



# Future Digital Health in the EU

Targeted Analysis

**Executive Summary**



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The final version of the report will be published as soon as approved.

# 1 Executive summary

The conducted analysis of eHealth examined how digital healthcare solutions and policies are being developed and introduced in the EU in general and in the stakeholder regions of Estonia, Finland, Slovenia and Bulgaria in particular. The objective of this study was examining how eHealth solutions can be developed and promoted in the evolving landscapes of technology, the funding and economic impact of digitisation, territorial governance and cross-border cooperation in the stakeholders' territories. The targeted analysis collected both quantitative and qualitative data to identify how eHealth is funded, developed and managed and the implications of introducing digital healthcare. The study was to outline best practices as well as legal, public policy and other challenges and opportunities to digitalisation in health sector.

By examining policies, strategies, projects and other actions designed to foster the development of data-driven healthcare and digital health services, the evaluation was able to identify successes and issues related to healthcare digitisation. Potential opportunities and challenges to cross-border movement of health data was also of particular concern as cross-border interoperability was found to be of growing interest on the EU level and the potential for eHealth internationalisation in the stakeholder regions was analysed. The results of this study and policy recommendations will be used by stakeholders as input to implementing their ongoing and planned eHealth policy developments and reforms.

The analysis found no solid evidence that over the last decade the introduction of eHealth solutions resulted in an overall decrease on healthcare expenditure for the governments, providers or patients. The reason for this is twofold. First, it should be noted that investments into digitalisation increase healthcare costs in short term as they are additional costs. The benefits from digitalisation are both direct and indirect. The direct ones relate to productivity (more efficient care processes, care can be provided at lower costs). Indirect benefits originate from improved care processes facilitated by digitalisation. They result in better health, which reduces healthcare costs in longer term. Furthermore, the demand for healthcare services is increasing along with growing and ageing populations, as well as improved medical treatments and better medical equipment, diagnostics and pharmaceuticals – all of these factors lead to an increase in healthcare costs. This is why it is not necessarily possible to see economic benefits from digitalisation in the short term by looking at the healthcare budgets. Secondly, the impact of eHealth has not been properly analysed. Looking at EU in general and in the stakeholder regions in particular, the same issue was a constant – lack of monitoring and evaluation tools built in the eHealth infrastructure. Particularly, evidence for socio-economic impacts was considerably smaller than evidence for eHealth implementation and usage.

Since the European Commission has no legislative mandate in the area of healthcare (as healthcare legislation is national) healthcare systems and governance models vary greatly across EU. Nevertheless, the European Commission has strategies (not mentioned here) and it facilitates EU-level developments that relate to healthcare digitisation (e.g. standardisation, 5G, etc.) and joint development of healthcare digitalisation (EU funded projects in the area of eHealth). Such evidence shows

international interest towards facilitating digital standardisation and cross-border exchange of healthcare data.

It is believed that eHealth solutions allow for more efficient and effective treatments, which enable more targeted and personally suited approaches. eHealth is commonly characterised by a higher degree of transparency, which ultimately reinforces trust in such solutions as well as healthcare in general. Lastly, access to healthcare can be noted as a distinct and definite advantage effectuated by digitalised systems, as remote consultations can be conducted, or less frequent physical meetings are necessary. The research suggests that the introduction of eHealth improves the quality and productivity of healthcare services in Estonia, Finland and Slovenia (due to very limited progress, there is no evidence of quality or productivity gains of eHealth in Bulgaria).

When looking at the healthcare infrastructure, several differences can be noted after the analysis. For instance, digitalised approaches to healthcare are largely incorporated and already implemented in the Estonian healthcare system with the primary funding stemming from mandatory health insurance. Finland demonstrates a more decentralised approach with a larger role played by regions and municipalities. This decentralisation is one of the key defining features in Finland. Slovenia's funding for digitalised approaches to healthcare is largely integrated into the mainstream healthcare system. Bulgaria, on the other hand, pursues an approach where funding is mostly institutional, regulated and based largely on EU grants, and assigned to solutions development rather than fundamental and integral structural changes.

Privacy, patient rights, trust associated with eHealth solutions were found to be important factors in countries where eHealth was successfully established. In all data-related matters, Finland and Estonia represent leading and pioneering parties (with high trust, adoption and usage indicators), with Slovenia more or less closely following suit. Bulgaria, on the other hand, distinctively lacks necessary infrastructural preconditions, and instead relied on several consequent initiatives, none of which have resulted in noteworthy achievements.

As for specific eHealth solutions, several were found to be more common, such as ePrescriptions, eConsultations, eRegistrations, as well as national patient portals which were found in Estonia, Finland and Slovenia. These tools work in a more or less integrated manner with the respective national patient portal and enable a generally seamless information flow between the organisations connected in the eHealth network. Some differences were identified between countries. Finland in particular is noteworthy of having eHealth solutions that are connected to specific regions (i.e. the web platform "Diabetes House" for diabetic patients is available for patients in the 5 major hospital districts). On the other hand, Estonia has all eHealth functions fully integrated under a single institutional banner. For both Estonia and Finland, the eHealth was the culmination of a long and systematic process of digitisation that resulted in an environment that allows the development and adoption of eHealth solutions. Finland is also notable for a dissemination approach where healthcare providers were highly instrumental in introducing eHealth solutions to their patients. Slovenia saw most of its eHealth services introduced fairly recently, with the government's centralised approach and compulsory use of newly developed solutions by health institutions owing to the current level of healthcare digitisation. More

distinctively, Bulgaria lags behind and stands out by not having introduced any comprehensive approach for digitalised healthcare services and eHealth in general.

Cross-border implementation of healthcare is of more concern for Estonia and Finland. Beyond the fact that both countries are pursuing bilateral collaborations in establishing cross-border interoperability, both countries have further ambitions. Estonia engages in EU-wide programmes such as epSOS and eHDSI, and Finland pursues intensified operations with its Nordic neighbours being involved in the formation of the Nordic eHealth Research Centre and is a member of the Nordic Medico-Statistical Committee. Slovenia and Bulgaria, on the other hand, distinctively fall behind in this regard although cross-border operations in the healthcare sector have been of greater concern for Slovenia (especially collaborating with Italy and Austria) than to Bulgaria which demonstrates few initiatives that could even be connected with cross-border eHealth.

One of the most frequently reoccurring issue is represented by insufficiently developed or simply non-existent metrics and evaluation systems for measuring effectively the impacts created by digitalised healthcare. This makes informed policy decisions more difficult as the primary metrics that are available across Estonia, Finland, Slovenia and Bulgaria are user statistics. There is very scarce or any systematic or at least improvised monitoring and evaluation of the impacts of eHealth services. The establishment of a more suitable monitoring and evaluation system for the impacts of eHealth or the general digitalisation of healthcare needs to be considered. Evaluation and monitoring systems should capture economic as well as social benefits with respect to all stakeholder groups, while understanding the wider context in which the effects materialise.

For Estonia the biggest challenge in developing eHealth is to increase focus on understanding of users' needs, improving the usability of the data collected, adding functionalities to the existing services and considerably increasing the pace of development, adoption and deployment of new digital services. The country would benefit from supporting the whole innovation process of digital innovations in healthcare. Furthermore, the citizen/patient engagement is a weakness of Estonian healthcare as well as in eHealth development, where the service processes are developed without understanding the real needs of the users. A paradigm shift in development approach would be a welcome change in this regard: moving from technology-lead to citizen-centred eHealth.

Finland faces the challenges of redesigning the healthcare infrastructure, aggregating regional managing bodies and initiatives into larger organisational structures. This will allow a more integrated approach to eHealth, which should be pursued. Fostering cross-regional exchange and interoperability standards is a goal commonly formulated in Finland.

In Slovenia, it is evident that over the last three years the pace of development became much faster and visible progress has been achieved. Despite these positive signs, future of eHealth development is still unpredictable. In order to avoid potential problems in the future, the government needs to prepare regular strategic and action plans for the periods of 3-5 years ahead with concrete aims and objectives, expected results, milestones, indicators, reporting and clear responsibilities.

As for Bulgaria, the country has demonstrated a lack of cohesive approach in developing an effective approach towards digitisation of healthcare (with noted instances where entire government organisations were excluded from participating in planning phases in which they were supposed be involved in).