

LETTER TO EDITOR

Digitalization in Healthcare and Health Data Reporting: Opportunities to Reduce Error and Inequality of Healthcare Delivery

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Received: 18 March 2025 **Revised:** 20 March 2025 **Accepted:** 25 March 2025

DEAR EDITOR

As we approach the 2030 Sustainable Development Goals, we see multiple challenges for Low- and Middle-Income Countries. One of them is the inequality in healthcare provision attaining universal healthcare.¹ Digitalization in healthcare can enhance reporting which can support the higher quality of research and equitable policy and decision-making while reducing medical errors.

Digitalization in healthcare involves a complete system.² The system includes electronic health records comprising the registration of clinical histories, health information system unifying units within the health center or even at the national level allowing patient mobility, *secure data storage* safeguarding privacy regulations, data integrity and security, and *reporting* including dashboards and easy-to-understand visualization for healthcare personnel, the patient, or transformed for policy purposes. All these aspects entail challenges and benefits.³ While in the past years, more countries have introduced electronic health records, there is evidence that many have low adoption rates for multiple reasons.³

Large datasets for health management are important for several actors, the healthcare provider, the patient, the scientist, and the policymaker. For the healthcare provider, especially in community health centers, large data helps know the patient better with a more integral approach, reducing medical errors in providing care.⁴ In fragmented healthcare, where there is no data sharing, clinical histories are collected independently. Health professionals need to deal with vague information given by the patient who most of the time does not even know how to explain his/her feelings or disturbances. Pain is differently described from person to person as some have a higher tolerance than others. Healthcare professionals do not have all the past information of the patient, particularly in those settings where private and public health is fragmented or even between rural and urban areas. If the patient does not mention the past history in detail, this key information will stay out of the evaluation process and may lead to a misdiagnosis or mistreatment.^{4,5}

Large datasets are also important for the patient. Patients do not know how to track their progress. Often, the health professionals know better if things are progressing, but this is (not) communicated in an easy language to the patient. If data is shared with the patient in a graphical format, then it is easier to track progress and adapt lifestyles to improve or have the health under control. It also increases self-empowerment and health literacy to have access to information and trends that track the progress.⁶

Large datasets are also useful for scientists who are dedicated to studying data from different perspectives and disciplines. They can spot the need for tailored solutions through large datasets and forecast epidemics assessing potential solutions with innovative technologies. Finally, datasets are useful for policymakers. In many countries, policy is seldom based on large datasets, leaning to serve the “perceived” urgent needs but is not necessarily socially beneficial. There is a growing need to make policy more equitable, sustainable, and efficient for a larger share of the population. Health requires large data sets of different kinds and an easy way to read large data in the shape of dashboards for example to increase its usability as a base for policy design, monitoring, and evaluation.^{2,3} Population needs across different countries are similar and different. While we could learn from success stories, there are some challenges that we must face, specifically for our own context. It is then important to assess the situation through large data to tackle the population’s health needs including the particularities tailored to their ethnicity, sex, socioeconomic or place of residence.¹ Large data can identify at-risk or underserved vulnerable populations, helping to improve the inclusiveness or the equitable implementation of policy. If large data are available and understandable for policymakers, then, they will be inclined to create evidence-based policy for providing timely, high-quality healthcare services.

Digitalization in healthcare is an opportunity to reduce errors in care and treatment, increase treatment compliance, and reduce inequality in healthcare provision. Large datasets in health serve to analyze trends and spot challenges that can easily be linked with other areas like the environment or infrastructure. The Agenda for Sustainable Development Goals is approaching its end, and this sets a priority for helping the vulnerable populations of different age groups, sex, ethnicity, places of residence, socioeconomic backgrounds, and transition to a healthier life. Digitalization in healthcare supports this transition by improving healthcare delivery, providing a widespread adoption of digitalization that safeguards every aspect of the system.

Acknowledgment

I am thankful to all the authors whose articles were used in writing this letter.

Authors’ Contribution

K.C-P. developed conceptualization, performed document search, wrote the draft of the manuscript, revised it, and approved the final version for publication.

Funding Source

There is no financial support for this article.

Conflict of Interest

None to declare.

Declaration on the Use of AI

The author declares that no artificial intelligence (AI) or AI-assisted technologies were used in the writing process of this work.

Please cite this article as: Cordova-Pozo K. Digitalization in Healthcare and Health Data Reporting: Opportunities to Reduce Error and Inequality of Healthcare Delivery. *IJCBNM*. 2025;13(2):161-163. doi: 10.30476/ijcbnm.2025.106424.2761.

REFERENCES

- 1 Cordova-Pozo KL, Belizán JM. Scale-up interventions-Moving from pilot projects to larger implementation settings. *Reprod Health*. 2024;21:105.
- 2 Holmgren AJ, Esdar M, Hüsters J, et al. Health Information Exchange: Understanding the Policy Landscape and Future of Data Interoperability. *Yearb Med Inform*. 202;32:184-94.
- 3 Kaushik A, Barcellona C, Mandyam NK, et al. Challenges and Opportunities for Data Sharing Related to Artificial Intelligence Tools in Health Care in Low- and Middle-Income Countries: Systematic Review and Case Study From Thailand. *J Med Internet Res*. 2025;27:e58338.
- 4 Chimbo B, Motsi L. The Effects of Electronic Health Records on Medical Error Reduction: Extension of the DeLone and McLean Information System Success Model. *JMIR Med Inform*. 2024;12:e54572.
- 5 Al Meslamani AZ, Jarab AS, Abdel-Qader DH, et al. Adoption of electronic patient medication records in community pharmacies in the United Arab Emirates: A cross-sectional survey. *Health Inf Manag*. 2025;54:55-63.
- 6 Xu Y, Zheng X, Li Y, et al. Exploring patient medication adherence and data mining methods in clinical big data: A contemporary review. *J Evid Based Med*. 2023;16:342-75.