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OVERVIEW OF THE DIGITAL HEALTHCARE IN HUNGARY

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Abstract: eHealthcare has become part of the healthcare system as a result of a long process and the development of communication of information. Hungary's eHealth system is the National eHealth Infrastructure *(Elektronikus Egészségügyi Szolgáltatási Tér, EESzT),* which greatly facilitates the work of health professionals and the daily lives of users. In this paper I would like to describe the structure and functioning of the Hungarian scheme. It is a nicely designed interface, with a careful technical and legal background, which is completely user-friendly, as its handling is very clear. It can be used online for writing prescriptions, booking appointments, writing referrals and many other useful tasks, which I will describe in detail in the paper. However, there is still room for improvement and progress. I believe that healthcare is a field that requires continuous development. It is necessary to keep pace with the development of technologies in order to provide high-quality services to patients.

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Keywords: *governance, eGovernance, eHealthcare, healthcare management, digitalization, National eHealth Infrastructure, COVID19*

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Introduction

The aim of my study is to describe the electronic healthcare administration system in Hungary; therefore I chose the descriptive-analytical method for the study. The development of EESzT[1] has resulted in a new, integrated system.

I believe that this is a unique system, so I find it important to discover the opportunities it offers. For example, ePrescriptions help to solve the problem of the digital gap. Also, the system allows users to look into their documents, and with the help of the Treatment Catalogue doctors and patients can check all the treatments provided.

The discussion of the strict regulatory background of EESzT is an absolutely necessary part of studying the subject. The system fulfils the requirements of the Hungarian regulations. The self-determination function allows users to enjoy their data protection rights.

During my researches I used Hungarian studies. This may be due to the fact that Hungarian health care is not very much dealt with at the international level. This is one of the reasons why I think that my study would be a valuable contribution.

[1] EESzT (Elektronikus Egészségügyi Szolgáltatási Tér): short for Hungary's electronic health system.

I. Digital Governance

Our world is constantly changing. This includes the dynamic development of the IT sector, which is driven by new demands in all areas of life. Digitalization opens new horizons.

This process affects various systems in society, including governance. This means that new routines have been introduced. Infocommunication-related habits and the use of devices have changed, which affects governance.[2] It is important that the new solutions should be easy to understand both for those working in the sector and for citizens. A good example is the EESzT system, which is complex, yet easy to use.

The word "electronic" can be interpreted in many ways, but in the field of law and governance in particular it means the future.[3] Technological development is present in all areas, producing new solutions every day, in line with demands. IT is used in all fields where new demands require changes. Governance is no exception. The question may arise whether digitalization is needed and applicable in all areas. The number of fields where paper-based administration is replaced by digital solutions is increasing. They result in lower costs and error rates and make procedures faster and more efficient. Electronic governance means more than replacing human work with devices and introducing automatization. It also includes the introduction of new methods to provide the existing services, and the introduction of new services.

2 Balázs Benjámin BUDAI, Balázs Szabolcs GERENCSÉR. Bernadett VESZPRÉMI, *A digitális kor hazai közigazgatási specifikumai*, Dialóg Campus Kiadó, Budapest (2018), 15.

3 Sándor NAGY, *Circulus vitiosus: az elektonikus közigazgatás megvalósulása helyi szinten*, Új Magyar Közigazgatás, 2021.december/14.évfolyam/4.szám, 65.

Its regulation is complex because there are many types of tools used in the sector, and technological development is, so to say, hard to follow.[4]

eGovernance is based on an online system that is accessible anywhere and allows citizens to take care of their administration-related issues even if they are on holiday or on a business trip. The concept of eGovernance is the result of an international process, including conferences, status reports and EU recommendations.[5] According to the Organisation for Economic Cooperation and Development, e–governance covers the use of information and communication technologies in all fields of governance in order to provide services more efficiently.[6]

II. eHealthcare

Digitalization affects all areas of public services. The course of development is in line with the demands of the specific fields. In this regard, healthcare is one of the main areas, and Hungary has made a huge achievement with EESzT. Even though the digitalization of healthcare had been discussed and needed for quite some time, the breakthrough came with COVID19. It was a milestone in the national healthcare system. EHeatlhcare

4 Zsolt CZÉKMANN, Gergely CSEH, Bernadett VESZPRÉMI, *Az e–közigazgatás, e–kormányzat szakigazgatása*. In: LAPSÁNSZKY András: *Közigazgatási jog, Szakigazgatásaink elmélete és működése,* Budapest, Wolters Kluwer Hungary Kft (2020) 329–331.

5 Zsuzsanna ÁRVA, István BALÁZS, Attila BARTA, Bernadett VESZPRÉMI, *Közigazgatás–elmélet* Debreceni Egyetem, Állam– és Jogtudományi Kar, Debrecen (2020) 263.

6 *E–government: Analysis Framework and Methodology*. OECD Public Management Service, Public Management Committee, 2001.

will not cover all sectors in the area, but this innovation will support those who do not have the required infrastructure and services.[7]

The European Union has developed action plans to improve healthcare. The first eHhealthcare action plan was launched in 2004[8]. It was created because it had become clear that in a few members states the electronic systems that help provide healthcare services were absent.[9] In 2005, the "eEurópa 2005[10]: Information for Everyone" action plan was created, which, among other matters, aimed to facilitate the improvement of online healthcare services and the establishment of healthcare information networks. In 2008, the European Commission issued another recommendation[11], in order to make better use of the eHealthcare systems, and because healthcare systems were not consistent in the member states, and not all citizens had access to high-quality healthcare services.[12] In line with the action plan produced in 2005, the European Commission created a strategic action plan entitled "2010[13]: European Information Society for the Development of Jobs", which aimed to improve the quality of life. On 27

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7 Norbert INCZE – Tamás PESUTH, *E-Health – Digitalizálódik az egészségügy?*, Köz-gazdaság, 2020/4. 247-250.

8 More information: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2004:0356:FIN:EN:PDF.

9 Dóra LOVAS, *Vigyázó szemetek az egészségügyre vessétek! Elektronikus Egészségügyi Szolgáltatási Tér az európai egységes digitális piac összefüggésrendszerében*, Közjavak, 2019/V.évfolyam/3.szám 9. 9-10.

10 More information: Commission, 'e-Health - making healthcare better for European citizens: an action plan for a European e-Health Area' COM 356 final.

11 More information: Commission Recommendation of 2 July 2008 on cross-border interoperability of electronic health record systems [2008] OJ L 190/37.

12 D LOVAS, *ibid.p.*10.

13 More information: Comission, 'i2010 – A European Information Society for growth and employment' COM 229 final.

September 2013, The EU published the opinion of the Committee of the Regions about the EC action plan[14] related to the development of eHealthcare systems in the 2012-2020 period. The plan put eHealthcare in social context and explained specific benefits for citizens. In terms of social context, it promoted transparency, the improvement of the quality of life, and equality. As for individual citizens, it referred to bespoke treatment and services, shorter hospital care, and more cost-efficient treatments due to technological developments.[15]

III. National eHealth Infrastructure

EESzT is an important part of eGovernance. In order to eliminate errors in governance, the connection of databases has become a major issue. Health data is recorded in various documents which are not necessarily stored by the authorities. EESzT is an integrated database where citizens' records are stored. The National eHealth Infrastructure, co-financed by an EU grant and the Hungarian government, revolutionizes healthcare, and eGovernance in general. The system combines traditional healthcare with cutting-edge IT solutions and services. In order to provide high-quality and efficient patient care, it is imperative to make patient data available to practitioners, regardless of what financial programme patients use for covering their treatments.

This national database stores all medical information on every citizen. Clinics, laboratories, hospitals and practitioners transfer data to the system.

14 More information: Opinion of the Committee of the Regions C 280/33 on 'eHealth Action Plan 2012-20 — Innovative Healthcare for the 21st Century'.

15 Ágnes VÁRADI, *E-health fejlesztések az egészségügyi szolgáltatások hazai és európai uniós rendszerében,* Összefoglaló Közlemény, Magyar tudományos Akadémia, Társadalomtudományi Kutatóközpont, Jogtudományi Intézet, Budapest, 4-5. https://akjournals.com/view/journals/650/155/21/article-p822.xml.

All appointments are recorded in the social security system. Data can be sorted, which makes the system easy to use, and patients can even print their medical records. Data upload is mandatory, the consent of patients is not required[16]. Healthcare service providers are responsible for creating medical records.[17]The related requirements are specified in Art 2 and 3 of Regulation *39/2016. (XII. 21.)* of the Ministry of Human Resources.[18]

> "The Ministry initiated a social discussion on the modification of regulations related to healthcare and health insurance. The proposal included the regulation of the establishment of EESzT.[19] The project TIOP 2.3.2 is one of the pillars of the Hungarian e-healthcare programme. Its objective was to create a platform that allows and helps communication and collaboration (which resulted in the establishment of EESzT), and connects sectoral IT systems and healthcare professionals."

The project, which related to "certified public records", aimed to improve the IT infrastructure in the sector and to reform data transfer among institutions. EESzT is a platform for communication and collaboration, which is secure and meets data protection regulations.[20]

The EESzT has been available for healthcare providers since 1 September 2017. Many general practitioners, institutions providing healthcare services to inpatients and outpatients and pharmacies have joined

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16 Hajnalka CSEKE, *Elstartolt az e–egészségügy–Adatok a felhőben*, Figyelő, 2017/8. 28.

17 Máté JULESZ, *„A telemedicina és a COVID–19–világjárvány"*. Információs Társadalom XX, 3.szám (2020), 32.

18 EMMI Decree 39/2016. (XII. 21.) on the detailed provisions on the National eHealth Infrastructure.

19 Á VÁRADI: *ibid.p.*8.

20 Attila PITI, Beáta HEILING KOLTAI, GYEMSZI, *Nemzeti Egészségügyi Informatika (e–Egészségügy)–Elektronikus közhiteles nyilvántartások és ágazati portál fejlesztési projekt helyzetjelentése*, IME–Interdiszciplináris Magyar Egészségügy, 2014.szeptember/XIII.évfolyam/7.szám 58–60.

the system. Private service providers were planned to connect by the end of 2018. The National Ambulance Service joined the system in November 2018. It was a milestone in patient care. Users have been trained by the member institutions with the help of the operator.[21]; Retrospective data upload, the integration of data sources, and the standardisation of digital documents were performed in the framework of the EFOP–1.9.6–16–2017–00001 project entitled "Electronic and Healthcare Development", as part of the Széchenyi 2020 programme.[22]

A. Regulatory background of EESzT

All projects that aimed to develop EESzT and its sectoral modules were completed at the end of 2015. The system integrates the previously existing systems of hospitals, pharmacies and general practitioners, and allows the introduction of new services.[23]

Article III/A of Act XLVII. of 1997[24] about the handling and protection of healthcare data and related personal data came in effect on 1 January 2016. It defines rules related to data management in EESzT. Art 35/A. (1)-(3) specifies that the operator of EESZT, which is the National Directorate General for Hospital, based on Art 7(4) of Government Decree 516/2020. (XI. 25.), shall provide related data transfer, and may store data pending consent by individual citizens. The objective of the decree was to define the conditions

[21] Bálint Szabó, Beáta Heiling Koltai, Állami Egészségügyi Ellátó Központ (Áeek), *Startol az EESzT,* IME–Interdiszciplináris Magyar Egészségügy, 2017.február/XVI.évfolyam/2.szám 48–49.

[22] EESzT Fenntartási és Üzemeltetési Főosztály: *Korábbi egészségügyi adatainkat is elérhetik a kezelőorvosok–Kulcsfontosságú fejlesztésekkel épül tovább az EEszT,* IME–Interdiszciplináris Magyar Egészségügy, 2019.március/XVIII.évfolyam/2.szám 56.

[23] Bálint Szabó, Beáta Heiling Koltai, Állami Egészségügyi Ellátó Központ (Áeek), *ibid.p.*48.

[24] Act LXXXIII of 1997 on compulsory health insurance.

and purposes of managing medical and personal information.[25] One of the chapters in the decree deals specifically with EESzT, and provides detailed information about the management and protection of medical and personal information.[26]

The testing of the system began on 1 January 2016 and was carried out by the National Infocommunications Service Company Ltd, which still operates the system.[27] The suppliers of the systems operated by connected institutions were informed on all technical requirements that they had to fulfil in order to make their systems compatible with *EESzT."*[28]

The operation of the EEszT is regulated by Decree 39/2016. (XII. 21.) of the Ministry of Human Resources[29]. The Regulation consists of 3 chapters, which describe the eHealth system in detail and clearly.

A short description of the 3 chapters:

Chapter 1 provides detailed information about the procedure and conditions of connection, the requirements regarding the IT system of the connecting entity, about the introduction of the service, the system, the management of authorisations, and the management of downtime and malfunction.[30]

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25 Kinga NÉMETH, *Egészségügyi adatkezelés és a GDPR hatása*, Med. Et. Jur., 2018. szeptember/9. évfolyam/3. szám 17.

26 *1997. Act XLVII of 1997 on the processing anf protection of medical and other related personal data.*

27 *Decree No 7/2013. (II. 26.) of the Minister of National Development, Schedule 1, par 23 and 1.24k .*

28 Bálint SZABÓ, Beáta HEILING KOLTAI, Állami Egészségügyi Ellátó Központ (ÁEEK), ibid.p. 48-49.

29 Decree No 7/2013. (II. 26.) of the Minister of National Development, Schedule 1, par 23 and 1.24k.

30 *EMMI Decree 39/2016. (XII. 21.)* on the detailed provisions on the National eHealth Infrastructure, art 2.§ (1)-(2).

Chapter 2 describes the services that are available through the system, including the central event catalogue and the management of master data.[31] It also discusses self-determination and healthcare databases, healthcare profile, medical records management and data provision requirements.

Chapter 3 includes appendices that help interpret the decree and its application in practice.

One of the major issues regarding the EESzT is data protection. Users may have concerns about the security and availability of their medical records.

On 27 April 2016, the regulation 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) was issued.

GDPR regulates issues relating to data protection. It came into effect on 24 May 2016 and has been mandatory for all member states since 25 May 2018.[32] In terms of the operation of EESzT the Hungarian regulation is in line with the GDPR. The GDPR states that "The protection of natural persons in relation to the processing of personal data is a fundamental right. Article 8(1) of the Charter of Fundamental Rights of the European Union (the 'Charter') and Article 16(1) of the Treaty on the Functioning of the European Union (TFEU) provide that everyone has the right to the protection of personal data concerning him or her".[33] It also states that "The right to the protection of personal data is not an absolute right; it must be considered in relation to its

31 *EMMI Decree 39/2016. (XII. 21.) on the detailed provisions ont he National eHealth Infrastructure, art 2.§ (1).*

32 Balázs SZÉCSÉNYI-NAGY, *Az egészségügyi adatkezelés és a GDPR összefüggései*, Med. Et Jur., 2021./12. évfolyam/májusi különszám, p. 6.

33 Regulation (EU) 2016/679 of the European Parliament and of the Council, preambulum, par. (1) .

function in society and be balanced against other fundamental rights, in accordance with the principle of proportionality."[34] The data protection principles basically apply to the data of persons who are identified or identifiable. This means that they do not apply to collected anonymous information and the data of deceased persons. The management of personal data can be based on regulations (*e.g.* in the case of an objective of public interest) or on the voluntary, informed consent of individuals.[35] The Preamble of the Regulation defines the scope of personal medical information.[36] Article 4 defines the concept of medical information.[37] According to the Regulation, genetic and biometric data that may be used to identify an individual, and medical records are special categories of information. Data falling into these categories may basically not processed, with certain exceptions.[38] The Regulation states that „Such processing of data concerning health for reasons of public interest should not result in personal data being processed for other purposes by third parties such as employers or insurance and banking companies."[39] The concept of data protection impact assessment is also defined. It covers the assessment of how the planned data processing operation will affect the protection of personal data.[40]

The establishment of EESzT and the introduction of GDPR had a major effect on the management of personal health information. The

34 Regulation (EU) 2016/679 of the European Parliament and of the Council, preambulum, par. (4) .

35 Balázs SZÉCSÉNYI-NAGY, *ibid.p.*6.

36 Regulation (Eu) 2016/679 Of The European Parliament and of the Council (35) .

37 Regulation (Eu) 2016/679, art 4 15.

38 Regulation (Eu) 2016/679, art 9 (1).

39 Regulation (Eu) 2016/679, preambulum, par. (54).

40 K NÉMETH, *ibid.p.*20.

databases of EESzT were created on the legal basis of public interest, and personal health information is stored accordingly.[41][42]

> According to Article 8 of the Charter of Fundamental Rights of the European Union: "Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified. Compliance with these rules shall be subject to control by an independent authority."
>
> The Treaty of Lisbon also deals with the issue of data protection in Article 16: "(1) Everyone has the right to the protection of personal data concerning them. (2) The European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall lay down the rules relating to the protection of individuals with regard to the processing of personal data by Union institutions, bodies, offices and agencies, and by the Member States when carrying out activities which fall within the scope of Union law, and the rules relating to the free movement of such data. Compliance with these rules shall be subject to the control of independent authorities."

Article 6 of the Constitution of Hungary states that "Everyone has the right to the protection of their personal data concerning them".

On the whole, regarding data protection issues we have to assess how we can increase efficiency without even minimally restricting personality rights. The introduction of uniform identifiers must be based on facts and analysis, which requires careful consideration of the benefits, the risks, the potential limitation of fundamental rights, and alternative solutions. The recommended solution must be in line with the principle of proportionality![43]

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41 Balázs SZÉCSÉNYI-NAGY, *ibid.p.*8.

42 Regulation (Eu) 2016/679 Of The European Parliament and of the Council, preambulum, par. (63).

43 Tamás KOVÁCS A., *Egy univerzális azonosító bevezetésének lehetősége – Az 1996. évi XX. törvény 20 éve és a lehetséges folytatás,* Új magyar közigazgatás 2017/10.évfolyam/2.sz. 69.

B. "I have uploaded the prescription in the cloud"

The ePrescription module of EESzT greatly simplifies patient care and helps both practitioners and patients.

The National Health Insurance Fund (NEAK, formerly OEP) prepared the introduction of ePrescription in 2012. The authority planned to use EU resources. The objectives were safe redemption of prescriptions, transparency, less administration, better communication with patients, and shorter queues in the pharmacies.[44]

Following discussions among the authorities concerned and other entities, the system was launched on 1 November 2017. Not much later medical aids were involved in the system, in addition to licenced medicines and magistral formulas[45], and private healthcare providers started to join the system. One might think that it is not easy to shift from traditional paper-based administration to an online system, but after six months it was clear that the use ePrescription had become part of the everyday routine of pharmacies and general practitioners, which proved the efficient digitalization and development of healthcare.[46]

I think that the functions of the ePrescription module developed for patients are user-friendly, and are very easy to use. I also use the system, and

44 *Announcement of the National Health Insurance Fund (21 June 2012.).*

45 *Ministerial Decree No 14/2007 (III. 14.) on Inclusion in Social Insurance Coverage of Medical Aids and Coverage of Their Prescription, Supply, Reparation and Borrowing*

46 Lóránt BERTALAN–Gergely HÉJA, *Féléves a magyar eRecept–El tudunk szakadni a papírtól?,* IME–Interdiszciplináris Magyar Egészségügy, 2018. június/XVII.évfolyam/5.szám, 52–53.

I believe that this cloud-based solution is a major step forward in eHealthcare. The use of the ePrescription is controlled by the regulation of medicines.[47]

As a rule, medicines can still only be prescribed following an appointment with the patient. However, due to the COVID–19 pandemic, it can also take place in the form of telemedicine treatment. The practitioner uploads the prescription to the system, and the patient can redeem the prescription in any pharmacy in the country. On 7 July 2021 the rules relating to the prescription certifications changed. Now it must be issued on paper or in electronic form, depending on the patient's request. This also applies to patients under 14 years of age. With an ePrescription ID anybody can redeem prescriptions for themselves or for others, due to the pandemic.[48] Those who do not have access to the Client Gate system can also use the solution, which is especially useful for older people who do not necessarily have the IT background and skills to use such systems. The environmental benefits of the ePrescription system are also significant as it reduces the use of paper in healthcare.

[47] *Regulation No 44/2004 of the Minister for Health, Labour Affairs and Family on the prescription and dispensing of medicinal products for human use) of 28 April 2004*

[48] https://www.eeszt.gov.hu/hu/erecept-kivaltas.

C. eProfile[49]

> "The eProfile module ensures the possibility to record the most characteristic health summary data (Health Characteristics) of patients. The information stored here – unlike several of EESZT modules – is not data on patients' health events, but a summary of the patient's own health." [50]

The records contain all information that may be necessary in treatments in a uniform and consolidated form. The eProfile content must meet two requirements. First, it has to include all medical information that may be necessary in case treatment is needed. Second, all incidents and interventions that may affect the condition of the patient and the potential treatments in the future must be documented. There are two categories of data in the system: Emergency and general. Data managed in the eProfile module rarely change.

Specialists and general practitioners can upload data into the system with the patient's consent.

[49] Based on https://e-egeszsegugy.gov.hu/e-profil.

[50] https://e-egeszsegugy.gov.hu/e-profil.

D. eReferral[51]

> "Referrals were mostly written by hand, and they were often difficult to read. Healthcare providers have always been required to record all data. This made the transition to eReferral easier. The system ensures the reliable and secure transfer of medical information. It eliminates factors that have caused problems so far. Referrals are stored in the system and are available to healthcare institutions that provide treatment to the patient. Medical records are uploaded into the system, about which both the referring practitioner and the patient are informed in EESzT. Using the Citizen Portal function, users can check their referrals, but they can also request to receive a message through the Client Gate."[52]

There may be cases, such as emergency care at night, when practitioners have no time to upload information into the system. In order to ensure continuous medical services, paper-based referrals remain an option.

The concept of ePrescriptions was introduced in the act on mandatory healthcare services (Ebtv) in 2016 (Art 18/A)[53]. Also, a detailed description was introduced in the relevant government decree in 2016[54].

E. eMedical history[55]

> "The eMedical history (EHR repository) allows for the central storage and retrieval of medical documents generated in connection with each medical encounter. Case history only stores treatment documentation, while other documentation generated during health care processes is stored in other modules of EESZT."[56]

Documents can be placed in the eMedical history in two ways:

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[51] Based on https://e-egeszsegugy.gov.hu/e-beutalo.

[52] https://e-egeszsegugy.gov.hu/e-beutalo.

[53] *1997. Act LXXXIII of 1997 on compulsory health insurance*

[54] *Governmental Decree 217/1997. (XII. 1.) on the implementation oof Act LXXXIII. of 1997.*

[55] Based on https://e-egeszsegugy.gov.hu/e-kortortenet-ehr- .

[56] https://e-egeszsegugy.gov.hu/e-kortortenet-ehr-.

Physically stored (internal) documents are documents stored in the EESZT eMedical history (EHR) module.

(External) documents stored as reference documents, which are stored in other modules of EESZT. Referrals are stored in the eReferral module, prescriptions are stored in the ePrescription module, image diagnostics files are stored in the Digital Image Transfer and Remote Consultation Module (DKTK). On the other hand, it is a so-called external document, stored in the form of a reference, which is stored in other modules of the EESzT.

EMedical history documents are stored and can be queried in a hierarchical system. The SSN (TAJ) is a unique identification number for identifying patients. eMedical history assigns a unique internal ID to every patient in the country. Cases can be identified by their case number and documents by their document ID which is transferred from the submitting system to the eMedical history module, and the eMedical history module assigns a unique internal ID to every case in the country.

Currently, care institutions are required to transfer many documents to EESZT[57], for example related to prenatal care and child care.

[57] *EMMI Decree 39/2016. (XII. 21.)on the detailed provisions on the National eHealth Infrastructure.*

F. Event Catalogue[58]

> "The Event Catalogue module of EESZT contains all instances when an individual has received services as an inpatient or an outpatient, in an emergency room, in a laboratory, a radiology clinic, or visited a general practitioner. The institutions and doctors upload the data into the system, so patients and doctors are able to check, even years later, what treatments the patient received, and who provided the services. It may help the diagnostic process later and communication between therapists." [59]

The medical history of patients is only available to the patient and the specialists who provided services to them. With the Self-determination function, patients can decide which service provider can have access to their data.

The scope of events to be recorded in EESzT is defined by law.[60] These events include patient admission and release, laboratory diagnostics, dental care, prenatal care, infant care, balneology sessions, physiotherapy sessions, etc.

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58 Based on https://e-egeszsegugy.gov.hu/esemenykatalogus.

For further aspects of patient's right to self-determination see: Judit ZÁKÁNY: Patient's right to self-determination and its interpretation in case law, Debreceni Jogi Műhely, 2023/1-2.

59 https://e-egeszsegugy.gov.hu/esemenykatalogus

60 *1997. Act LXXXIII of 1997 on compulsory health insurance*.

G. Self-determination[61]

> "All persons have the civil right and responsibility to self-determination with regard to medical information."[62]
>
> "In order to protect personal data, the system allows every citizen to control access to their data entered into the National eHealth Infrastructure (EESZT) in the future. The scope of Digital Patient Consent with regard to medical and related personal data is allowed by provisions defined in Act XLVII. of 1997 about the handling and protection of health care data and related personal data as amended by Act CCXXIV of 2015."

Citizens can exercise their right to self-determination either online or in administrative bureaus in person.

Citizens can set up their account in the Self-determination function. They can request email notification in the case of certain EESzT events, and can track who requested access to their data. Practitioners and therapists can have access to patients' medical data and documents, while pharmacies can only check information regarding prescriptions. Users can restrict access to their data.

The Self-determination module offers a number of functions. Citizens can set and modify their self-determination status any time. They can even determine if the system should send a notification to the practitioner, therapist or pharmacist whose access to data is restricted. They can also set a phone number that should be called in case of emergency.

There are sensitive medical data that are, by default, available only to the concerned therapist. The scope of such data includes, for example, information related to mental illnesses. However, users can change this setting. By applying the status regulated by a simplified provision, they can allow, restrict or prohibit access to their sensitive data. With the status

[61] Based on https://e-egeszsegugy.gov.hu/onrendelkezes.

[62] Szabó Heiling Koltai, Állami Egészségügyi Ellátó Központ: *ibid. p.* 48.

controlled by a complex provision, users can specify complex access provisions for persons making a query, document type and disease category data, and object sources. In this status it is possible to allow or restrict access rights. A status completely prohibiting access is also available. This means that users can prohibit all users on the healthcare side to have access to their data stored in EESZT, except for 3 cases. Users cannot dispose of **ePrescriptions** for which the drugs have **not yet been collected** and the **eReferral** documents still to be used. The third one is emergency care. If, despite the restrictions set, the user wishes to give their therapist permission to view their medical documents because of a particular examination or treatment, they may do so by issuing a **24-hour individual permit** for a given calendar day and in the name of the physician concerned. It can be done in the Self-determination module, or in writing in front of the therapist. Self-determination right also applies to the user's eProfile data and medication history.

In my opinion, users should carefully consider using restriction or prohibition, because if a therapist is not allowed to access the relevant information, it may cause problems later, in the case of using healthcare services.

The National eHealth Infrastructure is a cutting-edge solution and is in line with the principles of patient care. It is a system that stores all medical information of patients, which may result in faster treatment, shorter recovery time, simplified prescribing and post-treatment. Healthcare professionals have to make decisions that may affect the length and quality of treatments, or even the survival of a patient. This system can be a huge help in this regard,

as the easy-to-access data stored in the system help doctors to choose an efficient and tailor-made treatment.[63]

Summary

Healthcare management as part of governance, and in particular sectoral management, plays a central role in everyday life. It is imperative to ensure that the system keep pace with technological development. Digitalization is in progress in all areas of life. The digitalization of healthcare has revolutionized the system. The COVID19 pandemic has speeded up this development. The new and efficient solutions will be useful in the future.

EESzT has allowed reduction of load on the healthcare system and facilitation of citizens' lives and proved very useful during the pandemic. The system is easy to use and, due to the regulatory background, secure. It allows users to exercise their rights to self-determination within reasonable limits, considering that these rights should not reduce the efficiency of the future treatments of patients.

Continuous development ensures that the system is always up to date in order to ensure the easy use of EESzT for healthcare professionals.

Of course, the Hungarian system is not perfect either, as it has its advantages and disadvantages. The biggest problem with the system is that only those who have a Client Gate system can use the EESzT system. As a consequence, a small but not insignificant part of the population cannot benefit from the system. Take, for example, the older age group who are sheltered from technical innovations and are unlikely to have a Client Gate

63 EESzT: *Fejlesztések a két éve indult EESzT–ben*, IME–Interdiszciplináris Magyar Egészségügy, 2019. november–december/XVIII. évfolyam/9. szám 64.

system and thus no EESzT. So despite the fact that eRecept is available to all, there is still a problem of digital divide. Furthermore, from an empirical point of view, the fact that patients see the results of tests sooner than they would consult a doctor is also considered a bad feature. Since patients are mostly lay people, they may panic, worry and wait until they can consult the doctor in person or by phone in case of an unclear diagnosis. This can cause unnecessary stress to the patient. First of all, I would like to mention the environmental benefits, because thanks to ePrescription, not all prescriptions need to be printed on paper, and many patient documents are in the system in electronic form instead of printed paper. And because the documents are electronic, the patient does not have to carry them around with him or her at all times, but they are easily accessible to the doctor in the digital system. A huge advantage is that it reduces the burden on the healthcare system. For example, if you want to book an appointment for a treatment, in some cases you don't need to phone the hospital but can easily do it online. For general medicines, we don't have to queue unnecessarily at the doctor's but can simply ask him to prescribe them in the cloud over the phone. For many people, this was only possible by asking for time off work, but nowadays patients can buy a prescription during a lunch break.

I believe that EESzT may be a good example for other countries with its novelties, functions and benefits; such a system may revolutionize healthcare and governance anywhere in the world.

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