

THE ROLE OF DIGITAL HEALTH SERVICES AND TELEMEDICINE IN ECONOMIC DEVELOPMENT OF UKRAINE

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Abstract. Abstract. The study examines the digitalization of medical services and telemedicine as factors in Ukraine's economic development. Its relevance is determined by the growing importance of digital health infrastructure under conditions of health care reform, war-related disruptions, limited public resources, territorial disparities in access to care, and the need to preserve human capital.

The objectives of the study are to substantiate the macroeconomic role of digital medical services and identify the main channels through which digitalization affects the health care system, public finance, regional accessibility of care, and national economic resilience. The study is based on systemic, institutional, and economic approaches.

The methods include analysis of scientific literature, regulatory documents, international policy materials, and Ukrainian evidence on e-Health, electronic prescriptions, electronic referrals, medical information systems, and telemedicine.

The results demonstrate that the role of digital medical services extends beyond technological modernization. Digitalization reduces transaction costs by simplifying administrative procedures, improving patient routing, decreasing information asymmetry, and supporting more transparent management of medical services. e-Health infrastructure forms a data basis for budget planning, service monitoring, assessment of population needs, and more rational allocation of public resources.

Conclusions. Telemedicine and digital communication channels improve access to care in rural, remote, and war-affected territories, reduce territorial barriers, and support continuity of medical assistance. Digital medical services may also preserve human capital by improving timely care, chronic disease management, and reducing indirect losses associated with avoidable illness, disability, and productivity decline. The economic effect of digitalization depends on data quality, interoperability, stable financing, digital competencies, organizational readiness, cybersecurity, and personal medical data protection.

Keywords: digitalization of medical services; telemedicine; digital health; electronic health care; e-Health; health economics; budget efficiency; human capital; economic development of Ukraine; medical information systems.

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Digitalization of medical services is one of the structural factors in the transformation of national health care systems, as it changes the organization of health care delivery, mechanisms for medical data management, financing models, patient routing, and forms of interaction among the patient, the health care provider, and the payer. Under contemporary conditions, digital health cannot be regarded solely as a technological supplement to the traditional medical system. It constitutes an institutional basis for improving the accessibility, continuity, transparency, and economic performance of medical services, which is particularly significant for countries with limited resources, territorial disparities, and a high burden on public finances (World Health Organization, 2021). In the international scientific literature, digital health (e-Health) is defined as an intersectoral system comprising electronic health records, electronic prescriptions, telemedicine, remote monitoring, health information systems, digital analytics, mobile health applications, and infrastructure for health data exchange. At the same time, the economic significance of digitalization is determined not by the mere introduction of digital tools, but by their capacity to alter the cost structure, reduce transaction costs, increase the productivity of health care personnel, optimize resource utilization, and improve population access to health care services (World Bank, 2023).

For Ukraine, the particular importance of studying the macroeconomic role of the digitalization of medical services is determined by the combined effects of the ongoing transformation of the health care system, the development of the electronic health care system, the need to ensure access to medical care under conditions of war, internal population migration, infrastructure damage, budget constraints, and the need to preserve human capital. Under these conditions, the digitalization of medical services may be regarded as an instrument not only of health policy but also of economic policy, as it affects the preservation of the population's working capacity, the reduction of unproductive time losses, the decrease in household expenditures on obtaining medical care, and the improvement of the efficiency of budgetary resource use. The institutional framework for the digitalization of health care in Ukraine has been formed within the development of the electronic health care system, which includes the central database, medical information systems (MIS), electronic health records, electronic referrals, electronic prescriptions, and digital mechanisms of interaction with the National Health Service of Ukraine (NHSU). In the scientific literature, the Ukrainian e-Health system is characterized as a digital ecosystem whose development accelerated under the influence of the COVID-19 pandemic, regulatory changes, and wartime challenges (Malakhov, K. S. 2023).

From the perspective of economic theory, the digitalization of medical services may be interpreted as a mechanism for reducing transaction costs within the health care system. Such costs include the patient's time costs associated with obtaining a service, the administrative costs of a health care institution, the costs of communication among system actors, the costs of processing and transmitting medical information, as well as costs related to the duplication of diagnostic procedures and inefficient patient routing. The implementation of digital health tools can potentially reduce these costs through data standardization, accelerated information exchange, increased process transparency, and a reduced need for physical contact where such contact is not clinically necessary (Wilkinson et al., 2023).

One of the most significant areas of the digitalization of medical services is telemedicine. Its economic role is the possibility of partially substituting in-person encounters with remote consultations, reducing transport costs, decreasing losses of working time for patients and caregivers, improving access to primary and specialized care for rural and remote populations, and maintaining continuity of medical follow-up for patients with chronic diseases. For Ukraine, telemedicine is of particular importance under conditions of territorial disparities, wartime destruction, internal displacement of the population, and limited availability of health care personnel in certain regions. In studies devoted to the Ukrainian context, the main barriers to telemedicine development include limited digital infrastructure,

an insufficient level of digital literacy, organizational inconsistency, regulatory constraints, and unresolved issues of sustainable financing (Riabkov, 2025, pp. 23–30).

At the macroeconomic level, the digitalization of medical services affects economic development through a set of interrelated mechanisms. It contributes to the preservation of human capital through earlier disease detection, improved continuity of treatment, and a reduced probability of complications. At the same time, digital medical services may reduce indirect economic losses associated with temporary incapacity for work, loss of working time, and the need to provide care for ill persons. An important dimension of this impact is the improvement of budgetary efficiency through more accurate accounting of medical services, control over financing volumes, analysis of population needs, and reduction of administrative costs. In addition, digital health is relevant to regional development, since remote medical services can reduce territorial inequalities in access to medical care and support the economic activity of the population in peripheral and rural areas (Riabkov, 2026, pp. 451–463).

For a health care system financed predominantly from public funds, digital tools are significant not only as a means of improving the quality of medical care but also as a mechanism for increasing the manageability of financial flows. Electronic data make it possible to account more accurately for services provided, compare financing volumes with the actual needs of the population, identify inefficient expenditures, and formulate more evidence-based managerial decisions. Ukrainian literature emphasizes that the budgetary efficiency of telemedicine and digital health tools should be assessed with regard not only to the direct costs of technology implementation but also to the potential savings associated with optimizing the patient pathway, reducing the burden on health care institutions, and decreasing indirect losses (Chaliuk, 2026).

Digitalization cannot be reduced to the implementation of separate software solutions, since its effectiveness depends on the coherence of regulatory frameworks, financial incentives, digital infrastructure, personnel training, technical interoperability of systems, and the readiness of health care institutions to change organizational processes. In this context, the digital transformation of health care functions as a complex managerial process aimed at changing the modes of production, distribution, and control of medical services (Popelo & Tulchynskyi, 2023, pp. 151–157).

Under conditions of war, the destruction of medical infrastructure, population displacement, and restricted physical access to health care institutions increase the need for remote communication channels, electronic document management, digital storage of medical information, and tools for remote patient support. Consequently, the digitalization of medical services performs not only the function of improving efficiency but also the function of ensuring continuity in the provision of medical care under conditions of systemic risks (Cabinet of Ministers of Ukraine, 2023).

Despite the existence of a regulatory framework and the development of the electronic health care system, the scientific conceptualization of the macroeconomic role of the digitalization of medical services in Ukraine remains insufficiently systematized. A substantial part of the existing research focuses primarily on the legal, organizational, and technological aspects of e-Health development. At the same time, the macroeconomic, budgetary, and regional effects of the digitalization of medical services, as well as its impact on human capital, the population's working capacity, and indirect economic losses, remain only fragmentarily addressed and require a more systematic analysis. This indicates that the problem of comprehensively assessing the digitalization of medical services as a factor of economic development, rather than merely as an instrument of technological modernization of the health care system, remains insufficiently studied.

Objectives. The objectives are to identify the role of the digitalization of medical services and telemedicine in the development of Ukraine's economy, to systematize

theoretical approaches to assessing the digitalization of medical services, and to determine the main economic channels through which digital health affects the national economy.

Literature Review. In the international literature, digital health is regarded as a systemic element of health care modernization that should be integrated into national policy, the regulatory framework, financing models, and processes of health care delivery. According to the WHO Global Strategy, digital technologies can strengthen health systems only if they are institutionally embedded, aligned with national priorities, and oriented toward population needs, rather than through the fragmented implementation of separate information solutions (World Health Organization, 2021). The European approach to digital health is also based on the need to consider digitalization as an instrument of systemic transformation of health care. In the WHO Regional Action Plan for the European Region for 2023–2030, digital health is associated with increasing the resilience of health systems, developing interoperability, strengthening health data governance, overcoming digital inequalities, and ensuring equitable access to health care services (World Health Organization Regional Office for Europe, 2022). For Ukraine, this approach has methodological significance, since the national digitalization of health care is developing in the context of European integration, the need to harmonize data standards, and the improvement of interoperability among health information systems.

Conceptually important is the transition from the model of “digital health” as a set of digital tools to the model of “digital-in-health,” in which digital technologies are regarded as an embedded component of all health system functions. The World Bank emphasizes that digitalization should encompass not only health care delivery but also financing, governance, public health, workforce policy, resource planning, and data analytics. This means that the economic effect of digitalization is generated not by a separate digital service, but by changes in the overall architecture of interaction among the patient, the service provider, the payer, and the state (World Bank, 2023). From the perspective of health economics, digital health interventions require evaluation not only in terms of clinical outcomes but also in terms of their economic efficiency. The World Bank methodological framework for the economic evaluation of digital health interventions provides for the analysis of costs, benefits, budget impact, the distribution of effects among system participants, and the long-term sustainability of implementation. This approach makes it possible to account for both the direct costs of developing, implementing, and maintaining digital solutions and the potential benefits associated with reducing administrative expenditures, increasing access to care, decreasing the number of unnecessary in-person visits, and improving managerial decision-making (Wilkinson et al., 2023).

The empirical basis for assessing the economic efficiency of digital health remains heterogeneous. A systematic review by A. Gentili and co-authors shows that digital health interventions may be cost-effective; however, the strength of evidence depends on the type of intervention, the time horizon of the assessment, the quality of baseline data, the organizational context, and the selected analytical methodology. The authors emphasize that digital solutions are not automatically cost-effective; their effectiveness is determined by the conditions of implementation, the scale of use, integration into clinical processes, and the ability to produce actual changes in the costs and outcomes of care delivery (Gentili et al., 2022).

Studies and reports by the OECD are also important for the comparative analysis of health care digitalization, as they consider digital health in relation to access to care, the quality of health data, the maturity of electronic health records, the use of telemedicine, and the capacity of health systems to adapt to demographic, financial, and organizational challenges. The OECD emphasizes that digital data and digital services are important for improving the efficiency and resilience of health care; however, they require developed infrastructure, user trust, data protection, and the comparability of information systems

(OECD, 2023; OECD, 2025). The institutional dimension is particularly important for Ukraine. The electronic health care system provides the infrastructural basis for digital interaction among health care institutions, patients, physicians, medical information systems, and the NHSU. The study by K. S. Malakhov et al. demonstrates that the Ukrainian e-Health system is developing as an integrated digital environment comprising standards, regulatory changes, electronic services, and mechanisms for health data exchange. This enables e-Health to be considered not only as a technological platform but also as an institutional mechanism for health care reform (Malakhov et al., 2023).

The legal framework for the digitalization of health care in Ukraine constitutes a distinct area of scholarly analysis, since digital medical services involve the processing of personal data, access to medical information, the allocation of responsibility among system actors, the regulation of electronic services, and the balance between public and private interests. G. A. Myronova notes that the digitalization of health care in Ukraine requires a legal model that simultaneously ensures the development of electronic services, the protection of patients' rights, data security, and effective public governance (Myronova, 2022, pp. 40–47).

The organizational and economic dimension of digital health care transformation is addressed in studies that conceptualize digitalization as a managerial process requiring financial, personnel, regulatory, and infrastructural support. O. V. Popelo and R. V. Tulchynskiy emphasize that the transformation of the health care system under conditions of digitalization should be accompanied by changes in organizational mechanisms, the development of digital infrastructure, and the formation of economic conditions for the sustainable implementation of digital solutions (Popelo & Tulchynskiy, 2023, pp. 151–157).

Financial instruments for the digital transformation of health care occupy a specific place in the Ukrainian scholarly discourse. M. Opanasiuk examines health care digitalization through the lens of public governance and emphasizes the importance of budgetary programs, international technical assistance, grant mechanisms, credit instruments, and local co-financing. This approach allows the digitalization of medical services to be considered as an object of investment and financial policy, rather than solely as an administrative and technological reform (Opanasiuk, 2025, pp. 75–81).

In the Ukrainian context, telemedicine occupies a central position among digital medical services, as it is directly related to territorial access, limited medical resources, and continuity of care. In the study by S. Riabkov, barriers to the development of telemedicine at the primary health care level are systematized with regard to infrastructural, organizational, regulatory, financial, and personnel constraints. This is important for economic analysis, since the absence of appropriate conditions reduces the potential return on digitalization and impedes the scaling of remote medical services (Riabkov, 2025, pp. 23–30).

A separate strand of the literature is concerned with assessing the macroeconomic effect of telemedicine. In S. Riabkov's study on the macroeconomic efficiency of telemedicine in cardiovascular diseases, an approach is proposed in which the economic effect is examined through the reduction of indirect losses, the decrease in patient costs, the prevention of complications, the reduction of the burden on the health care system, and the preservation of the population's working capacity. This approach is methodologically significant for the topic of this article, as it allows the digitalization of medical services to be considered beyond clinical effectiveness and interpreted as a factor of macroeconomic development (Riabkov, 2026, pp. 451–463).

The budgetary efficiency of the digitalization of medical services is also a key area of analysis. Yu. Chaliuk examines the implementation of telemedicine in the Ukrainian health care system from the perspective of budgetary efficiency, which makes it possible to account not only for the costs of implementing and maintaining digital solutions but also for the

potential reduction of inefficient expenditures, the optimization of the burden on health care institutions, and the more rational use of public funds (Chaliuk, 2026).

The regional dimension of the digitalization of medical services is particularly important for Ukraine, since access to medical care differs substantially among large cities, small settlements, rural areas, and territories affected by the war. V. Bugaiev considers the digital transformation of health care as a means of improving the quality of medical care for the rural population of Ukraine. In this context, digital tools may partially compensate for infrastructural and personnel constraints; however, their effectiveness depends on the quality of connectivity, digital literacy, the organizational readiness of institutions, and sustainable financing (Bugaiev, 2025, pp. 230–239).

Even when information systems, a regulatory framework, and financing are available, digital tools do not ensure the expected effect if medical personnel lack digital competence and if the organizational culture of institutions does not support the transition to new models of work. This constitutes an important limitation on the economic effectiveness of digitalization. K. Hromtsev emphasizes that managing the development of digital skills in the medical sector is a necessary condition for effective digital transformation (Hromtsev et al., 2025, pp. 159–167). In the publication by G. H. Mudge, A. Vilenskyi, U. Kumar, and M. Kohli, digitalization is considered as one of the vectors of the future development of Ukrainian health care, since digital solutions can support continuity of care, improve data management, and ensure a more flexible organization of medical services under conditions of damaged or overburdened infrastructure (Mudge et al., 2025).

Ukraine's regulatory framework establishes the development of telemedicine and electronic health care as elements of state policy. The Strategy for the Development of Telemedicine in Ukraine defines the directions for the development of telemedicine services, including regulatory support, technical infrastructure, personnel training, public awareness, and the development of financing mechanisms (Cabinet of Ministers of Ukraine, 2023). The Concept for the Development of Electronic Health Care defines e-Health as a direction of health care system reform aimed at using information and communication technologies to improve the quality, accessibility, and efficiency of medical care (Cabinet of Ministers of Ukraine, 2020).

The literature overview makes it possible to identify the theoretical and methodological provisions on which this study is based. The digitalization of medical services is considered as an institutional and economic process rather than as the mere implementation of separate technological solutions. Its macroeconomic effect is formed through the interaction of direct, indirect, and systemic channels of influence. The economic effectiveness of digitalization is determined by the organizational context, data quality, financial incentives, the level of personnel competencies, and the degree of integration of digital tools into actual processes of medical care delivery. For Ukraine, additional importance is attached to the conditions of war, regional disparities, resource constraints, and the need to restore human capital.

Methods. The study was conducted as a theoretical and analytical investigation using systemic, institutional, and economic approaches. The methodological basis consisted of provisions on digital health as an integrated element of the health care system rather than as a separate technological tool (World Bank, 2023; World Health Organization, 2021). The study employed content analysis of scientific literature, analysis of regulatory documents, comparative analysis of international and Ukrainian approaches, systematization, logical generalization, and analytical decomposition of economic effects. The information base of the study comprised documents of the WHO, the World Bank, and the OECD, regulatory acts of Ukraine concerning the development of e-Health and telemedicine, as well as scientific publications on digital health, telemedicine, budgetary efficiency, and the organizational and

economic support of the digital transformation of medicine (Cabinet of Ministers of Ukraine, 2020, 2023).

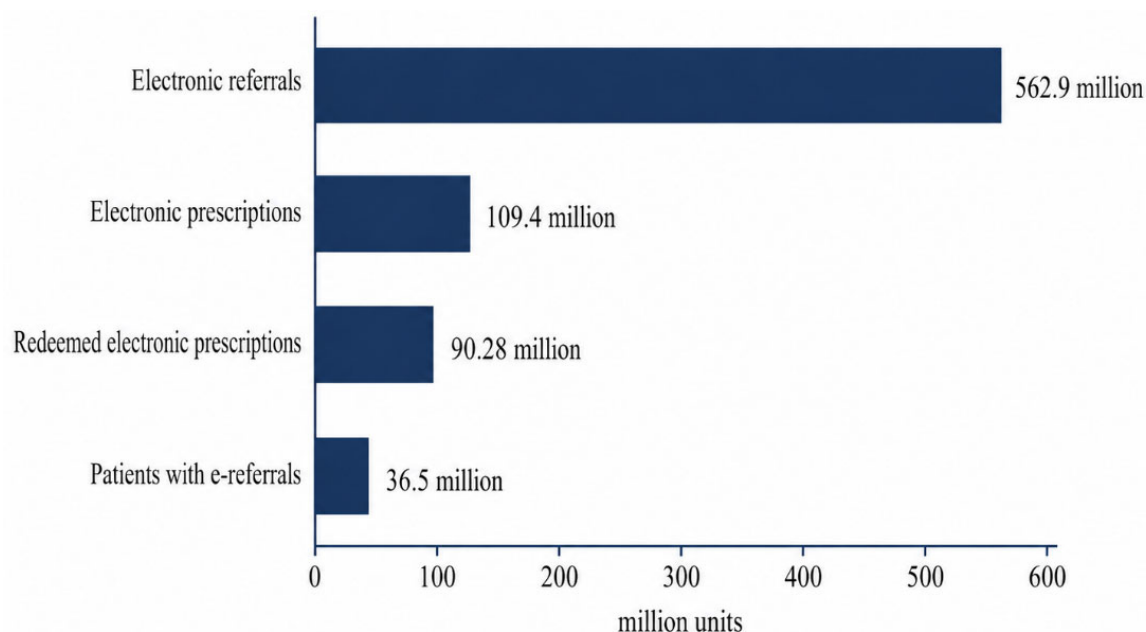
Results. A macroeconomic assessment demonstrates that the digitalization of medical services in Ukraine performs not only an auxiliary but also a macroeconomic function. It affects economic development through four main channels: reducing transaction costs for the population and health care institutions, increasing access to medical care, forming a digital basis for budget planning, and preserving human capital. As of 2025 (Table 1), Ukraine's electronic health care system contains data on more than 35 million citizens and more than 4.4 billion medical records. This forms a national information infrastructure that can be used for planning medical services, monitoring the burden on the health care system, analyzing population needs, and improving the efficiency of public expenditures (World Health Organization, 2025).

Table 1. Macroeconomic significance of key indicators of the digitalization of medical services in Ukraine

<i>Indicator</i>	<i>Value</i>	<i>General economic role</i>
<i>Citizens whose data are contained in e-Health</i>	more than 35 million	Formation of a digital basis for managing population health and human capital
<i>Medical records in e-Health</i>	more than 4.4 billion	Basis for needs analysis, service planning, and expenditure control
<i>Medical information systems</i>	more than 35	Development of the health IT sector and digital infrastructure of the services market
<i>Electronic prescriptions</i>	109.4 million	Reduction of administrative barriers to access to medicines
<i>Dispensed electronic prescriptions</i>	90.28 million	Confirmation of the practical use of the digital mechanism for medicines provision
<i>Electronic referrals</i>	more than 562.9 million	Large-scale digital patient routing
<i>Patients with electronic referrals</i>	nearly 36.5 million	Coverage of a significant share of the population by digital medical services

Source: Authors' own elaboration based on (Ministry of Health of Ukraine, 2024; National Health Service of Ukraine, 2026; World Health Organization, 2025).

Reduction of transaction costs as a direct economic outcome. Digital medical services reduce the costs associated with obtaining medical care. An electronic prescription decreases the need for repeated administrative contacts for prescribing and obtaining medicines. An electronic referral structures the patient pathway and reduces organizational losses when accessing specialists or diagnostic procedures. During the period of operation of the electronic prescription system (Figure 1), 109.4 million electronic prescriptions were created, of which 90.28 million were redeemed. The share of dispensed electronic prescriptions is 82.5%, which indicates a high level of practical use of the digital mechanism. More than 562.9 million electronic referrals indicate a large-scale transition of patient routing to a digital format (Ministry of Health of Ukraine; NHSU, 2026).

Figure 1. Scale of digital medical services in Ukraine, million units

Source: Author's calculations based on (Ministry of Health of Ukraine, 2024; NHSU, 2026).

Impact of the digitalization of medical services on the development of Ukraine's economy. The macroeconomic effect of the digitalization of medical services is manifested not only within the health care system (Table 2). Its significance for the development of Ukraine's economy lies in the fact that digital services reduce time losses, increase access to treatment, support the population's working capacity, and generate data for a more rational allocation of budgetary resources.

Table 2. Impact channels of the digitalization of medical services on Ukraine's economic development

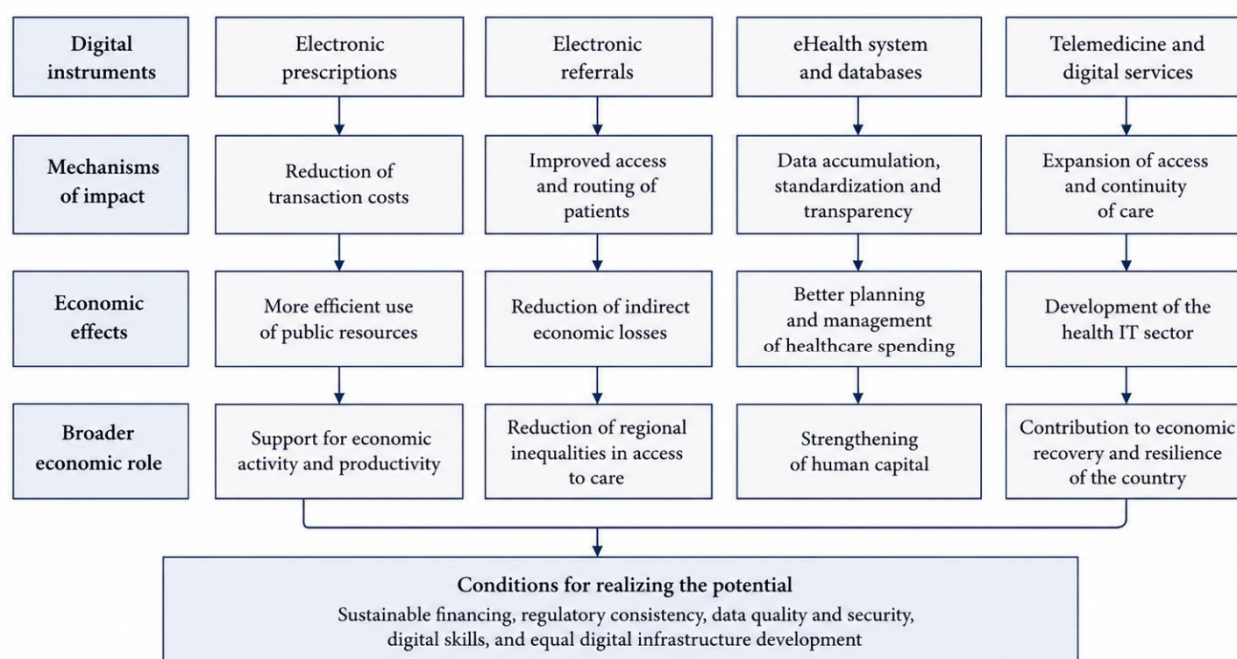
Channel	Mechanism	Economic outcome
Reduction of transaction costs	Electronic prescriptions, electronic referrals, electronic medical records	Reduction of time, transport, and administrative costs
Preservation of human capital	Timely care seeking, remote monitoring, access to medicines	Support for the working capacity of the population
Improvement of budgetary efficiency	Digital accounting of services, medical data, e-Health analytics	More accurate planning and control of public expenditure
Regional development	Telemedicine, digital routing, medical information systems	Reduction of territorial barriers to access to medical care
Development of the digital market	Medical information systems, e-Health infrastructure	Growth in demand for health IT solutions and MedTech
Economic resilience	Continuity of medical care under wartime conditions	Reduction of socioeconomic losses caused by disrupted access to medical care

Source: Authors' own elaboration based on (Bugaiev, 2025, pp. 230–239; Riabkov, 2026, pp. 451–463; Wilkinson et al., 2023).

The digitalization of medical services improves budgetary efficiency through digital accounting, transparency of the patient pathway, control over the volume of services provided, and the capacity to analyze population needs. The availability of more than 4.4 billion medical records creates a basis for using data in financing planning, monitoring provider performance, and assessing the burden on the health care system (Figure 2).

Figure 2. The role of digitalization of medical services in the economy of Ukraine

Source: Authors' own elaboration



Limitations of the macroeconomic effect. The obtained results show that the macroeconomic role of the digitalization of medical services depends on the conditions of its implementation (Table 3). The main limitations are related to uneven digital infrastructure, insufficient digital skills, unstable financing, the organizational unpreparedness of institutions, and data protection risks.

Table 3. Limitations to the realization of the macroeconomic effect of the digitalization of medical services

Limitation	Impact on the economic outcome
Uneven digital infrastructure	Limits access to digital services in certain regions
Insufficient digital skills	Reduces the effectiveness of using e-Health, medical information systems, and telemedicine
Unstable financing	Limits the scaling of digital solutions
Organizational unpreparedness of institutions	May increase the administrative burden
Data protection risks	Reduces trust in digital medical services

Source: Compiled by the authors based on (Hromtsev et al., 2025, pp. 159–167; Popelo & Tulchynskyi, 2023, pp. 151–157; Riabkov, 2025, pp. 23–30).

Discussion. The obtained results show that the digitalization of medical services in Ukraine has reached a scale at which its economic role is not limited to internal processes within the health care system. The availability of data on more than 35 million citizens and more than 4.4 billion medical records forms an infrastructural basis for managing medical services at the population level rather than at the level of individual institutions. This corresponds to the international approach according to which digital health should be regarded as an embedded element of financing, governance, and health care delivery (World Bank, 2023; World Health Organization, 2025).

The widespread use of electronic prescriptions and electronic referrals indicates the institutionalization of digital medical services in everyday practice. In economic terms, this implies a reduction in part of the transaction costs associated with a patient's interaction with the health care system, the prescription of medicines, the receipt of referrals, and the recording of services provided. However, the magnitude of this effect cannot be determined solely by the number of digital documents created. Quantitative assessment requires data on patients' time, transport costs, the frequency of repeat visits, the structure of encounters, and the administrative costs of health care institutions (Wilkinson et al., 2023). The high share of dispensed electronic prescriptions indicates the practical use of the digital mechanism for medicines provision. At the same time, this indicator characterizes only the completion of the digital procedure and does not fully reflect its socioeconomic effect. To assess the impact of the electronic prescription on the economy, it is necessary to additionally analyze access to medicines, the timeliness of receiving therapy, changes in the frequency of in-person visits, reductions in administrative burden, and the impact on reimbursement programs (Chaliuk, 2026; National Health Service of Ukraine).

Electronic referrals have more pronounced significance for the analysis of patient routing. Their scale shows that the digital channel has become the main means of organizing patient movement between levels of medical care. The economic significance of this instrument lies in its potential to reduce unsystematic encounters, repeated procedures, and information losses between institutions. At the same time, the mere creation of an electronic referral does not guarantee an optimal patient pathway. Further analysis requires comparison of electronic referrals with the actual receipt of services, waiting times, regional availability of specialists, and the clinical justification of referrals (Ministry of Health of Ukraine, 2024).

At the level of public finances, the digitalization of medical services is significant as a mechanism for reducing information asymmetry among health care providers, the payer, and the state. The accumulation of digital medical data creates prerequisites for verifying the volumes of care provided, analyzing the structure of population needs, and planning financing more accurately. However, this effect depends on data quality, the completeness of data entry, the interoperability of medical information systems, and the capacity of governing bodies to use data in the budgetary process (Opanasiuk, 2025, pp. 75–81; World Health Organization, 2025). The results also indicate a link between the digitalization of medical services and human capital. Shorter time to access medical care, support for remote monitoring, digital medicines provision, and simplified patient routing may potentially reduce losses of working time and the risk of prolonged loss of working capacity. However, within the framework of the presented data, this effect is established conceptually rather than quantitatively. Its empirical verification requires indicators of temporary incapacity for work, hospitalization rates, productivity losses, encounters related to chronic diseases, and household expenditures on obtaining medical care (Riabkov, 2026, pp. 451–463).

The regional significance of the digitalization of medical services, particularly telemedicine, is manifested through the possibility of partially overcoming territorial barriers to access to medical care. For rural and remote areas, digital services may reduce patients'

dependence on physical proximity to a health care institution. However, this effect is limited by the level of digital infrastructure, the availability of equipment, internet connectivity, and the digital skills of health care workers and patients. Therefore, digitalization can simultaneously serve as an instrument for reducing regional inequality and as a factor in its reproduction under conditions of unequal access to digital resources (Bugaiev, 2025, pp. 230–239; Hromtsev et al., 2025, pp. 159–167).

The institutional sustainability of digitalization remains a separate subject of analysis. The obtained results record the scale of e-Health implementation but do not eliminate risks related to the organizational readiness of institutions, regulatory coherence, sustainable financing, cybersecurity, and the protection of personal health data. These limitations have direct economic significance, since, in the absence of sufficient organizational adaptation, digital tools may fail to reduce administrative costs and may instead redistribute them among system participants (Popelo & Tulchynskyi, 2023, pp. 151–157; Riabkov, 2025, pp. 23–30). The Ukrainian context differs from standard models of health care digitalization in that digital services are developing simultaneously under conditions of reform, war, and the need for economic recovery. This increases the importance of digital medical services as an instrument for ensuring continuity of care, but it also requires a more rigorous assessment of the sustainability of digital infrastructure. In this context, indicators of the scale of digitalization should be interpreted not as definitive evidence of effectiveness, but as a basis for subsequent assessment of their impact on budget expenditures, access to care, regional disparities, and losses of human capital (Mudge et al., 2025; World Bank, 2023).

Study Limitations. The study is theoretical and analytical in nature and does not include primary quantitative modelling of the economic effects of the digitalization of medical services. The indicators used reflect the scale of implementation of digital services but do not allow for the direct measurement of time savings, transport costs, budgetary expenditures, or losses of working capacity. An additional limitation is the lack of sufficiently detailed data by region, patient group, type of medical service, and actual outcomes of the use of digital tools.

Further research should be directed toward the quantitative assessment of the impact of the digitalization of medical services on budgetary expenditures, labour productivity, patients' time costs, and regional access to medical care. Separate analysis is required for the economic efficiency of telemedicine, the impact of e-Health on chronic disease management, the role of digital services in reducing indirect economic losses, and the assessment of differences among urban, rural, and war-affected territories.

Conclusions. The digitalization of medical services in Ukraine has reached a scale that makes it possible to consider it as a factor of macroeconomic significance. Its role is manifested in the reduction of transaction costs, increased access to medical care, the formation of a digital basis for budgetary planning, and support for human capital. Electronic prescriptions, electronic referrals, medical information systems, and e-Health data create an infrastructure for a more transparent and manageable functioning of the health care system. The economic effect of digitalization is not automatic and depends on data quality, sustainable financing, digital skills, protection of medical information, and the evenness of digital infrastructure. For the development of Ukraine's economy, the digitalization of medical services is significant as an instrument for improving the efficiency of public expenditures, reducing indirect losses, supporting the population's working capacity, and decreasing territorial barriers to access to medical care.

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