

MOBILE HEALTH APPLICATION IN DIGITAL GOVERNMENT MANAGEMENT

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Abstract. The study aims to devise and implement mobile health applications for digital health management at the governmental level, explicitly proposing a mobile healthcare service application within the Ukrainian government portal Diia (“Дія”). Central to this endeavor is the architectural design of such applications. Leveraging analysis and synthesis methods, the research endeavors to pinpoint the most effective approach to designing a healthcare application, considering factors such as health literacy and incentivizing the healthcare system. The ultimate objective of this system development is to encourage individuals to allocate a portion of their income toward disease prevention and the cultivation of healthier lifestyles. Through this initiative, the study seeks to enhance the population's well-being and quality of life, while fostering motivation among individuals to prioritize disease prevention and healthy living practices.

Keywords: electronic healthcare, public health, health management, online research methods, well-being and quality of life, e-Government, portal “Дія”.

Introduction. Integrating machine learning algorithms across various data sources, including electronic databases, medical records, social media, scientific repositories, and digital device data, holds significant potential for enhancing the efficiency and quality of government-managed healthcare systems. This amalgamation of technologies provides timely and valuable information to healthcare professionals, patients, and government health authorities [1]. The OECD conducted a comprehensive five-year review of Health Data Management Recommendations, focusing on dataset management estimates. Within the healthcare industry, numerous semantic and technical data standards exist. Notably, the OECD study examined the development, utilization, and management of standards such as HL7-FHIR (Fast Healthcare Interoperability Resources) and SMART (Substitutable Medical Applications, Reusable Technologies) [2]. Research on digital health literacy within healthcare management is typically categorized into four primary areas: studies on health literacy levels across different countries, translation and testing of the European Union Health Literacy Survey Questionnaire (HLS-EU-Q) into various languages, exploration of health literacy's impact on the socio-economic aspects of public health systems, and its implications for government-managed healthcare [3]. However, there remains a paucity of research concerning the implementation and application of mobile health applications in digital government management.

The purpose of the work. To design and implement mobile health applications within the framework of digital health management at the governmental level, focusing on proposing a mobile healthcare service application for the Ukrainian government portal Diia (“Дія”). Emphasizing architectural design, this research addresses the gap in understanding and application of mobile health technologies in government-managed healthcare systems.

Formulation of the problem. While there has been significant progress in utilizing data-driven technologies in healthcare, research specifically targeting the integration of mobile health applications into digital government management remains sparse. This presents a gap in leveraging modern digital tools to enhance healthcare services and promote healthier lifestyles among populations.

Solving the problem. Following an analysis of Digital Technology Applications in Health Management, a proposed mobile health application system for the Ukrainian government's digital services portal Diia has been introduced. This system comprises four key components: data preprocessing, estimation, rewarding/refunding, and result analysis. Additionally, enhancements in utilizing health lifestyle resources and evaluating healthcare expenses are envisioned.

Residents can easily complete identification by entering their social security numbers and employer identification numbers. They can then independently take a self-assessment test on their health scale and promptly share real-time data regarding expenses for health lifestyle activities through the application to apply for refunds. Utilizing a blend of online and offline methods, this mobile health application system offers analysis, control, and reimbursement of healthcare costs. Residents must demonstrate health literacy proficiency through a test before receiving refunds for health lifestyle expenses. The service flow of this mobile healthcare application system is illustrated in Figure 1.

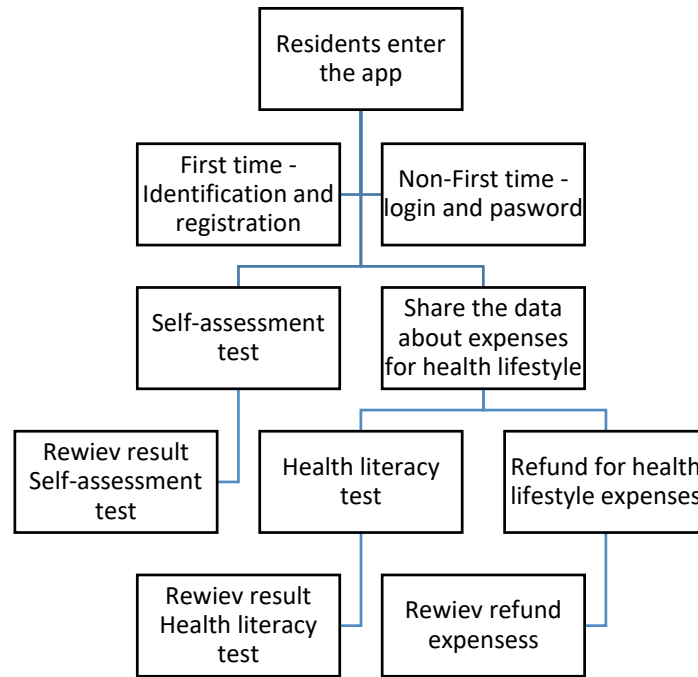


Fig. 1. Service flow of mobile health application in digital government management

Implementing this system is anticipated to bolster active participation among community residents in their health management endeavors, augment their capacity for self-management, and gradually enhance their health literacy levels.

Conclusion. The implementation of mobile health applications in digital government management presents a compelling opportunity to incentivize healthier lifestyles among populations. Beyond enhancing health literacy, this solution can optimize government healthcare costs and facilitate responsive decision-making to meet the evolving needs of healthcare systems. Through active participation and self-management facilitated by the mobile application, communities can gradually improve their overall health outcomes.

References

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