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Artificial Intelligence and the Reconfiguration of Modern Medicine: A Thirty-Year Outlook

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Abstract

Today, artificial intelligence has become one of the practical tools in the health system and is considered an effective element in clinical decision-making, healthcare management, and effective communication between patients and clinicians. This review examines the evolution of smart medical technologies from the first expert-based systems to recent achievements in the field of deep learning, advanced language models, and predictive algorithms. Our study also outlines how the development of this technology has influenced diagnostic and therapeutic approaches in areas such as surgery, pathology, and remote care systems. In the present study, the changing role of medical staff when using smart systems, the need to review educational models and the requirement to provide standard infrastructures for data collection are discussed. Legal and ethical challenges, including liability, algorithmic bias, and the risk of widening health disparities globally, are also examined. In addition, the lack of coordination among regulatory bodies to develop a new standard framework which is considered a major obstacle to the comprehensive development of AI-based care, especially in developing countries is discussed. On the other hand, serious warnings about behaviors such as automation bias, which may lead to a decline in clinical skills and possible errors in AI systems, are reviewed. Finally, it is emphasized that the future prospects of AI-based tools and the necessary adaptations to promote the future success of medical systems depend on fundamental education, comprehensive and fair policy-making, and the responsible deployment of technical models. Thus, it can be concluded that the realization of intelligent and convergent medicine requires maintaining a balance between ethical-human values and technological advancements.

Keywords: artificial intelligence; clinical decision support; large language models; health policy; medical ethics; digital health; global health equity

Introduction

Today, the world of medicine is undergoing a considerable transformation with the development of artificial intelligence computing systems. By collecting accurate data, categorizing it in a structured manner, and providing interpretive outputs, these systems can play a significant role in facilitating more accurate clinical decisions and providing the most appropriate personalized strategy for successful patient treatment. By utilizing areas such as deep learning, large-scale annotated data, predictive algorithms, and homogeneous and updatable computing infrastructures, artificial intelligence models can perform tasks such as classifying and predicting risk factors, and interpreting medical images with similar or superior accuracy to human experts (1). Due to the pervasive and expanding role of this field, the World Health Organization has identified the management of AI-based models as one of the priorities of the health system and emphasized the need to balance the benefits of this technology with the preservation of safety, justice, and human rights (2). However, theoretical recommendations are often not well aligned with clinical and practical approaches, and a significant part of the guidelines differ from real-world clinical application. In addition, empirical evidence supporting the effectiveness and full compliance with comprehensive frameworks remains limited and contradictory (3). Health policymakers today conceptualize AI not only as a standalone tool but also as a transformative potential capable of significant changes in the boundaries of workflows, clinical skills, and specialist areas (4). Taking a longitudinal perspective, this review examines the current state of AI-based models and their impact on the evolution of clinical practices, ethical considerations, laws, and general health care policies.

The evolution of artificial intelligence in the medical world

In the past, the application of AI systems in clinical approaches was very limited and was mainly used for specific tasks such as detecting abnormal values of laboratory results or raising sepsis alerts. In the present era, and especially since the mid-2010s, this field has undergone a significant transformation with the emergence of deep learning. An example of this transformation is the ability of convolutional neural networks (CNNs) to classify skin cancer at a level comparable to dermatologists [5]. These systems could also assess and diagnose diabetic retinopathy from retinal photographs with high sensitivity and specificity [6]. Similarly, newer algorithms for breast cancer screening have been more successful in some clinical settings than single-reader mammography, significantly reducing false-positive and false-negative results [7]. However, these successes were largely confined to pattern-recognition and perceptual capabilities within imaging.

Parallel advances have been made in the field of structural biology. The development of the AlphaFold model using deep learning enabled the prediction of the three-dimensional structure of proteins from amino acid sequences with accuracy close to experimental methods. This achievement was recognized with the Nobel Prize in Chemistry in 2024 and opened new horizons in structure-based drug design and targeted therapy [10]. These findings show that the application of artificial intelligence is not limited to clinical settings and can be extended upstream into biomedical research.

In recent years, the introduction of large language models has qualitatively transformed AI-based models. These models, by leveraging large datasets and relying on training infrastructures, have enabled the reasoning of very complex clinical cases and provided explanations equivalent to highly specialized treatment teams (8, 9). This transition from limited perceptual tools to comprehensive, multipotential, and updatable intelligent language-based systems has played a significant role in advancing medical knowledge. In fact, systems using AI algorithms have gone beyond the nature of a discrete tool and have become highly dynamic assistants that are woven into the fabric of clinical and research workflows.

Table 1. Milestones in the evolution of artificial intelligence in the clinical and biomedical era

Period	Dominant paradigm	Representative milestone	Primary clinical domain
1970s-1990s	Rule-based expert systems	Early computer-based diagnostic decision aids	Internal medicine, psychiatry
2016	Supervised deep learning (imaging)	Deep learning for diabetic retinopathy detection [6]	Ophthalmology
2017	Deep convolutional networks	Dermatologist-level skin cancer classification [5]	Dermatology/oncology
2019-2020	Validated diagnostic imaging AI	International evaluation of breast cancer screening AI [7]	Radiology/oncology
2021	Structural biology AI	Structural biology AI	Drug discovery, translational research
2022-2023	Generalist large language models	Clinical knowledge encoding by LLMs [9,10]	Cross-specialty reasoning, documentation
2024-2026	Multimodal generative AI	AI copilots in pathology and clinical summarization [11,12]	Pathology, clinical documentation

Reconfiguring Clinical Practice

In today's world, the use of artificial intelligence is tangible in many different areas of healthcare. In the field of pathology, multi-faceted artificial intelligence-based systems can effectively integrate medical images and act as a powerful assistant by providing interpretive output. The application of this technology is particularly significant in identifying prognostic biomarkers and identifying and classifying types of malignancies (11, 12). Artificial intelligence-based systems also have an effective application in clinical documentation and the use of large language models. By accurately summarizing clinical records and preparing interpretive or case reports, these algorithms play a significant role in reducing administrative workload and reducing burnout for physicians and medical staff (13). In addition, these models have shown successful performance in prioritizing and accepting patients, grading evidence, and differential diagnosis in medical centers. However, confidence in the performance results of these models is highly dependent on clinical supervision and the provision of specific platforms (14, 15).

The advancement of AI models in clinical practice has gone beyond image processing and data segmentation and interpretation to encompass continuous care and procedural approaches. For example, the use of AI-guided systems in surgery is capable of planning preoperative procedures, managing intraoperative data sets and protocols, and providing accurate postoperative follow-up. However, direct supervision of the surgical team and accountability for potential human and AI system errors remain a serious challenge (16, 17). On the other hand, AI-based algorithms, with the help of wearable devices and interpretation of smart sensor signals, have enabled accurate tracking of patient location, clinical symptoms, and deterioration. An approach that largely overcomes many of the limitations of traditional monitoring (18). In the same vein, in the field of mental health, artificial intelligence-based models with the help of tools to support patient-therapist interaction have shown tangible value in systematic assessments of patients' mental status, although the ambiguities of direct sensory interaction between therapist and patient, patient safety and privacy, and the optimal legal scope of using these algorithms are still under discussion (19).

Overall, these intelligent systems have manipulated workflows through several key axes. First, artificial intelligence algorithms have significantly reduced the gap between data acquisition and accurate clinical processing. Second, with the advancement of new technologies and the application of these models, new operational areas have emerged, such as reviewing the outputs and interpretations of artificial intelligence algorithms or validating data and outputs, which either did not exist before or required time and manpower. Therefore, the emergence and advancement of clinical artificial intelligence algorithms have dramatically transformed the nature of patient-physician interaction, and these models are now able to serve as an efficient assistant in conditions inside or outside medical centers.

Redefining the Physician's Role

As AI applications expand in various fields and the laws and guidelines governing its oversight continue to improve, some of the clinical responsibilities of healthcare professionals can be transferred to AI-based models. However, issues such as effective human communication, understanding of patient living conditions, and the rules of potential clinical risks still need to be examined and discussed. The findings from machine learning have created the impression that the medical community should move towards accepting the suggestions of the modern world and welcoming new technology-based approaches, and develop integrated training systems to empower human resources with the aim of detecting possible errors and monitoring the interpretations of the outputs of AI algorithms (20). On the other hand, in order to prevent any bias or negative view towards AI models, it is necessary for health policymakers to consider the structural inequalities and potential of different healthcare environments (21). Currently, the views of members of the medical community show a mix of welcome and challenge in this area. Although the role of artificial intelligence in accelerating clinical decision-making and increasing the accuracy of data interpretations for various procedures has been accepted, there are still concerns about de-skilling, reliance on automated systems, and disruption of the administrative system (22).

The significant differences in the necessary infrastructure and facilities available in different educational and medical centers lead to differences in educational potential. However, integrated educational structures have been designed to learn the application of AI algorithms and various aspects of their use, ethical principles, understanding technical foundations, and developing skills (23). In addition, senior members of health policy systems are trying to formulate precise and practical rules for evaluating the potential of AI in different clinical situations. These rules are provided in line with the equitable distribution of health services, maintaining data confidentiality, and ethical frameworks for patient interaction (24). Therefore, it is expected that in the future we will see a change in the position of the physician from a specialist decision-maker to a role that includes overseeing the treatment process, interpreting outcomes, and protecting the interests and security of patient information; a system that moves towards integrating human-machine interaction and expands a bright horizon for the modern medical education system.

Data, Infrastructure, and the New Medical Ecosystem

The reliability of the output interpretations of AI models is largely dependent on the input data. The results of deep learning models using electronic patient record information are directly related to the prediction of outcomes in different clinical situations and the achievement of reliable results with structured clinical data (25).

Therefore, the benefit of reliable interpretations requires the development of standardized and integrated electronic record data infrastructures across all platforms used in the health and treatment fields. In this situation, it is possible to access transparent and uniform outputs and evaluate the results of different treatment processes and services. In this regard, international health policy-making institutions have developed and integrated digital health models that provide the ability to simultaneously support clinical services and benefit from the interpretations of AI models on a big data scale (26). These guidelines are based on the use of auditable, secure, consistent and updatable data as a prerequisite for AI-based algorithms (27).

In today's healthcare system, hospitals are not just a single-dimensional service provider, but a set of multidimensional infrastructures that use homogeneous and structured data to enable cross-border interactions and secure computing while adhering to standard safety and ethical guidelines. An example of this system is the regulatory framework developed in Europe for the use of artificial intelligence algorithms in healthcare approaches (28). Similarly, application models have been developed to evaluate raw data from different healthcare centers while maintaining data security and patient privacy (29). Currently, cybersecurity is a major component of AI-based systems that use comprehensive data. AI-based systems used in healthcare centers are considered the main target platforms for cyber attacks, and exposure to unauthorized access or misuse of data can cause irreparable damage to a country's healthcare system.

Ethical, Legal, and Societal Reconfiguration

The use of AI in clinical approaches carries ethical and legal responsibilities. Healthcare algorithms have historically demonstrated how a modern healthcare system has failed to function properly, focusing on cost reduction rather than disease burden and severity, and thus failing to accurately identify the needs of the Black patient population. This approach, which ultimately resulted in systemic biases against the models used, demonstrates how a clear error in the design phase of a system can negatively impact key outcomes (30). Thus, in some cases, AI-based computational technologies may exacerbate structural inequalities or biases against the use of new intelligent models in clinical assessments, particularly in disadvantaged areas (31). Furthermore, this bias can be embedded across all components of the intelligent system, from data collection to processing and the operationalization of goals [32]. For this reason, it is emphasized that maintaining equity in AI-based models is not a separate option, but an important, deliberate decision in the basic design of the system that prevents unequal targeting of outcomes [33].

These challenges can also entail serious legal constraints. Many areas of legal accountability for diagnostic or treatment errors caused by AI are still not well understood. The reason for this deficiency is that judicial systems are based on legal foundations centered around individual decision-making, rather than on hybrid human–AI models [34]. Studies on the legal issues of AI-based health systems have highlighted concerns such as patient safety, system accountability, transparency of performance, and maintaining effective therapist–patient communication [35]. On the other hand, other studies argue that identifying the accountable entity in such systems should be considered an essential principle alongside other bioethical pillars, including autonomy, beneficence, non-maleficence, and justice [36, 37].

In line with the aforementioned developments in the implementation and clinical deployment of AI-based health models, a crucial specialized pillar is the interpretability of arguments and decisions in this field. In this regard, health and clinical experts believe that transparent and understandable models should replace models with unnecessary and opaque complexities [38]. Therefore, the principles of developing interpretable AI models have emerged with the aim of making the reasoning derived from these models more understandable and conceptual [39, 40].

From a social perspective, the penetration of AI into medicine has also created serious challenges regarding obtaining informed consent, data ownership, and the risk of concentrating the achievements of this technology in wealthy areas, which could exacerbate global health gaps and disparities instead of establishing health equity.

Health Systems and Policy Transformation

Recent developments in healthcare legislation suggest a fundamental rethinking of the patterns of oversight of AI in clinical applications. For example, the US Food and Drug Administration has developed new mechanisms to provide for the dynamic nature of legislation after the system is deployed, as traditional approaches in the past focused on the static state of the developed systems (41). In this regard, health policymakers emphasize that legislation in this area is only possible with comprehensive and continuous reviews at all stages of the introduction, development, and use of technology, and not only at the commercialization phase of these technologies (42). In this path, various challenges face healthcare authorities from the standardization and policy-making stages to the operational and development stages. Financial reimbursement models, smart healthcare insurance premiums, tariffs and transparency of legal burdens, and legislation in the event of medical error are among the issues that elevate clinicians and policymakers in this field from the position of passive and one-dimensional experts to observers and critics of new algorithms. These challenges are more complex in developing countries. In these countries, although the prospects for developing AI models in areas deprived of advanced clinical facilities and skilled medical personnel seem bright (44, 45), the evidence obtained from limited trials in these areas is far from what is suggested in theory. The lack of access to standard databases and the limitation in the use of trained computational models based on specific populations may lead to the risk of inappropriate clinical decision-making and a threat to public health (45). As a result, the unequal distribution of technology may cause significant and dangerous inequalities in access to treatment on a global scale (43). For this reason, global health policy-making systems emphasize that the use of intelligent systems should not be considered as a static tool but should be implemented in a dynamic approach with continuous review from the basic stages to continuous surveillance.

Risks, Limitations, and Unintended Consequences

Despite the progress of AI-based health and treatment systems, there is still a significant difference between the results obtained from statistical models and their effectiveness at the clinical level. So that some of the tools used in laboratory conditions lose their ability when generalizing to clinical conditions and patient improvement indicators (3). On the other hand, trust in automation, which can lead to blind acceptance of the outputs of AI algorithms by the medical staff, can expose data analysis to serious errors. Unfounded trust in AI outputs, especially in models capable of reproducing convincing data, is one of the most important safety challenges in the field of AI-based models (14, 15).

Also, the reduction of the interpretation skills of future specialists and therapists is another important challenge in this field. Relying on AI decision-making and machine systems may weaken the human ability to find errors in algorithms, a challenge that medical education policy-making communities have not yet adopted a solution to (23). In general, opaque interpretive outputs will either lead to distrust of new useful tools or to blind, uncritical submission.

A Thirty-Year Outlook: Scenarios for the Future of Medicine

The forecast for the next three decades is not certain, but it is likely that technological developments will lead to improvements in terms of functional adaptation, equity of access, and legal systems. It seems likely that by increasing investment in health and service systems, including in underserved areas, while strengthening the workforce, the necessary adaptations to provide appropriate training and validation will be provided to facilitate the further development of AI-based systems (43, 44).

Conclusion: Toward an Intelligently Reconfigured Medicine

Artificial intelligence has brought about a dramatic transformation in medicine. The scope of this transformation extends from the clinician–patient relationship to global health policymaking and complex therapeutic processes. Available evidence indicates that the effective use of this technology requires neither blind optimism nor defensive avoidance; rather, it calls for a balanced and rational approach across all domains. Although artificial intelligence has demonstrated significant potential in prediction, diagnosis, and workflow optimization, it also presents substantial challenges. These include systemic bias, data-security concerns, legal and liability issues, disparities in infrastructure across regions, and unresolved questions regarding the uncertainty and generalizability of its outputs. Shaping the future of this field will require more than technological advancement; it will depend on comprehensive action by regulatory institutions and health-system administrators. Thus, the full and responsible realization of AI's potential remains achievable, but it requires evidence-informed policymaking as well as careful, comprehensive planning.

References

1. Topol EJ. High-performance medicine: the convergence of human and artificial intelligence. Nat Med. 2019;25(1):44-56.
2. World Health Organization. Ethics and Governance of Artificial Intelligence for Health: WHO Guidance. Geneva: World Health Organization; 2021.

3. Kelly CJ, Karthikesalingam A, Suleyman M, Corrado G, King D. Key challenges for delivering clinical impact with artificial intelligence. BMC Med. 2019;17(1):195.

4. Bajwa J, Munir U, Nori A, Williams B. Artificial intelligence in healthcare: transforming the practice of medicine. Future Healthc J. 2021;8(2):e188-e194.

5. Esteva A, Kuprel B, Novoa RA, Ko J, Swetter SM, Blau HM, et al. Dermatologist-level classification of skin cancer with deep neural networks. Nature. 2017;542(7639):115-118.

6. Gulshan V, Peng L, Coram M, Stumpe MC, Wu D, Narayanaswamy A, et al. Development and validation of a deep learning algorithm for detection of diabetic retinopathy in retinal fundus photographs. JAMA. 2016;316(22):2402-2410.

7. McKinney SM, Sieniek M, Godbole V, Godwin J, Antropova N, Ashrafian H, et al. International evaluation of an AI system for breast cancer screening. Nature. 2020;577(7788):89-94.

8. Singhal K, Azizi S, Tu T, Mahdavi SS, Wei J, Chung HW, et al. Large language models encode clinical knowledge. Nature. 2023;620(7972):172-180.

9. Thirunavukarasu AJ, Ting DSJ, Elangovan K, Gutierrez L, Tan TF, Ting DSW. Large language models in medicine. Nat Med. 2023;29(8):1930-1940.

10. Jumper J, Evans R, Pritzel A, Green T, Figurnov M, Ronneberger O, et al. Highly accurate protein structure prediction with AlphaFold. Nature. 2021;596(7873):583-589.

11. Lu MY, Chen B, Williamson DFK, Chen RJ, Zhao M, Chow AK, et al. A multimodal generative AI copilot for human pathology. Nature. 2024;634(8033):466-473.

12. Wang J, Wang T, Han R, Shi D, Chen B. Artificial intelligence in cancer pathology: applications, challenges, and future directions. Cytojournal. 2025;22:45.

13. Van Veen D, Van Uden C, Blankemeier L, Delbrouck JB, Aali A, Bluethgen C, et al. Adapted large language models can outperform medical experts in clinical text summarization. Nat Med. 2024;30(4):1134-1142.

14. Omiye JA, Gui H, Rezaei SJ, Zou J, Daneshjou R. Large language models in medicine: the potentials and pitfalls: a narrative review. Ann Intern Med. 2024;177(2):210-220.

15. Nerella S, Bandyopadhyay S, Zhang J, Contreras M, Siegel S, Bumin A, et al. Transformers and large language models in healthcare: a review. Artif Intell Med. 2024;154:102900.

16. Hashimoto DA, Rosman G, Rus D, Meireles OR. Artificial intelligence in surgery: promises and perils. Ann Surg. 2018;268(1):70-76.

17. Takeuchi M, Kitagawa Y. Artificial intelligence and surgery. Ann Gastroenterol Surg. 2023.

18. Shaik T, Tao X, Higgins N, Gururajan R, Li Y, Zhou X, et al. Remote patient monitoring using artificial intelligence: current state, applications, and challenges. WIREs Data Min Knowl Discov. 2023;13(2):e1485.

19. Rony MKK, Das DC, Khatun MT, Ferdousi S, Akter MR, Khatun MA, et al. Artificial intelligence in psychiatry: a systematic review and meta-analysis of diagnostic and therapeutic efficacy. Digit Health. 2025;11:20552076251330528.

20. Char DS, Shah NH, Magnus D. Implementing machine learning in health care - addressing ethical challenges. N Engl J Med. 2018;378(11):981-983.

21. Rajkomar A, Hardt M, Howell MD, Corrado G, Chin MH. Ensuring fairness in machine learning to advance health equity. Ann Intern Med. 2018;169(12):866-872.

22. Alowais SA, Alghamdi SS, Alsuhebany N, Alqahtani T, Alshaya AI, Almohareb SN, et al. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. BMC Med Educ. 2023;23(1):689.

23. Grunhut J, Wyatt ATM, Marques O. Educating future physicians in artificial intelligence (AI): an integrative review and proposed changes. J Med Educ Curric Dev. 2021;8:1-10.

24. Association of American Medical Colleges. Principles for the Responsible Use of Artificial Intelligence in and for Medical Education. Washington, DC: AAMC; 2025.

25. Rajkomar A, Oren E, Chen K, Dai AM, Hajaj N, Hardt M, et al. Scalable and accurate deep learning with electronic health records. NPJ Digit Med. 2018;1:18.

26. National Academy of Medicine. Toward a National Health Digital and Data Architecture: Laying the Foundation for Digital Transformation. Washington, DC: NAM; 2024.

27. World Health Organization Regional Office for Europe. Health Data Governance in the WHO European Region: Data and Digital Health Policy Brief Series. Copenhagen: WHO; 2024.

28. European Parliament and Council of the European Union. Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act). COM(2021)0206; 2021.

29. Sharma S, Guleria K. A comprehensive review on federated learning based models for healthcare applications. Artif Intell Med. 2023;146:102691.

30. Obermeyer Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations. Science. 2019;366(6464):447-453.

31. Price WN 2nd, Gerke S, Cohen IG. Potential liability for physicians using artificial intelligence. JAMA. 2019;322(18):1765-1766.

32. Naik N, Hameed BMZ, Shetty DK, Swain D, Shah M, Paul R, et al. Legal and ethical consideration in artificial intelligence in healthcare: who takes responsibility? Front Surg. 2022;9:862322.

33. Čartolovni A, Tomičić A, Lazić Mosler E. Ethical, legal, and social considerations of AI-based medical decision-support tools: a scoping review. Int J Med Inform. 2022;161:104738.

34. Pham T. Ethical and legal considerations in healthcare AI: innovation and policy for safe and fair use. R Soc Open Sci. 2025;12(5):241873.

35. Pierson E, Cutler DM, Leskovec J, Mullainathan S, Obermeyer Z. An algorithmic approach to reducing unexplained pain disparities in underserved populations. Nat Med. 2021;27(1):136-140.

36. Celi LA, Cellini J, Charpignon ML, Dee EC, Dernoncourt F, Eber R, et al. Sources of bias in artificial intelligence that perpetuate healthcare disparities-a global review. PLOS Digit Health. 2022;1(3):e0000022.

37. Paulus JK, Kent DM. Predictably unequal: understanding and addressing concerns that algorithmic clinical prediction may increase health disparities. NPJ Digit Med. 2020;3:99.

38. Rudin C. Stop explaining black box machine learning models for high stakes decisions and use interpretable models instead. Nat Mach Intell. 2019;1(5):206-215.

39. Ali S, Abuhmed T, El-Sappagh S, Muhammad K, Alonso-Moral JM, Confalonieri R, et al. Explainable artificial intelligence (XAI): what we know and what is left to attain trustworthy artificial intelligence. Inf Fusion. 2023;99:101805.

40. Rosenbacke R, Melhus Å, McKee M, Stuckler D. How explainable artificial intelligence can increase or decrease clinicians' trust in AI applications in health care: systematic review. JMIR AI. 2024;3:e53207.

41. US Food and Drug Administration. Artificial Intelligence/Machine Learning (AI/ML)-Based Software as a Medical Device (SaMD) Action Plan. Silver Spring, MD: FDA; 2021.

42. Gerke S, Minssen T, Cohen G. Ethical and legal challenges of artificial intelligence-driven healthcare. In: Artificial Intelligence in Healthcare. Amsterdam: Elsevier; 2020. p. 295-336.

43. Schwalbe N, Wahl B. Artificial intelligence and the future of global health. Lancet. 2020;395(10236):1579-1586.

44. Mollura DJ, Culp MP, Pollack E, Battino G, Scheel JR, Mango VL, et al. Artificial intelligence in low- and middle-income countries: innovating global health radiology. Radiology. 2020;297(3):513-520.

45. Ciecierski-Holmes T, Singh R, Axt M, Brenner S, Barteit S. Artificial intelligence for strengthening healthcare systems in low- and middle-income countries: a systematic scoping review. NPJ Digit Med. 2022;5:162..