SECTION 2. THEORETICAL MEDICINE: BASIC DEVELOPMENT TRENDS

DOI https://doi.org/10.30525/978-9934-26-514-3-16

ADVANCING GOVERNANCE FOR DIGITAL HEALTH TRANSFORMATION IN UKRAINE: DIGITAL LITERACY AND LEADERSHIP

РОЗВИТОК УПРАВЛІННЯ ЦИФРОВОЮ ТРАНСФОРМАЦІЄЮ ОХОРОНИ ЗДОРОВ'Я В УКРАЇНІ: ЦИФРОВА ГРАМОТНІСТЬ ТА ЛІДЕРСТВО

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Introduction. Digital health transformation (DHT) has become a key development priority worldwide, and Ukraine is actively advancing in this direction. In recent years, the country has made significant progress in implementing digital solutions, mainly through developing the Electronic Health System (eHealth system), telemedicine services, and other digital tools. This digital advancement became especially notable during the COVID-19 pandemic and in response to the full-scale invasion [1]. As of 2024, Ukraine has established a comprehensive digital health ecosystem and Electronic Health System (EHS, eHealth system) since 2016, has evolved from basic functionality to an integrated platform serving over 30 million patients, connecting more than 350,000 users, and uniting over 15,000 healthcare facilities (HCF) [1]. While the eHealth system and its digital services are well-developed, other crucial components, such as education and governance, still need more attention.

Despite significant progress in DHT, including the development of eHealth systems, research shows that only 44% of healthcare professionals (HCP) possess above-basic digital literacy [2]. Furthermore, 40% do not fully understand secure electronic document management principles, and 19% consider digital tools burdensome in their work [2].

The situation is complicated by the lack of a systematic approach to developing digital leadership in the healthcare sector. HCF managers often need more competencies and motivation to effectively manage DHT processes, leading to a formal approach to technology implementation [3]. The parallel existence of paper and electronic documentation creates an additional burden on staff, while insufficient digital literacy educational programs (only 37% received training in the past three years) limit professional development opportunities and digital tool adoption [2]. As a result, significant investments in digital solutions do not yield the expected improvements in health quality and patient satisfaction, leaving the potential of implemented technologies underutilized. The core problem lies in the critical gap between the pace of digital technology implementation in Ukraine's healthcare system and the level of digital leadership and competency among HCPs.

This work aims to provide comprehensive governance recommendations for effective DHT in Ukraine, focusing on digital leadership development and literacy enhancement strategies. The proposed DHT framework addresses the identified gaps through a systematic approach encompassing transformation planning, stakeholder engagement, implementation strategy, and evaluation mechanisms.

Result. *Transformation Plan.* Ukraine's DHT plan adopts a comprehensive approach to developing digital competencies integrated into the national digital health strategy. The plan focuses on creating a sustainable ecosystem for digital leadership and competency development across all healthcare system levels. The first strategic direction is integrating digital competency requirements into HCF performance assessment and developing a transparent digital readiness indicators system that includes technical infrastructure, organizational capacity metrics, and staff and management digital skills. These indicators will become part of the overall HCF performance metrics and influence funding from the National Health Service of Ukraine (NHSU). The second direction involves creating a multi-level system for developing DHT leaders, establishing Chief Digital Transformation Officer (CDTO) positions at all levels. At the national level, this includes appointing CDTOs responsible for overall strategic planning and policy development. At the regional level, CDTOs coordinate digital solutions and change management across healthcare facilities. At the HCF level, facility-based CDTOs emphasize developing practical digital project management skills and fostering digital culture within teams. The third key element is modernizing medical education programs. This includes introducing mandatory digital health courses for students, developing postgraduate digital health education programs, and creating specialized training programs for DHT management in healthcare. Successful

implementation of this transformation plan will establish a solid foundation for effective digital technology utilization and improved healthcare quality through enhanced digital competency and leadership.

Stakeholders. Digital competency and leadership development in Ukraine's healthcare system involve various stakeholder groups whose effective interaction is crucial for successful transformation. The Ministry of Health (MoH) of Ukraine plays a central role in developing the strategic vision, regulatory framework, and educational standards for digital competency development. It also coordinates interactions between other stakeholders. Medical education institutions are critical partners in implementing educational programs and developing a new generation of digitally literate healthcare professionals. They are responsible for adapting curricula to include digital health components in basic training. The NHSU and SoE "Electronic Health" provide practical context for digital competency development by offering access to digital tools and systems and setting digital readiness requirements for HCF. HCFs serve as both direct beneficiaries and active participants in the transformation process. They create conditions for the practical application of digital skills and support the development of a digital culture. Additional partners include professional medical associations, health-tech companies, and international organizations that provide expertise and share best practices in digital competency development.

Strategy. The key element of the strategy is phased implementation, starting with pilot projects in selected HCFs that demonstrate high readiness for change and have strong leadership support. This approach allows for methodology refinement and problem identification before national scaling. A crucial strategic component is establishing a motivation system for digital competency development. This includes financial incentives for healthcare facilities demonstrating high digital readiness and individual professional development programs for HCPs. Digital competency indicators will be integrated into the HCF and staff performance evaluation systems. Potential challenges must be addressed, particularly resistance to change among medical staff, especially experienced professionals. The strategy employs a "change champions" approach – identifying and supporting active DHT advocates who can become opinion leaders and inspire colleagues. Additionally, the plan ensures consistent technical support, adequate adaptation time, and ongoing communication from government authorities. The strategy emphasizes sustainability through continuous professional development, mentoring support, and experience sharing between healthcare facilities. This includes regular workshops, online courses, practical training, and professional communities for sharing DHT best practices.

Evaluation and Impact Assessment. A comprehensive monitoring and evaluation system, based on both quantitative and qualitative indicators, has been developed to assess the effectiveness of the digital competency and leadership development program. At the organizational level, key performance indicators include the percentage of healthcare facilities achieving specified digital maturity levels (measured through benchmarking). This assessment covers technical infrastructure, staff digital competency, and effective use of digital tools. A significant indicator is the reduction in administrative time and increased direct patient care time through digital tool utilization. Staff-level assessment focuses on HCP's digital competency progression through regular testing and skill demonstration. Metrics include the percentage of staff completing digital competency training programs and their practical application of acquired knowledge. Staff satisfaction with digital tools and their impact on work quality are also measured. Healthcare quality impact is evaluated through indicators such as clinical decision-making speed, diagnostic accuracy using digital tools, adherence to clinical protocols, and patient satisfaction. Special attention is paid to monitoring the quality of data entered into the eHealth system. Data collection combines automated digital tool usage monitoring, regular staff and patient surveys, HCF statistics analysis, and peer-to-peer monitoring visits. This ensures comprehensive progress assessment and timely identification of areas requiring additional attention or approach adjustment.

Conclusions. The proposed governance framework for effective DHT in Ukraine provides a comprehensive roadmap of key components for improving digital leadership and literacy. The success of DHT depends on prioritizing people over a sophisticated digital solution, coordinated efforts among all stakeholders, sustained commitment to professional development, and systematic monitoring of real impact. If fully implemented, these recommendations have the potential to contribute to more effective use of digital health solutions, improved healthcare service delivery, and better patient outcomes in the Ukrainian healthcare system.

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DOI https://doi.org/10.30525/978-9934-26-514-3-17

MODERN WORLD CLASSIFICATIONS: PALMER'S SYSTEM, INTERNATIONAL AND AMERICAN (UNIVERSAL) SYSTEMS OF PERMANENT AND TEMPORARY TEETH, MODERN SYSTEMS OF EVALUATION AND REGISTRATION OF DENTAL CARIES

СУЧАСНІ СВІТОВІ КЛАСИФІКАЦІЇ: СИСТЕМА ПАЛМЕРА, МІЖНАРОДНА ТА АМЕРИКАНСЬКА (УНІВЕРСАЛЬНА) СИСТЕМИ ПОСТІЙНИХ (ВТОРИННИХ) І МОЛОЧНИХ (ПЕРВИННИХ) ЗУБІВ, СУЧАСНІ СИСТЕМИ ОЦІНКИ ТА РЕЄСТРАЦІЇ КАРІЄСУ ЗУБІВ

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