads across European health systems, it is of the utmost importance to ensure risks are adequately mitigated and health outcomes maximized for all.

Why is it important to EU Member States?

European health systems are under substantial pressure to provide good quality and universal health care in the face of many coinciding demands and challenges. Digital health solutions have the potential to support health systems in achieving their goals, from improving the efficiency of a system, to making better use of human resources, to making care more integrated and easier to use, as well as reducing barriers to access, particularly for people located in remote areas. Additionally, they have great potential to reduce the workload of health care workers if appropriately employed. However, the adoption of digital health technologies does not always lead to improved

[1] Fahy N, Williams GA, Habicht T, COVID-19 Health System Response Monitor Network (2021). Use of digital health tools in Europe: Before, during and after COVID-19. European Observatory on Health Systems and Policies

[2] European Union (2018). Coordinated Plan on Artificial Intelligence. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018DC0795

[3] European Union (2021). Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206

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health outcomes in practice; it is therefore crucial to ensure that digital health solutions are leveraged to support health system goals. The equitable use of such services requires stable access to fixed or mobile broadband internet, facilitated by accessible prices, end-user digital skills and cemented by people's trust in these technologies.

Although two thirds of EU citizens think artificial intelligence will have a positive impact on their way of life over the next 20 years,[4] almost nine in 10 also believe it requires careful management.[5] Trust is particularly important for the increased use of AI in health care, for which Member States need adequate frameworks to ensure that all related risks, including data quality for the training of algorithms, are taken into account. There is a growing number of potential applications of AI in health care, and the need for oversight increases accordingly.

Finally, fundamental prerequisites for the digitalization of healthcare delivery are the interoperability of different components, the safe and meaningful collection and use of data, and the digital literacy of both health professionals and the population.

What has the EU done to date?

The EU dedicates substantial amounts of funding to driving the digital transformation in Europe through various mechanisms, including for the development of standards for digital health applications and electronic health data. During the COVID-19 pandemic, the European Commission facilitated the development of interoperable digital COVID-19 vaccination certificates, which helped Member States to gradually reinstate travel and public activities. The latest addition to a long list of financial instruments eligible for digital projects in Member States, the Recovery and Resilience Facility requires at least 20% of the funds allocated to each country to be invested in the digital area. In addition, financial support can be provided for the development of dedicated infrastructure, including to support the widespread implementation of internet connectivity at affordable prices. The EU can also fund research that builds on existing initiatives to ensure the interoperability of different systems and to harness AI while minimizing risks.

The European Commission has also already developed an overarching strategic vision, the Digital Decade, to ramp up digitalization processes across Europe by 2030 and make digital technologies work for EU citizens – rules and democracy being fundamental prerequisites at the heart of the strategy. As part of the EU's digital strategy, the European Commission has put forward new legislative proposals for the creation of a European Health Data Space and to regulate the use of AI across the Union. The AI act and the EHDS are both currently being negotiated with the co-legislators. At the same time, the Commission is preparing for the implementation of the EHDS through actions under EU4Health and complemented by actions under the Digital Europe Programme and Horizon Europe. These include the rollout of cross-border infrastructures for the exchange of electronic health data (MyHealth@EU) or for supporting the reuse of health data (HealthData@EU), as well as supporting semantic interoperability, cooperation and capacity building. Overall, around EUR 800 million are planned to be invested in topics related to the EHDS in the current multi-annual financial framework.

[4] Eurobarometer (2021). European citizens' knowledge and attitudes towards science and technology. https://europa.eu/eurobarometer/surveys/detail/2237

[5] Eurobarometer (2017). Attitudes towards the impact of digitalisation and automation on daily life. https://europa.eu/eurobarometer/surveys/detail/2160

National oversight of digital technologies can only ensure a certain degree of protection and the development of common frameworks and standards at EU level can facilitate the safe management of such technologies moving forward, as already foreseen by the upcoming legislation in this area (described above). It will, however, be crucial for these frameworks to take full account of the peculiarities of using digital tools in the area of health and to ensure market approval mechanisms for digital health applications are adjusted to reflect sensitivities accordingly.

With a view to helping those Member States that are currently lagging behind, the EU could further offer tailored support through facilitating cross-country and best practice exchanges (e.g. through policy dialogues), funding joint research initiatives (e.g. joint actions) and digital skills trainings to reach their digitalization goals.

Key takeaways

- Digital Health technologies hold great potential for improving access, quality and efficiency in health systems. AI is employed in an increasing number of applications in health care delivery: from assisting the interpretation of medical images to infectious disease monitoring in public health.
- The use of digital technologies and AI also poses significant challenges and risks related to issues such as data protection and privacy, equity, safety, unpredictability and transparency. The development of common frameworks and standards at EU level can facilitate the safe management of such technologies moving forward, as foreseen by upcoming EU legislation on AI and the European Health Data Space.
- The EU can promote digitalization processes across Member States in different ways, including by funding research and infrastructure projects, which support the widespread implementation of internet connectivity at affordable prices, ensure the interoperability of different systems and harness AI.

Further reading

Fahy N, Williams GA, Habicht T, COVID-19 Health System Response Monitor Network (2021). Use of digital health tools in Europe: Before, during and after COVID-19. European Observatory on Health Systems and Policies.

The ongoing journey to commitment and transformation: digital health in the WHO European Region, 2023. Copenhagen: WHO Regional Office for Europe; 2023. https://www.who.int/europe/publications/m/item/digital-health-in-the-who-european-region-the-ongoing-journey-to-commitment-and-transformation

New England Journal of Medicine (2023). AI in Medicine. https://www.nejm.org/ai-in-medicine

European Commission (2023). Europe's Digital Decade. https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade

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