The development of e-health in the health system of the Republic of Moldova – a tool for sustainability in the context of European practices

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Abstract
The digital transformation of the national economy, including public health, is one of the main research directions not only for technical specialists but also for sociologists, economists, political scientists, and researchers from other fields. It becomes clear that these processes have a significant impact on the quality of life of the population and its components. The prospects of R. Moldova's integration into the EU lead to the emergence of new requirements that must be implemented for all public products and services provided by the state, especially those dealing with public health. The article analyzes the impact of the digital economy as a promising direction for health services. The study aims to identify aspects that address certain issues regarding the impact of global and local developments in health computerization and the development of solutions to improve the effectiveness of the provision of health services, through the mass computerization of medical services. The following research methods were used to achieve the aim and objectives: documentation, selection and bibliographic synthesis of statistical information from national and international medicine. Graphical, tabular and comparative analysis methods were used for visual and representative interpretation. Methods of grouping, synthesis, induction, and deduction of statistical data were also used. Ensuring the standardization of work tools, necessary to allow the cross-border circulation of electronic information on public health, is conceived in various European documents, which provide for their implementation in medical services in the countries that have joined the EU, including candidate countries such as the Republic of Moldova.

Keywords: public health, medical services, digital medicine, modern medical technologies, managerial tools.

1. Introduction: the role of digital transformation in public health
The continuous digital transformation of the economy, society and public health requires consideration of the theoretical foundations of the digitization of the population's life, requires consideration of the theoretical foundations of the digitization of the population's life, as well as an empirical analysis of changes in the quality of life in cross-border regions in modern conditions.

Thus, the digital society is a system of political, social, ethical-cultural relations and other nature, formed in connection with the development of a digital economy and digital information technologies based on the production, dissemination, and use of digital information technologies.

The use of digital technologies presents innovative new perspectives for the future of healthcare in the EU and Eastern Partnership regions and is beneficial for improving quality of life and health satisfaction. At the beginning of the 21st century, new technical e-health solutions are being developed that have the power to revolutionize traditional medicine through patient-centered healthcare and electronic databases. [1, 15, 16]

Many opportunities and solutions for the development of smart technology in EU and Eastern Partnership countries can transform healthcare into a digital approach. However, there are certain challenges to implementing the new solutions. International cooperation and coordination are very important factors in the context of the development of each country. To open up new opportunities in the field of "smart specialization", regions and countries should analyze their position in European and global value chains. [2, 3]. Based on this analysis, smart medical specialization strategies should be coordinated not only with national priorities and programs but also with those of other countries regions, since no region has complete and comprehensive information about all possibilities for cooperation at the regional, national and European in the field of smart technology. [4, 6, 21]

This thing requires a focused approach in the context of transregional cooperation, including related aspects such as administrative responsibility, risks and application domain by the public authorities. The EU4Digital eTrade network addresses the digital aspects of the entire implementation cycle with fairness, of European policies not only in developed countries but also in developing ones. Thanks to the Association Agreement with the EU, the implementation of *e-health in the Republic of Moldova and in other developing countries will raise the level of coverage of performance medical assistance and medical logistics in urban and rural regions*.

At this stage of regional development, an important element in the activity of logistics innovation systems becomes innovation management and investment evaluation, as well as logistics coordination in the decision-making process of product or process innovations.

Logistics innovation is used in the organization and management of material and non-material production, which includes healthcare. At the same time, logistics innovations, faced with the need to periodically renew technical facilities, actively influence the development of scientific and technological progress.
In terms of processes, modern logistics «consists of 90% information technology. Only the remaining 10% is made up directly of the transport of goods. Without the application or constant renewal of information technology in logistics, modern medicine will undergo great changes for the worse, because information technology is used in all areas and at all stages of the logistics process [4, 5, 6, 25].

2. Research materials and methods

In this article, the authors used methods such as documentation, selection and bibliographic synthesis of sources related to theoretical and practical foundations in the field of medical care. For a clear and representative interpretation, a comparative method was used.

Starting from a new scientific paradigm of continuous development of the human factor, understood as human capital, the correlation with personified digitization is very high, implementing the elements of the quality of medical services for a health potential.

The authors of the article mention that among the basic objectives of the Ministry of Health of the Republic of Moldova are the creation of an e-Health Center under the Ministry, the implementation of the electronic patient file, e-prescription and other digital projects that would provide added value to the health field. The Vice-Minister of Digitalization from the Republic of Moldova, Iurie Țurcanu, mentioned in the media: "Digitalization and health are two high-level priorities, and in parallel with the fight against the effects of the pandemic, we must think about how to build a structure of good resistance in health. We are willing to take some international standards in the field, adapt them and have a close collaboration with development partners who are interested in this subject" [3].

For this purpose, on October 26, 2021, the first meeting of representatives of public institutions in the medical field was convened, including the Ministry of Health, the National Medical Insurance Company, the National Agency for Public Health, but also the Electronic Government Agency of the Republic of Moldova to consult the opinion of specialists and jointly discuss the measures required to build a unified government information system, generically called e-Health. This initiative was carried out thanks to the representatives of the Employers' Association - Union of Private Medical and Health Institutions from the Republic of Moldova. Based on the opinions of these representatives and specialists, a series of challenges faced by the current public health system in terms of medical statistics, patient records, the collection and exchange of personal data, as well as the impediments to processes and activities in the field of health were marked. could be digitized.

The strategy regarding the formation of the Digital Single European Market aims to:

- Ensuring interoperability and standardization of the tools needed to enable cross-border circulation of electronic health information.
- Creating a common infrastructure for digital e-health services.

The services provided by the eHealth digital service infrastructure also contribute significantly to the achievement of objectives 1 and 2 of the communication on the digital transformation of health and care [1], which focus on citizens' secure access to their health data, also, a common European data infrastructure must be implemented in all countries in medicine [5, 26].

3. Implementation of the EU4Digital European Project in public health

The authors mention that the implementation of the EU4Digital European Project is maneuver-directed. It manifests itself as an opportunity to improve and increase the quality of healthcare services. Professor H. Martins, [2021], specialist in digital health, predicted that the future of health is interdependent with digitized health and provides insight into future opportunities and overcoming challenges and consequences in achieving the full potential of digital technologies in healthcare [27].

In addressing these issues, the authors mention that *the ultimate goal* of the e-health process is to shift the focus of providing healthcare services *from a doctor and hospital-centered algorithm to a patient-centered focus and the use of digital technologies in public health*.

This is reflected by the use of the managerial tool - Digital Systems, which are intended to group patient data into a single Electronic Health Record, which can be made available to different doctors, and public health professionals to issue prescriptions and also to give patients the mobility to more easily access prescribed medicines in any territory, etc.

E-health also means using modern technologies such as artificial intelligence (AI) or Big-data software to support disease prevention policies by flagging potential anomalies or risks in the data and, as a result, the correctness of the diagnosis of the disease [14, 15,16].

In terms of future solutions in the EU, the use of Electronic Health Records and Electronic Prescriptions is on the agenda. They rely on the availability of Interoperable Digital Systems to enable the exchange of health information.

A future priority is to enable these solutions to be cross-border available. This would mean, for example, allowing a Luxembourg citizen traveling to Croatia on holiday to be able to pick up his prescription medicine in Luxembourg at a pharmacy in Croatia. Within the EU, cross-border pilot projects based on electronic Prescription are being carried out, which, in the future, could also be tested in the Eastern Partnership region or even between the EU countries and the Eastern Partnership regions.

The challenge in the field of cross-border e-health lies in the interoperability of digital health systems. Professor H. Martins, uses the banking sector as an example. Financial banking is a cross-border service where citizens of one country can withdraw money from an ATM in another country. This is based on your home bank and the foreign bank having similar operating systems that can talk to each other and exchange banking information such as account numbers and the patient's available cash amount [11, 25].

In e-Health, it is also possible to exchange data across borders, except that health data is not always just numbers, but can also be text and images, which adds a level of complexity to correct diagnosis [8, 9, 10, 12].

Common standards to ensure similar operating systems and digital tools are a key element to enable information exchange. The other challenge in cross-border e-health is the interoperability of medical competence, which is necessary for e-prescribing when one country needs to recognize the prescription of a healthcare professional from another country [13, 15].

"Seamless flows of health information and data between relevant organizations, regions and even countries are the next threshold for e-health. This is based on the development of harmonized and interoperable e-health services at the national and regional level," said Martynas Daugirdas, the e-health leader in the EU4Digital project [3, 16, 17].

Smart infrastructure serves as the basis for all major aspects of living in a smart city/smart village, including rational population behavior, rational mobility, rational economy, rational lifestyle, rational management, and rational use of the environment. The main feature underlying most of these components is their interconnection and the generation of data that can be rationally used to ensure optimal resource consumption and increase efficiency [14, 15, 22].

Cooperation is extremely important within the European Reference Networks (ERNs), which bring together designated healthcare providers and Centers of Expertise in the member states, especially in the field of rare, unusual, and complex diseases and conditions. This action will help ensure affordable, high-quality, cost-effective healthcare and improve these patients' access to the best experience and care available in the EU for their disease.

Cross-border databases have been created to coordinate networks and collaborate with patients with clinical problems by supporting the virtual collaboration of health professionals within the ERN.

The first ERNs were launched in March 2017, involving more than 900 highly specialized medical units in more than 300 hospitals in 26 EU countries. Today, more than 26 ERNs work on a range of thematic issues, including bone disease, childhood cancer and immunodeficiency.

ERNs will also serve as focal points for medical education, research, information dissemination, and health assessment. The exchange of medical data, especially electronic prescriptions, has already begun. Three member countries (Finland, Estonia and Croatia) have started the international exchange of electronic prescriptions.

As of January 2019, more than 5,500 electronic prescriptions have been issued. In addition, doctors in Luxembourg and Croatia can receive summaries of patients traveling from the Czech Republic. Malta and Portugal are expected to join these exchanges in Q4 2019/Q1 2020. By 2023, these services will be gradually introduced in the 22 European countries participating in the initiative.

The EU's potential for e-Health action is highlighted by:

a) Patient registries that may be implemented in the future.
b) The main person responsible for the European Commission for e-Health issues is DG SANTE.
c) Member States' support in the development of cross-border e-health services.

The authors emphasize that, in the current circumstances, when society has faced a deep pandemic crisis, the need for transparency and efficiency of the information circuit in the medical system is fully realized, and the existing information systems do not communicate sufficiently with each other, and from here appear a series of deficiencies on the part of the informational circuit and access to data. The rational healthcare management system makes it possible to transform population health data into clinical and economic information, which includes electronic patient registration, home health care, and remote patient

diagnosis, treatment, and observation mechanisms. In addition, the system promotes the delivery of medical services using smart network technologies that help monitor the health of citizens. This system allows for a shift in focus from treatment to prevention, along with the spread of broader views on general healthcare, healthy lifestyles, and wellness management.

The improvement of the mechanisms and instruments for the coordination and implementation of the national regional development policy is reflected by the achievement of Specific Objective 3, which is a mandatory premise for ensuring the efficient and effective implementation of Specific Objectives 1 and 2 within this Strategy. This specific Objective aims to improve the management of the implementation process, which is still at a transitional stage of development and consolidation. In this sense, the necessary interventions to improve the mechanisms and tools for coordination, implementation, and evaluation of the national regional development policy are to be carried out on several levels. At the same time, the given objective is not only aimed at strengthening the already existing mechanisms and instruments but also foresees the creation of new ones, aimed at ensuring the practical application of the intersectoral approach of the regional development policy, including the deepening of cooperation between all the actors involved in the implementation process. "The main challenge so far in the implementation of the regional development policy has been the failure to impose an integrated and unique approach to planning, coordination, and evaluation of sectoral public investments aimed at the development of regions. On this dimension, the coordination structures, both at the central and regional level, need to be re-conceptualized, and their attributions reviewed, based on new institutional regulations" [12].

The authors emphasize that in the context of the National Development Strategy, in general, "without the promotion of an effective regional development policy, 4 of 10 objectives of the SND "Moldova 2030" will not be able to be achieved according to the assumed targets and fixed terms, there are strong gaps and discrepancies territorial issues that must be addressed in a specific and systemic manner (1 – increasing income from sustainable sources and mitigating inequalities; 2 – increasing people's access to physical infrastructure and public utilities, 3 – improving working conditions and reducing informal employment, 10 – ensuring the right fundamental to a healthy and safe environment)" [12, 25, 26].

In the same context, under the conditions in which the SND "Moldova 2030" aims by 2026 to achieve significant objectives of increasing the quality of life (for example, at least 85% - coverage with running water services and at least 75% - coverage with sewage services), currently "in the Republic of Moldova there continue to be hundreds of localities where the construction of the basic infrastructure in terms of centralized water supply and sanitation systems has not even been initiated. That's why the authors believe that without an effective regionalization approach of the actions of the existing public utility operators, achieving the assumed goals is not possible or will involve excessively high costs» [20].

The health care management system has strong potential, taking into account the aging population of developed countries, and is able to reduce the inequality in health care between high-income and low-income groups. It is impossible to select a specific concept

of smart settlements and transfer it from one geographical region to another: smart infrastructure concepts must be adapted to local conditions and meet local development requirements [20].

The authors mention that the *Territorial Agenda 2030* model is an effective part of the innovative implementation for sustainable European development. «Territorial Agenda 2030 (European) is a Strategic Framework Document that underlines the importance of strategic planning and ensures its orientation, as well as calls for strengthening the territorial aspect of sectoral policy at all levels of government. Its purpose is to ensure an inclusive and sustainable future for all territories and to promote the achievement of the objectives of Sustainable Development in Europe» [7, 17, 24].

The territorial agenda contributes to the achievement of key European objectives: a "fair Europe" that offers future prospects for all places and people and a "green Europe" that protects shared livelihoods and shapes social transformation. Pilot events consisting of several countries and partners were carried out to support the Territorial Agenda [14, 15, 16].

Pilot actions develop, demonstrate and unite stakeholders across Europe to implement the priorities of the territorial agenda. They demonstrate how the territorial aspect of regional, national and European politics can be resolved. Everyone is invited to follow these actions, be inspired, and offer suggestions for new actions, in the context of well-being and quality of life [17, 20]. The authors point out that the European Commission has nominated the DG SANTE International Company as responsible for this implementation.

4. Cross-border cooperation: a pillar of e-health sustainability

Open issues of cross-border spatial planning are reflected in Table 1. Robotics and the use of artificial intelligence (AI) is another future opportunity that could transform healthcare. The image of fully autonomous humanoid robots treating patients is more science fiction than reality, but the use of robotic parts to support healthcare professionals and patients is already a growing area, according to Professor Martins. For example, a robotic arm could be used by orthopedic health professionals to help them treat patients by providing additional support or strength to move and manipulate limbs. The use of exoskeletons, a digitally enhanced mechanical support framework, is already being prototyped in the EU to help rehabilitate stroke patients, helping them regain their ability to walk in less time than traditional physiotherapy practices. I propose to consider the concept of the EIT Regional Innovation Scheme (EIT RIS) in the article.

Table 1. Degree of achievement of cross-border spatial issues in the context of e-health implementation in the EU

Open issues of cross-border spatial planning	Country Profile Synthesis Algorithm of e-Health	E-health in the context of the R. Moldova
1. Non-harmonised cross-border spatial data (roads, rivers, railways) and administrative data (land cadastre, spatial units, planned territories)	1. Synthesis of information on the state of health in the respective country	70% done

2. Unauthorized spatial database management system, separate maintenance procedures	2. Synthesis of determinants of health, with emphasis on behavioral risk factors	30% done
3. Non-harmonised standards for data content of non-harmonised databases	3. Synthesis of accessibility and determining the possibilities of implementing European standards in the national health system	35% done
4. The need for data harmonization for effective spatial management and sustainable development planning in a cross-border area	4. Synthesis of the organization of the health system	25% done
5. The need to strengthen cooperation between Institutions - Data Providers - Data Users - and Interested Parties	5. Synthesis of the effectiveness, accessibility and resilience of the national health system	35% done

Source: Performed by authors in the context of SNDR 2022, https://ec.europa.eu/regional_policy/en/information/publications/brochures/2020/territorial-agenda-2030-a-future-for-all-places

The EIT Regional Innovation Scheme (EIT RIS) was created by the European Institute of Innovation and Technology to reduce the gap between regions that are leaders in innovation and those that are still developing. The description of the action is reflected by the coherence of digital services in public health and the effectiveness of medical services.

The objectives of the infrastructure of digital e-health services are as follows:

- Cross-border sharing of patient data from electronic prescriptions and summaries of patients by supporting Member States in establishing national contact points for e-Health. This action will improve continuity of care, patient safety, patient access to highly specialized care, and the sustainability of health care systems. E-prescribing and e-dispensing allow EU citizens to obtain their medicines from a pharmacy located in another EU member state by electronically transferring their prescription from their country of residence to their country of travel. Patient records provide basic information about important aspects of health, such as allergies, current medications, previous illnesses, surgeries, etc., making them available digitally in the event of an (emergency) medical visit in another country. This is a summary of the patient's complete health data in electronic format (electronic health records). The Commission recently adopted a recommendation on a European format for the exchange of electronic medical records, with the aim of establishing common standards for the electronic exchange of different types of medical data. Electronic patient records and electronic prescriptions should be available to patients and healthcare professionals across the EU, wherever and whenever they are needed [4].
- Exchange of medical data, especially electronic prescriptions, has already started. Three member countries (Finland, Estonia and Croatia) have started the international exchange of electronic prescriptions. As of January 2019, more than 7,750 electronic prescriptions have been issued.
- In addition, doctors in Luxembourg and Croatia can receive summaries of patients traveling from the Czech Republic.

- Malta and Portugal are expected to join these exchanges in Q4 2020/Q1 2021. By 2023, these services should be phased in across the 22 European countries participating in the initiative.
- Cooperation within the European Reference Networks (ERNs), which bring together designated healthcare providers and centers of expertise in the Member States, especially in the field of rare, unusual, and complex diseases and conditions. This action will help ensure affordable, high-quality, and cost-effective healthcare and improve these patients' access to the best experience and care available in the EU for their disease. Trusted cross-border IT solutions have been created to coordinate networks and collaborate with patients with clinical problems by supporting the virtual collaboration of healthcare professionals within the ERN. The first ERNs were launched in March 2017, involving more than 900 highly specialized medical units in more than 300 hospitals in 26 EU countries. Today, 24 ERNs work on a range of thematic issues, including bone disease, childhood cancer, and immunodeficiency. ERNs will also serve as focal points for medical education, research, information dissemination, and health assessment.
- Implementation of Patient Registries globally.
- The main responsibility of the European Commission: DG SANTE.
- Support member states in the development of cross-border e-health services.
- Freedom of action potential.

Digital health technology is a critical component of the Digital Single Market. Deputy Prime Minister for Digitalization, Iurie Țurcanu, convened, on October 26, 2021, the first meeting of representatives of public institutions in the medical field, including the Ministry of Health, the National Medical Insurance Company, the National Agency for Public Health, but also the Electronic Government Agency for to consult the opinion of the specialists and jointly discuss the measures required to build a unified government information system, generically called e-Health. « The official added that among his priorities this year is the deepening of cooperation with Romania and the exchange of digital tools and applications. Romania is much better in terms of cyber security, the area in which the Chisinau Government needs to strengthen» [21]. Member States in the e-Health network have adopted additional clauses to the general guidelines for the electronic exchange of health data under the cross-border Directive 2011/24/EU to support the exchange of patient summary data for cross-border care.

5. Research results

The authors note that digital health technology is critical to the Digital Single Market. With the increasing mobility of citizens in the European Union, national health policies and health systems need to use the full potential of digital health technologies, including e-health and telemedicine, to become more interconnected and maintain the continuity of healthcare across borders. However, patient health information is far from being portable within and between Member States and many challenges remain such as technical, semantic, and legal ones.

Among the subsequent activities to be carried out in the context of the continuity of this collaboration on the digital dimension are: the wider dialogue with all the actors involved,

including donors, the joint agreement of a new concept with a clear vision of the new e-health information system, an assessment-expertise of the current situation, a feasibility study, a road map with concrete objectives to which all institutions related to the field should align.

The rational healthcare management system makes it possible to transform population health data into clinical and economic information, which includes electronic patient registration, home health care, and remote patient diagnosis, treatment, and observation mechanisms. In addition, it promotes the delivery of medical services using smart network technologies that help monitor the health of citizens.

The dimension of health is described by subjective and objective indicators. In the field of health, objective indicators illustrate two dimensions: health status and health care services. In the view of university professor Gorobievschi Svetlana, the dimension of health is measured by means of objective indicators: life expectancy, general mortality rate, mortality rate by cause of death, morbidity rate, population disease incidence, health expenditure but also by other indicators such as the number of medical personnel, the institution's endowment with adequate medical equipment, the number of health institutions in the country, the planned expenses for the treatment of patients through the prism of the GDP share, indicators that characterize the medical system trained in the treatment of patients.

In relation to the COVID-19 pandemic phenomenon caused in the Republic of Moldova, which had much larger dimensions compared to European countries, including neighboring states such as Romania, Ukraine, and Bulgaria, in 2020, a team of researchers from the Republic of Moldova initiated the idea of scientific research with the title "*Evaluation of the state of health and assessment of the quality of life of patients included in the electronic registry COVID-19*", aimed at researching the impact of this disease and determining its consequences on health and quality of life (QOL) in post-Covid-19 patients. This idea gained the status of the Expression of Interest with the title "*Evaluation of the State of Health and Assessment of the Quality of Life of Patients Included in the Electronic COVID-19 Registry*", the activities being carried out in 2020-2021 within the State University of Medicine and Pharmacy "Nicolae Testemițanu " (USMF) from the Republic of Moldova.

Thus, the researchers S.Gorobievschi, T.Costru, R.Puia, and A.Ungureanu (2021-2022) in their research carried out during the Covid-19 pandemic, developed and implemented the electronic records of patients with Covid-19. As a result, it was confirmed that the elaborated Electronic Register played an important role in the assessment of health status and, indirectly, allowed the possibility of rapid access to information, proving to be a relatively simple, cheap, and effective tool for taking of medical decisions, establishing the form of the disease and the appropriate treatment of patients. Monitoring tools as health assessment components allow for establishing the effectiveness and safety of applied treatments, dynamically tracking the realization of e-health [18], [19].

It is important to mention that the results of the implementation of the electronic Covid-19 Registry in the activities of medical institutions in Chisinau were presented and appreciated

by national and international authorities in the field of research and innovation. Thus, the State Agency for Intellectual Property of the Republic of Moldova (AGEPI) in November 2021, at the Specialized International Exhibition, within the XVII th Edition, appreciated the results of the implementation of the project for the economy of the Republic of Moldova with the Bronze Medal [20].

On May 26-28, 2022, the Government of Romania and the Association EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION also mentioned the contribution of the project results to the economy of the Republic of Moldova with the Bronze Medal [21].

For the invention, "Assessment of the state of health and assessment of the quality of life of patients." included in the electronic Covid-19 Registry" at the Traian VUIA International Exhibition of Inventions, Brașov, Romania, October 10, 2022, the group of researchers were awarded the Gold Medal [22]. E-health enables a shift in focus from treatment to prevention, along with the spread of wider views on general healthcare, healthy lifestyles, and well-being management.

The system of rational management of medical assistance has a strong potential, taking into account the aging of the population of developed countries; is able to reduce the inequality in health care between high-income and low-income groups. It is impossible to choose a specific concept of smart settlements and simply transfer it from one geographical region to another: smart infrastructure concepts must be relevant to local conditions and respond to local development needs. The context, culture and economy influence this process in direct proportion to public health, and even more so, digital technologies.

In other words, *Telemedicine is an opportunity to consult a doctor online without visiting a polyclinic or a hospital* (online visit). By phone or video, the patient contacts the doctor, tells about his symptoms and also receives advice with instructions on how to proceed. It is worth noting that Telemedicine is suitable for those patients who have already had a face-to-face consultation and now want to follow the recommendations, as well as monitor their health, which was confirmed during the Covid-19 pandemic.

With the development of telemedicine, a person can save time and effort, because communication with a specialist will be online. This is very important for residents of large cities and megacities, mothers with many children, people with disabilities, etc., who often do not have enough time to get to the doctor, as well as to wait in the waiting room [2].

It should be noted that digital Telemedicine technologies can be used in almost any medical field, be it psychotherapy, dermatology (due to the high quality of images dermatologists can examine patients suffering from psoriasis, etc.), pediatrics (a sick child does not still need to be transported to a doctor) or neurology (for example, blood pressure indicators are redirected to a specialist using remote monitoring). Radu C, Pana B, Furtunescu F., mention that:, Telecare has also been developed to replace some visits to the doctor's office and this, in the future, could support the improvement of care services for underserved communities [17].

Next, we will highlight the main objectives of Telemedicine, fig. 1.

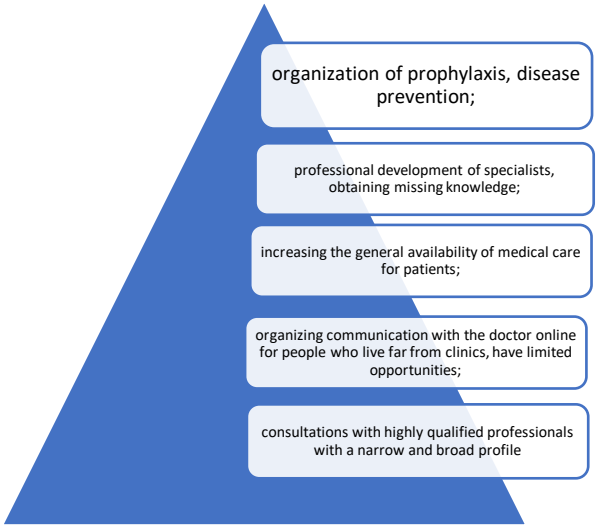

Fig. 1. The algorithm for implementing the Telemedicine objectives
Source: Developed by the authors in the context of SNDR 2022, *https://ec.europa.eu/regional_policy/en/information/publications/brochures/2020/territorial-agenda-2030-a-future-for-all-places*

To better analyze the advantages and disadvantages of Telemedicine, we present them in Table 2.

Table 2. Advantages and disadvantages of Telemedicine implementation

Advantages	Disadvantages
1. The ability to keep in touch with a specialist during treatment	1. There is no direct connection with the doctor if the patient only perceives face-to-face communication
2. Slowing down the spread of infections (visits to medical institutions may be associated with the risk of contracting various infections)	2. Patients, as well as medical institutions, may not have the necessary equipment
3. Improving access to care (so Telemedicine is more convenient for patients who find it difficult to get to a doctor in person)	3. Many people do not know how to use modern means of video communication
4. Electronic patient records play an important role in health assessment and indirectly determine its improvement through quick access to information	4. For some patients, the transfer of private data to third parties and the dissemination of personal information is considered a risk
5. Global network of over 1 million hospital and clinical staff; providing world-class services 24/7;	5. For patients, risk situations arise, to face scammers, who tend to win undeservedly
6. Services without hidden limits or exclusions.	6. Financial investments than traditional medicine

Source: performed by the authors based on database https://eufordigital.eu/bright-future-of-possibilities-for-ehealth-technology-while-some-challenges-remain

From Table 2, we can see that telemedicine can be distinguished as having many advantages and disadvantages. Many patients cannot personally visit narrow and broad-profile professionals for various reasons. Therefore, telemedicine is gaining a lot of popularity every year, by diversifying it in the context of better healthcare.

We can suggest, that telemedicine is a significant tool that allows us to obtain the following results:

a) creation of additional jobs;
b) provision of timely medical care to adults and children;
c) reducing the number of medical errors;
d) improving the quality of medical care for the elderly, as well as for patients with disabilities;
e) extension of important preventive measures;
f) organization of distance training of specialists, training and retraining of personnel in the Health System.

Telemedicine as a component of e-health is a fairly new direction, especially for the Republic of Moldova. It has been developed in many countries of the world, has proven its high efficiency in practice, and also has a comprehensive positive impact on the health system, improves the quality of medical care, and expands the capabilities of doctors.

The information deficit experienced during the 2019-2022 pandemic has spurred the creation and implementation of several electronic information systems to better manage overstretched healthcare resources. For example, a Diagnostic Testing system was established to improve communication between laboratories, local public health authorities, family doctors, and patients.

Vlădescu C (2016) notes the advantages of a centralized electronic system – an operational coordination center that reports daily the degree of occupancy of beds, facilitating the management of resources [17].

Telecare has also been developed to replace some office visits, and this could support improved care services for isolated communities [17].

The health system in the Republic of Moldova is at a premature level to implement diversified e-Health.

6. Conclusions

1. Digital health technology is a determining component of the digital single market, the implementation of which depends directly and proportionally on the economic growth of each individual country.
2. With the increase in population mobility in the European Union and the diversification of public health policies, health systems are all the more forced to implement the full potential of new health information technologies, including e-health and Telemedicine.

3. Telemedicine is a fairly new direction, especially for the Republic of Moldova. It has been developed in many countries, has proven its high efficiency in practice, has a comprehensive positive impact on the health system, improves the quality of medical care, and expands the capabilities of doctors.
4. Patient registries can be implemented, in the future, in a Single European System
5. Due to the complexity and uncertainty of e-health implementation processes have both positive and negative consequences, which require a deep study of the effects and risks in the sphere of social life for each country.
6. The strategic vision of public health in the Republic of Moldova is reflected in correspondence with the new regional development paradigm. The strategic vision of SNDR 2022-2028 consists in "supporting the increase in competitiveness and sustainable development of each region, adjusting disparities, and increasing the quality of life of citizens in the context of European practices.
7. Based on the approach of improving the quality of medical services in the context of the development of the information society, the digitization of economic processes becomes a very important managerial tool in that it allows the development of the digital economy, contributes to the increase of labor productivity in all fields, ultimately ensures economic growth, the development of civilization human resources and creating opportunities in the development of human capital, increasing its intelligence and culture worldwide.

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