KPMG

Study „Readiness of the Czech healthcare system for digitisation“

Executive summary

KPMG Česká republika, s.r.o.

The aim of the study

The study was prepared by KPMG Czech Republic for the Alliance for Telemedicine and Digitalisation of Healthcare and Social Services, z. s. (ATDZ) between February and September 2022:

1. Map the **current state** of digitalisation of healthcare in the Czech Republic
2. Elaboration on **foreign case studies**
3. Identify **main barriers** for development of eHealth
4. Identify **opportunities and threats** to the further advancement of digitalisation

Methodical approach

Review of analytical and strategic documents	In total, 20 strategic and analytical documents were analyzed, which elaborated on the current state and its successful practice.
Semi-structured interviews	Conducted **26 semi-structured interviews** with representatives of care providers, state administration and subordinate authorities, insurance companies, vendors, patients, etc.
Questionnaire survey	The questionnaire survey was intended primarily for health care professionals. A total of **526 valid responses were received**.
Foreign case studies	The aim was to compare the state of digitalisation in the **Czech Republic with selected countries, namely Denmark, Germany and the Netherlands.**

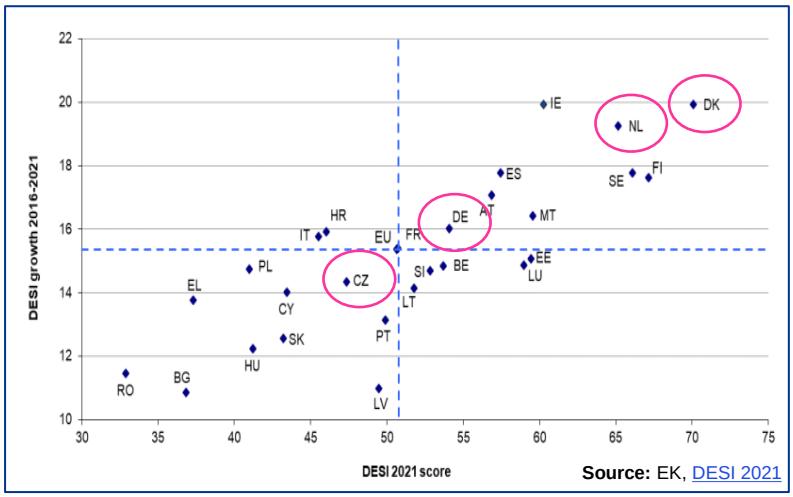
Why is there a need to digitalise?

EU's definition: „Digital health and care refers to tools and services that use information and communication technologies to improve prevention, diagnosis, treatment, monitoring and management of health-related issues and to monitor and manage lifestyle-habits that impact health. Digital health and care is innovative and can improve access to care and the quality of that care, as well as to increase the overall efficiency of the health sector.“

Communication on Digital Health and Care

- Demographic developments are putting pressure on the budget
- Unequal access to healthcare and uniform quality of services
- Citizens want access to and control over their data
- Inability to share documentation and data leads to lower quality of care/errors or duplications in examinations and inefficiencies
- Legislative needs
- Efficient use of EU subsidies

The current state



Source: EK, DESI 2021

The digitisation of healthcare needs to be understood in the overall context of country's digitisation. According to the Digital Economy and Society Index (DESI), **the overall state of digitalisation in the Czech Republic is lagging behind**, both in terms of the 2021 score and the overall growth of the index value over time. While the Czech Republic is ranked 18th in 2021, comparator countries such as Denmark and the Netherlands have taken the top spots (1st and 4th place).

The Czech Republic has **the highest bed capacity** (twice as many beds as Denmark or the Netherlands) but **the lowest number of health care workers** per capita. In comparison with the two compared countries, it **spends the lowest portion of its GDP and generally 3 times less on health care overall.** On average, Czech **hospital stays are also the longest** (up to 2 times longer than in Denmark and the Netherlands). Finally, the country has comparable healthy life expectancy, but its average life expectancy is lower. In conclusion, **the Czech Republic should improve the quality and availability of healthcare, and work towards its sustainability.**

The study's results show that the Czech Republic is struggling with insufficient legislation and non-conceptual management by the state. Individual digitalisation projects are rather isolated within private initiatives or in cooperation with cities/regions. The National Digitalisation Strategy does not have a clear implementation structure and thus remains unfulfilled. Hence also an effective use of the Recovery Plan is at risk.

Results of research

A small progress in Czech digitalisation	More than 80% of respondents rated progress (on a scale of 1 - least to 7 - most) between 1 and 4, meaning it rather low.
Preparedness for digitalisation	Respondents rate diagnostic complement service providers and inpatient care providers as the most prepared, while patients and the state and its institutions are considered the least prepared.
(In)sufficient legislative	More than 55% of respondents rate the current legislative framework as strongly or mostly inadequate. Around 21% consider it sufficient (most of them only somewhat sufficient) while 25% could not judge.
Introduction of telemedicine services into reimbursement	Up to 70% of respondents rate the introduction of telemedicine procedures into the reimbursement system as very or rather important. Only 6% of respondents consider it to be somewhat or not at all important.

Barriers

In addition to the barriers mentioned below, respondents also express their concerns about communication, technical barriers on behalf of hospitals, and lack of general standards.

1	Non-conceptual approach to eHealth by the state
2	Cyber-risks (threats)
3	Insufficient financial resources

Opportunities

In addition to the opportunities below, the introduction to teaching, outreach, telemedicine, etc., were also mentioned. Particular emphasis was put on sorting out the reimbursement system.

1	Data sharing between health service providers, standardisation
2	Amendments to the current eHealth Act
3	Introduction of the electronic united health record for citizens

Respondent's suggested changes?

Respondents were asked what they thought should change to improve digitalisation in the Czech Republic. The most common responses mentioned setting up and prioritizing a **conceptual and strategic management of digitalisation** with support of permanent funding for specific action steps. This could be **managed by a permanent agency** that would link multiple actors while being responsible for overall implementation. Moreover**, clinical guideline practices, central services, standardization, interoperability** and better anchoring of these aspects **in legislation** were suggested as well. Another recommendation is to establish an **effective use of funds** from the National Recovery Plan and other grant titles. Moreover, definitions for such recommended projects need to be set. Special emphasis is placed **on improving education and communication**, **support learning abroad** and limit separation of heath sector digitalisation from the one of the state.

Inspiration from abroad

In Denmark, there has been an ongoing digitisation of healthcare since the 1980s. Its current state is the result of a long-term process and continuous collaboration between stakeholders. The main key to success include a well-developed strategy with a clear action plan, promotion of dialogue between stakeholders by parastatal organisation MedCom, involvement of multiple stakeholders in project implementation, introduction of a unified patient record, inclusion of telemedicine interventions in reimbursement, and an emphasis on streamlining and improving the quality of healthcare. In 2021, digital health applications were used by 66% of the overall population.

Legislation passed in 2019 and 2020 has boosted the digitalisation of healthcare **in Germany**. It allowed digital health apps to be prescribed by a doctor (similar to the prescription of medication). There are currently around 25 approved and managed by the ministry. Further, use of these apps is also introduced into the reimbursement system. Approximately EUR 200 million annually will be released by the government to support the implementation of the Digitalisation Act and ensure continuous support of healthcare digitalisation. As a result, for example telemedicine has become a common practice in the country.

In the Netherlands, some telemedicine interventions were included in the reimbursement system, but the overall implementation of digitalisation is lagging behind compared to the other analysed countries. Similarly to the Czech Republic, most challenging is the system's lack of interoperability. There are calls for conceptual management by the ministry, long-term funding for digitisation, and a change in culture and digital skills.

Recommendations

1 An unambiguous expression of the state administration's political will to promote digitalisation as a priority for the development of the health care system.

The lack of strategic and conceptual management from the highest national level was highlighted in the analytical part of the study. Digitalisation brings undeniable benefits to all actors in the health system (savings, improved and more efficient care, increased prevention, increased availability of information, oversight of own data, etc.). The public authorities and relevant stakeholders should set specific goals and milestones for the process of digitalisation. Along with its benefits, they should be systematically and clearly managed and presented. Insufficient conceptual management in this area may lead to under-exploitation and/or inefficient use of the National Recovery Plan, or insufficient preparedness of the Czech Republic for the implementation of the requirements arising from the European Health Data Space (EHDS) regulation.

Further, implementation of the strategy may face communication barriers. Therefore, the study concluded, that in addition to a stronger grasp of conceptual management itself, a communication strategy towards the general and professional public needs to be set up. Removing these barriers should lead to a reduction of concerns on the part of patients and hospitals, thus helping from "below-up"

The Ministry (potentially the organisation) in charge of implementation (NCeZ) should also present a concept for the development of digitalisation, including measurable objectives, clear process for achieving them, and realistic financial resources to motivate users of the health system to actively cooperate. They should communicate the concept to the users of the system and regularly discuss compliance with the objectives and process, and regularly evaluate the implementation of the strategy.

2 Create an institution that would implement the strategy, connect private and public sector in realization of projects, and ensure that necessary budget is provided.

In accordance with the recommendations listed in the study, the EU SRSP MZ CZ will establish an independent organization, competent to develop and finance the digitalization of healthcare in the Czech Republic (hereinafter referred to as the National Centre for the Electronicisation of Healthcare, NCeZ). Its aim will be to promote digital cooperation between citizens, authorities, health service providers, health insurance companies, private entities and companies involved in the Czech health care system (system users). The NCeZ will be managed by the Ministry of Health in cooperation with a governance structure (council) in which the system users will be represented. Following the example of the Danish organisation MedCom, it can implement predefined priority projects with an agreed budget and involve all necessary stakeholders in their preparation and implementation. The newly established organisation could be modelled on MedCom, established and funded by the Ministry of Health, regions and municipalities. Further, it could benefit from project funding programmes such as the Horizon. In the case of the public IT infrastructure operation, funding will be provided by the end users. However, it should be mentioned that the strategy and concept will be set by the Ministry and the Agency will act as the implementing body. Therefore, to reach the full potential of an autonomous organisation, a strong national strategic level is also needed.

3 Use of successful practices

It should be stressed that the principles of digitalisation already exist in all sectors. Even though healthcare is specific in terms of confidentiality and the scope of data, in some areas, there is no need to reinvent the wheel, and take inspiration from the practices of other sectors/countries that are much further along in digitalisation. Upon reviewing the DESI index, it can be seen that the digitalisation of the state is a complex problem. A low performance in any one area can lead to barriers in other different sectors. The concepts of digitalisation, i.e. perception through the pillars of Human Capital, Connectivity, Digital Integration and Digital Public Services, influence and intersect one another. That is also the case in the health sector. To improve eHealth performance, working on all areas simultaneously while being aware of those most pressing in the local context is necessary (in the case of the Czech Republic, this includes the integration of digital technologies).

The case studies from Denmark, Germany and the Netherlands show that the Czech Republic has a lot to improve on compared to those and other countries (e.g. Estonia, Australia, etc.) There is no need to invent separate solutions. For example, the Czech Republic can take inspiration from Denmark's 20+ years digitalization development. Especially considering its strategic direction in the organizational structure and successful projects adoption.

It is recommended to work within context of organisations that study foreign practices, or to be in a contact with other foreign country's organisations through embassies (if direct contact is not possible). To implement structural reforms in the Member States, it is also possible to utilize foreign studies or the European Commission's Technical Support Instrument. Those often include the transfer of "best practices" from the EU, study visits, etc.

At the same time, the results of the study show that certain solutions are being already developed locally in the Czech Republic. Therefore, it is not necessary to search for further inspiration. It is recommended to follow these initiatives, support and share the results of these projects with others. In terms of local initiatives, those often arise due to a need for more national management. The recommendation is that initiatives should be identified, managed, and implemented in the future through a competent organisation that can use already established local structures.

4 Examination of competent centers and provision of necessary Human Capital

For specific areas related to the adoption of technological and organisational innovations, it is proposed to create competence centres as development guarantors (for example under a newly designated organisation). The envisaged areas of innovation should include telemedicine, interoperability, artificial intelligence, virtual reality, big data and cybersecurity, or national competence centres.

They should primarily support the individual healthcare institutions involved in digitalisation and methodically help with its transformation agenda. Moreover, for these competence centres, newly created organisations, and hospital IT departments it is necessary to provide conditions attractive to respective experts - IT specialists, architects, project/program managers, cybersecurity managers, etc. However, investment in human capital must be based on clearly defined, "top-down„ priorities.

5 Promotion of legislative changes

Based on the study's findings, the concept for the digitalisation development should include a proposal for legislative changes. Those would ensure conditions for secure, simple and efficient health information data sharing, definition of cyber security principles, and maintenance of a reasonable level of privacy protection. Legislation should establish and regulate standards for interoperability. Furthermore, it is recommended to address changes to the Medical Devices Act (Act No 89/2021), which need to include (e.g. following the German model) the approval process for digital technologies.

6 Support of eHealth in the reimbursement system

Being one of the critical barriers to eHealth development, the last recommendation considers setting up a motivation system for all stakeholders. Within its common mechanism, it should continuously evaluate the current state of digitalization development in the Czech Republic within reimbursement. Especially telemedicine and other eHealth areas. Inclusion in the reimbursement system should go hand in hand with recommended clinical practices that consider eHealth elements. Further, telemedicine itself should be viewed as an individual procedure.