Nourani. *Studies in Medical Sciences* (2025) 36(4):1-2
https://doi.org/10.61882/umj.36.4.1
Studies is Medical Sciences

LETTER TO THE EDITOR

Electronic Health Records as the Backbone of Digital Health: Insights from Europe and Iran

Aynaz Nourani[1,2]

Published: 25 December 2025

Dear Editor

The Iranian Electronic Health Record (SEPAS) was launched in 2007 as a national project to store health-related information on all Iranian citizens from before birth to after death in the Statistics and Information Technology Office of the Ministry of Health.[1] The main goal of this project was to move away from paper records and align with the growth of the global digital health system, and create a secure platform for sharing citizens' health information when needed.[2] This sharing was defined primarily to help diagnose and treat patients and provide better care, and later for secondary uses such as education, research, policymaking, and disease and epidemic surveillance.[3] In general, the Iranian Electronic Health Record is theoretically in line with international standards. However, in terms of operation, despite the passage of 18 years since the project began and 99 percent of the country's hospitals being connected to this system and data being transferred through provincial nodes to the ministry level, what has happened in reality is that this system has not been integrated into actual clinical processes.[2]

In fact, SEPAS is simply a system that collects statistical and financial data, as well as diagnostic and treatment codes for diseases, at a macro level and is used by the Ministry of Health to monitor epidemics and diseases, conduct financial analysis, and, in general, for secondary use.[1] The latest published documents and studies indicate that there is currently no prospect for the development of this system or its integration into diagnostic and treatment processes.[3]

In contrast, European countries, especially Italy, the United Kingdom, Finland, Denmark, Norway, Germany, and France, after moving towards their national electronic health records, are seeking to standardize and share population health data in a large project called the European Health Data Space (EHDS).[4,5] This large health data ecosystem aims to create arteries for the secure transfer of health data between EU member states to facilitate data sharing for health tourism, improve the provision of health services across Europe, and use this data for secondary purposes.[6] It seems that the benefits of this data sharing will play a significant role in improving the health of European citizens.[7] On the other hand, the benefits of secondary uses can be directly and indirectly injected into the European health system.[8]

By comparing the characteristics of Iran's electronic health record with other countries, especially EU member states, it can be noted that Iran has significant weaknesses in the platforms for collecting and flowing health data and in general its electronic health record system as the backbone of the digital health system, which can be considered a threat to the provision of quality health care and the growth of the health system in the coming years. Therefore, to create a digital ecosystem within the country's health system, it is suggested that policymakers and managers in the field of statistics and information technology of the Ministry of Health, in cooperation with universities of medical sciences in the provinces of the country, take steps to redefine Iran's electronic health record and integrate it with clinical processes and optimally use digital health data to grow education, research, and policymaking in the health sector.

Keywords: Digital health, Electronic health record, European health data space, Secondary use

✉ Aynaz Nourani
aynaz_n_64@yahoo.com

1. Health and Biomedical Informatics Research Center, Urmia University of Medical Sciences, Urmia, Iran
2. Department of Medical Informatics, School of Allied Medical Sciences, Urmia University of Medical Sciences, Urmia, Iran

Received: 21 September 2025 / Revised: 9 November 2025 / Accepted: 1 December 2025

Declarations

Acknowledgments
Not applicable.

Artificial Intelligence Disclosure
The author confirms that no artificial intelligence (AI) tools were used in the design, analysis, writing, or editing of this manuscript.

Authors' Contributions
The author solely contributed to the conception, writing, and final approval of the manuscript.

Availability of Data and Materials
Not applicable as no datasets were generated or analyzed during the current study.

Conflict of Interest
The author declares no conflict of interest.

Consent for Publication
Not applicable.

Ethical Considerations
Not applicable.

Funding
No funding was received for this study.

References

1. Abbasi H, Rahimi B, Jebraeily M, Nourani A. End-users' perspectives on factors affecting implementation and utilization of the Iranian electronic health record system: a qualitative study in a developing country. BMC Health Serv Res. 2023;23(1):1064. doi: 10.1186/s12913-023-10033-5.
2. Abbasi H, Rahimi B, Jebraeily M, Nourani A. The extent of achieving the expected goals of the Ministry of Health in the implementation of the electronic health record system from the end-users' viewpoint in West Azerbaijan province. Journal of Health Administration. 2023;26(1):9-27.
3. Bashiri A, Shirdeli M, Niknam F, Naderi S, Zare S. Evaluating the success of Iran Electronic Health Record System (SEPAS) based on the DeLone and McLean model: a cross-sectional descriptive study. BMC Med Inform Decis Mak. 2023;23(1):10. doi: 10.1186/s12911-023-02100-y.
4. Marelli L, Stevens M, Sharon T, Van Hoyweghen I, Boeckhout M, Colussi I, et al. The European health data space: Too big to succeed? Health Policy. 2023;135:104861. doi: 10.1016/j.healthpol.2023.104861.
5. Shabani M. Will the European Health Data Space change data sharing rules? Science. 2022;375(6587):1357-9. doi: 10.1126/science.abn4874.
6. Cervera de la Cruz P, Lalova-Spinks T, Shabani M. Implementation of the European health data space: a qualitative study on expectations of health data experts from 23 countries. Health Policy. 2025;161:105428. doi: 10.1016/j.healthpol.2025.105428.
7. Hussein R, Balaur I, Burmann A, Ćwiek-Kupczyńska H, Gadiya Y, Ghosh S, et al. Getting ready for the European Health Data Space (EHDS): IDERHA's plan to align with the latest EHDS requirements for the secondary use of health data. Open Res Eur. 2024;4:160. doi: 10.12688/openreseurope.18179.1.
8. Kessissoglou IA, Cosgrove SM, Abboud LA, Bogaert P, Peolsson M, Calleja N. Are EU member states ready for the European Health Data Space? Lessons learnt on the secondary use of health data from the TEHDAS Joint Action. Eur J Public Health. 2024;34(6):1102-8. doi: 10.1093/eurpub/ckae160.