COMPREHENSIVE REVIEW ON THE ETHICAL AND LEGAL IMPLICATIONS OF ARTIFICIAL INTELLIGENCE IN HEALTH CARE.

Abdullah Salem Hamad Al Sulaiman

absaalsulaiman@moh.gov.sa

Ministry of Health, Saudi Arabia

Hadi Mazyad.M Albahri

Hamaalbahri@moh.gov.sa

Ministry of Health, Saudi Arabia

Mohammed Saleh Bin Mohammed AlKhamsan

Mosaalkhamsan@moh.gov.sa

Ministry of Health, Saudi Arabia

Hussain Mohammed Hamad AL sulaiman

humalsulaiman@moh.gov.sa

Ministry of Health, Saudi Arabia

Mohsen Mana HutaylanAlmuhmidhi

malmuhmidhi@moh.gov.sa

Ministry of Health, Saudi Arabia

Al yami, Hamad Mana

halyami107@moh.gov.sa

Ministry of Health, Saudi Arabia

Abstract

Integrating artificial intelligence (AI) innovation into healthcare frameworks guarantees to be helpful but, moreover, poses moral and lawful challenges. This survey investigates critical issues in AI selection in healthcare, cantering on moral and legitimate issues. Protection is becoming a significant issue, including the security of understanding data and the potential disintegration of

protection in AI-enabled frameworks. Moreover, the investigation investigates the effect of algorithmic predisposition, highlighting the significance of fairness and straightforwardness within the decision-making process. Accountability is critical, highlighting the need to clarify parts and duties in AI-based healthcare. Administration issues emerge, and existing frameworks must keep up with fast, innovative improvements. Thoughts to fathom these issues incorporate reinforcing information assurance, making the method straightforward, and empowering collaboration. By tending to moral and legitimate issues, partners can use the transformative potential of artificial intelligence while guaranteeing quiet rights, equity, and the security of treatment.

Keywords: artificial intelligence, healthcare, ethics, legal implications, privacy, bias, accountability, regulatory challenges

Introduction

Artificial intelligence (AI) has become a progressive constraint in healthcare, making strides in determination, self-improvement guarantees, -recuperating, and superior treatment. Artificial intelligencealludes to the capacity of machines to perform assignments that regularly require human insights, such as learning from objects, recognizing designs, and making choices. Artificial intelligenceapplications in healthcare envelop a wide range of advances, including machine learning algorithms, natural dialect handling, and mechanical technology, all planned to make strides in care: Kindness and understanding care (Naik et., al 2022).

The significance of artificial intelligencein healthcare is evident in its expanding selection from the conclusion and forecast to prescient analytics and quiet care. AI-powered instruments have the potential to revolutionize healthcare by enabling specialists, expanding exactness, and progressing treatment (Murphy et., al 2021). But near these progressive benefits, there are imperative moral and legitimate issues that ought to be carefully considered to guarantee dependable utilization and adjustment of skills in healthcare.

Ethics sets standards that will empower the arrangement of moral issues and the utilization of artificial intelligence in healthcare. In agreement with convention and culture. Critical moral contemplations concerning utilizing AI in healthcare include patient protection and secrecy, reasonableness and straightforwardness in algorithmic decision-making, independence, consent, and suggestions for the physician-patient relationship. Furthermore, moral rules emphasize the significance of ensuring that AI-driven mediations advance health values and don't contribute to imbalances in well-being, care, and well-being (Alowais et., al 2023).

Currently, the lawful framework plays a vital part in controlling the advancement, dispersal, and utilization of artificial intelligencewithin the field of medication. Existing laws and directions administer all viewpoints of AI use, including information assurance and security, risk and responsibility, handling visualization quality, and care measures. In any case, the pace of

mechanical advancement regularly surpasses the advancement of legitimate frameworks, driving irregularities and vulnerabilities within the administration of the tour.

This audit provides a comprehensive audit of therapeutic ability's moral and legitimate angles. We'll analyze the most focused of the moral and legitimate systems directing the utilization of AI, investigate vital issues such as security, deception, responsibility, and administration, and give an understanding of techniques to address moral and lawful issues. By analyzing the current circumstances, we look to educate partners and policymakers about the openings and challenges related to mental property acknowledgment in treatment (Čartolovni et., al 2022).

Ethical Implications

Patient Privacy and Data Security

Persistent Anticipation in a Knowledge-Based System There are numerous issues in healthcare. The broad utilization of well-being data, from electronic healthcare records (EHRs) to hereditary data, has raised security concerns, who knows and may battle. One of the biggest challenges is empowering manufactured insights to look at and utilize data without compromising the individual's right to security (Carter et al., 2020).

Table 1. Primary grouping of current scientific review.

Grouping	Sub-Grouping	Description
Ethical Considerations in AI	Interpretability, Accountability, and Bias in AI	This sub-group addresses the essential elements of AI's explainability, its interpretability, and the potential biases inherent in its use.
	Ethical Design and Use of AI in Healthcare	It focuses on the ethical aspects of AI design and implementation in healthcare, considering societal, cultural, and community-specific needs.
Practical Challenges and Solutions in AI Integration	Technical and Pedagogical Aspects of AI Implementation	It considers the technical, financial, and pedagogical challenges and solutions associated with implementing AI in various sectors, including healthcare and education.
	Implementing Ethical AI in Different Spheres	It investigates the ways in which ethical AI can be integrated into different domains, emphasizing the importance of ethical considerations in system design and user

|		interaction (Morley et., al 2020).
Legal and Policy Implications in Al	Privacy, GDPR, and Ethical Considerations in Al	It explores the issues surrounding privacy, data protection, and the ethical use of Al in the context of GDPR regulations.
	Policy and Legislative Recommendations for Al	This sub-group delves into the policy and legislative aspects of Al, proposing recommendations for better privacy protections, ethical discussions, and regulatory compliance (Amann et., al 2020).

Equity and Bias

Whereas AI algorithms hold a guarantee to progress well-being, there's developing concern that they may present predisposition and increment imbalance in quiet advantage. Predispositions in AI algorithms can lead to unequal treatment and care, undermining endeavors to attain health and well-being.

Examples of mental disparity proliferate, with things about appearing individuals by race, sexual orientation, and financial status. For illustration, inquiries about racial bias appear in a few symptomatic algorithms, driving contradictions within the determination and treatment of diverse ethnic bunches. So also, sexual orientation inclination in AI-powered healthcare can lead to misdiagnoses and contrasts in treatment proposals, particularly in regions such as heart illness and radiation (Amann et., al 2020).

To decrease inclination in cognitive algorithms, issues such as preparing information and building up decision-making forms must be addressed. Separated and agent information assists in diminishing predisposition by uncovering AI algorithms for distinctive groups of individuals and clinical circumstances. Furthermore, algorithmic straightforwardness can energize confirmation and decrease predisposition by making AI machines' decision-making preparation more straightforward and understandabl (McGreevey et., al 2020).

Figure 1. Different sources of bias in machine learning algorithms.
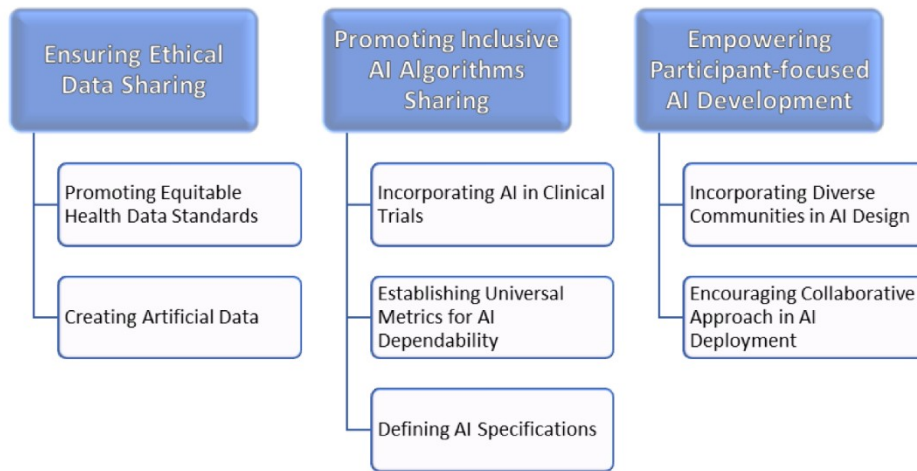
(Ahmad et., al 2021).

Autonomy and Informed Consent

Coordination of cognitive science in understanding care leads to moral contemplations around opportunity and information. Counterfeit insights frequently play a part in selecting medications, making suggestions, and making a difference in how specialists make treatment plans. The utilization of fake insights in medication, moreover, causes issues in understanding self-regulation and conventional models of consent.

One of the vital moral contemplations concerning care decision-making capacity is the potential effect of the patient's behaviour. As AI calculations impact therapeutic and pharmaceutical choices, patients may feel like they have misplaced control of critical choices (Gerke et al., 2020). This raises concerns about how patients can accomplish independence in AI-driven care and its effect on long-term relationships.

Questions almost preparing authorization emerge when information exchange is included within the re-examined rules. Assent models continuously emphasize the significance of giving patients data about treatment and calculating dangers, benefits, and alternatives so they can make educated choices. The complexity of AI calculations and the requirement for straightforward decision-making forms will make it troublesome for patients to get to and acknowledge AI interventions.

Maintaining supportability when utilizing AI advancements requires cautious thought of the positive and negative moral suggestions of AI-driven oversight and assent. Doctors must guarantee that patients receive care and incorporate their impediments and treatment proposals.

Coordinating data on communication and shared decision-making also includes empowering patients to form treatment choices while utilizing involvement picked up through AI.

Continuous communication and collaboration with patients are significant to progressing belief and independence in AI-enabled healthcare situations. By locking in patients in discussions about utilizing AI innovation and requesting their suppositions and inclinations, doctors can saddle the potential of AI to progress clinical results while seeking personalized torment care principles (Safdar et., al 2020).

Figure 2. Flowchart of AI problem recognition in AI standard developments.
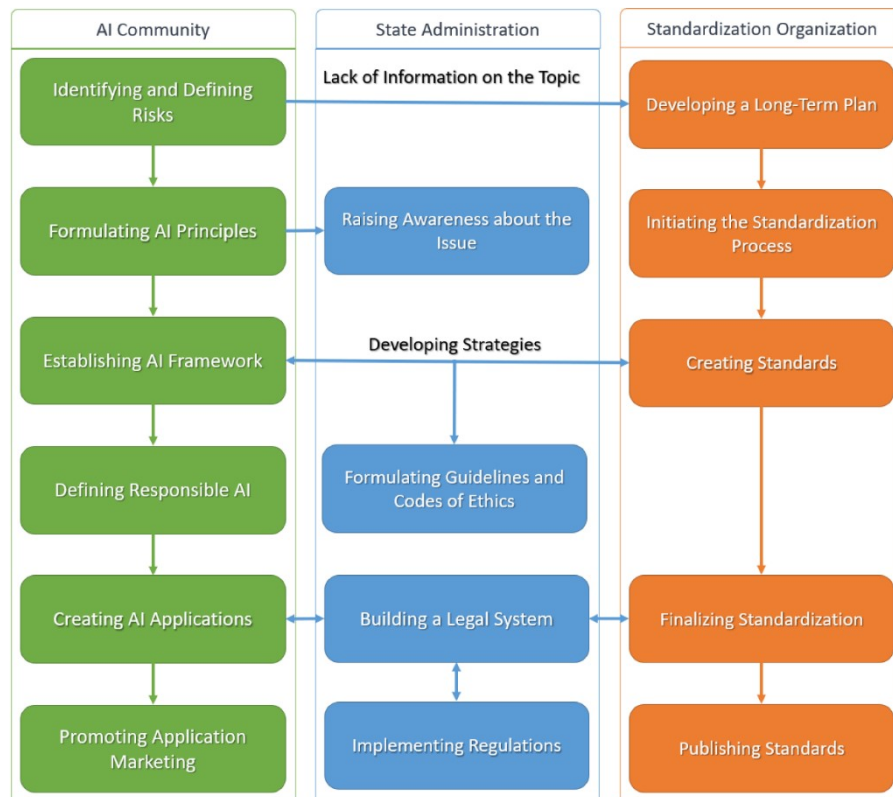
(Sarker et., al 2021).

Figure 1 illustrates different zones of predisposition in machine learning, highlighting the significance of coordination of open science in the plan and assessment of artificialintelligence. By doing this, AI can be valuable and valuable in understanding worldwide health issues. The inquiry addresses issues and arrangements in AI integration, as well as laws and controls concerning AI arrangement. Each group is broken down into nuanced subgroups to encourage wide discourse. Table 1 gives the expository method, classifying three central bunches and six subgroups (Secinaro et., al 2021). The AI problem investigation prepared that is driven to improve AI models based on this investigation appears in Figure 2(Nasim et., al 2022). This account diagrams the ethics-to-standards rotation to construct belief in AI innovation amid

moral, lawful, and plan challenges. The work that diagrams this approach emphasizes the significance of combining morals with proficient measures to guarantee that aptitudes are utilized mindfully and proficiently to meet the desires of society, particularly within the world of healthcare (Lee & Yoon 2021).

Legal Implications

Regulatory Landscape

The healthcare administrative environment for artificial intelligence (AI) is advancing as AI innovation progresses toward treatment. The most administrative office in this region is the US Nourishment and Food and Drug Administration (FDA), which manages the security and viability of therapeutic gadgets and computer programs, including AI-assisted treatments.

FDA's approach to administering artificial intelligencecomputer programs is challenging. An establishment that bases artificial intelligenceapplications and classifies them based on their effect on understanding well-being (Bærøe, et., al 2020). Programs with a lower chance, such as health and way-of-life apps, may be subject to stricter direction. In contrast, higher hazard applications, such as assessment control algorithms or choice bolster, will be encouraged to be analysed.

Despite endeavors to controlartificial intelligence into well-being, the fast advancement of innovative improvement has made genuine issues for administrative teachers. artificial intelligence innovation proceeds to advance, and new algorithms and applications are quickly rising, making the work of existing administration frameworks troublesome. Moreover, the complexity of AI frameworks and the need for straightforward decision-making forms cause issues in administrative forms such as pre-market endorsement or post-market analysis.

An adaptive administrative system that adjusts to the energetic nature of artificial intelligence innovation has become a reality. The significance of keeping patients secure and empowering advancement in healthcare. This handle may incorporate integrated management, counting hazard appraisal, post-marketing investigation, and regular assessment of AI algorithms within the clinical setting (Arnold,2021). Collaboration between controllers, industry partners, and professionals is essential to create and execute viable administration techniques that adjust development with an understanding of security.
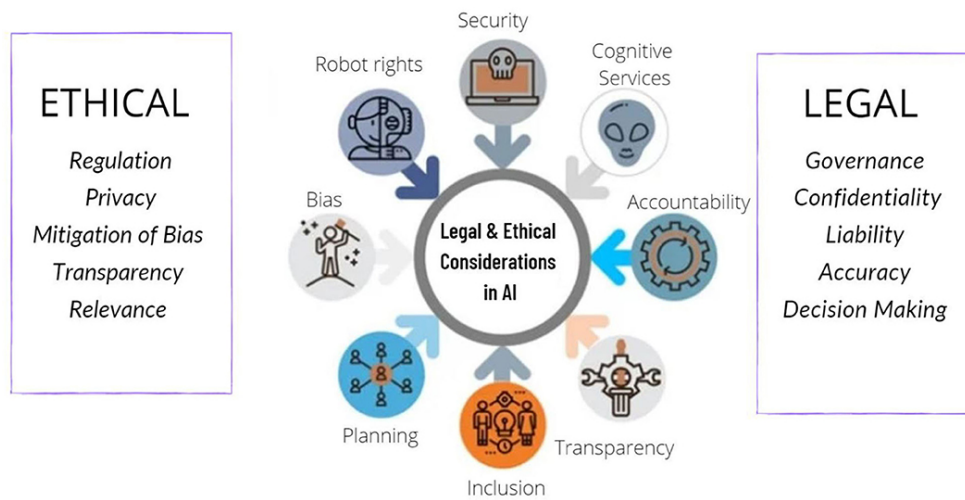
FIGURE 3. Various ethical and legal conundrums involved with the usage of artificial intelligence in healthcare (Arnold,2021).

Decisions of the European Parliament are based on the examinations of the Gracious Rights and Protected Issues committee. They are checked and distributed at the ask of the Legitimate Undertakings Committee of the European Parliament. At the heart of the report is the pressing requirement for enactment to control robots and manufactured insights, which is also tended to within the choice. The system must adjust to expectations and logical progress within the medium term (Nassar & Kamal 2021).

Figure 3 outlines different moral and legal issues regarding utilizing artificial control artificial intelligencein healthcare. This picture may be a visual help to assist you in understanding the complexity and potential of AI integration issues in healthcare by outlining these issues. This acknowledgment underscores the requirement for comprehensive enactment to address the moral, lawful, and legitimate suggestions of therapeutic mastery. A solid administrative system guarantees the dependable arrangement of AI advances and increases public trust and certainty in their utilization in healthcare. In this manner, arrangements and investigation illustrate the need for requirements administration and alteration within alteration change of the therapeutic specialty (Nassar & Kamal 2021).

Liability and Accountability

Integrating artificial intelligence (AI) into healthcare raises complex issues related to artificial intelligence (AI)—conveyance of obligation when AI-related mistakes or harms happen to patients. Characterizing parts in an AI-driven healthcare environment requires thought of numerous components, counting the parts and obligations of healthcare experts, AI engineers, controllers, and hospitals.

In conventional restorative offices, the obligation for therapeutic negligence or antagonistic results falls on the doctor who takes after the standard of care. Presenting artificial intelligenceinnovation complicates these assignments since the artificial intelligencehandle can encourage or specifically impact the decision-making handle. Subsequently, deciding the level of obligation when AI-related blunders happen requires a great understanding of the interaction between human performing artists and AI algorithms (specialty (et., al 2020).

Precedent approaches and developing components to decide responsibility within the intelligence-driven healthcare preparation. Courts and controllers are hooking with issues encompassing the lawfulness of AI frameworks, the approval of AI-related mistakes, and the degree to which human oversight decreases risk. Later occasions highlight the need for clear rules and guidelines on responsibility in AI-driven healthcare environments.

One way to address responsibility in AI-enabled healthcare includes the concept of algorithmic accountability, which emphasizes straightforwardness, responsibility, and obligation for the plan and arrangement of AI algorithms. The Algorithmic Responsibility System aims to diminish the chance of AI-related blunders and advance AI-focused applications by bringing straightforwardness to AI decision-making and guaranteeing engineers and clients get the impediments and potential inclinations of AI frameworks'legally binding assertions and risks may play a part in partitioning the duties of AI designers, specialists, and clinics. Be that as it may, the adequacy of the suggestions in hone remains hazy, and the legitimate system administering obligation in AI-driven healthcare situations remains (Markus et., al 2021).

Intellectual Property Rights

The crossing point of artificial intelligence (AI) algorithms and therapeutic information has made lawful issues concerning proprietors and their capacity to pick up property assurance. AI algorithms are regularly created by contributing critical sums of time, assets, and ability and can be considered profitable resources. So also, clinical information, counting persistent records, imaging ponders, and genomic information speak to profitable assets that can be utilized to prepare and make strides in the capabilities of intelligent algorithms.

In AI-enabled healthcare settings, questions emerge about the proprietorship of AI algorithms and the rights to get to and utilize therapeutic data. Makers of AI algorithms may seek to secure their developments through licenses, copyrights, or exchange privileged insights, in this way making select rights over their creations. However, using therapeutic information to prepare AI raises concerns about information possession and security, mainly when patients need an explicit agreement to collect information (Shinners et., al 2020).

The effect of mental property rights on development, competition, and mental property procurement is critical. On the other hand, solid mental property assurance can energize development by giving producers time to recuperate their ventures and benefit from the items

they make. Licenses give legitimate security, particularly for unused and non-open AI algorithms, and empower ventures in investigation and development.

Figure 4. Key ethical and legal considerations in a diagnostic pathway incorporating AI automation.
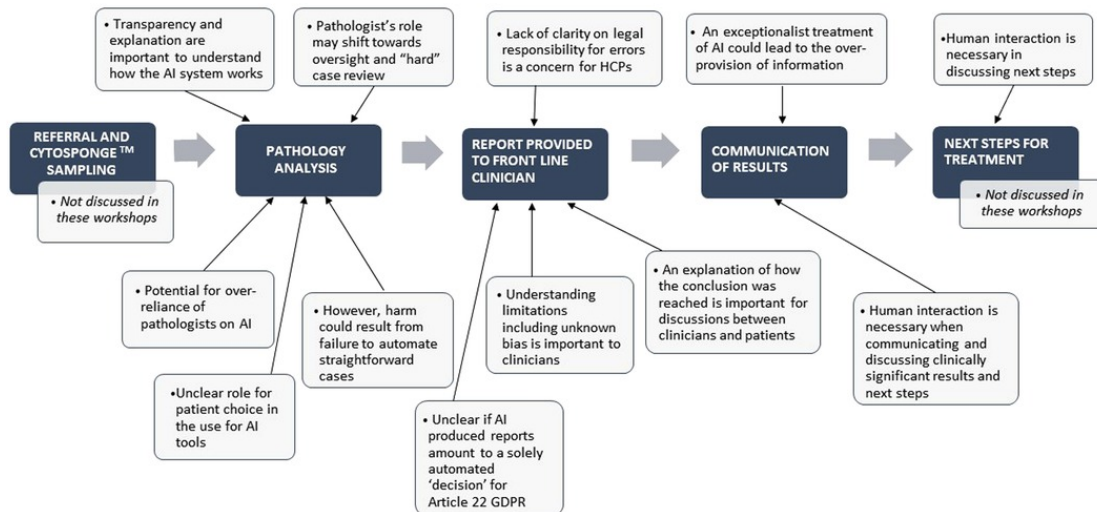
(Ashok et., al 2022).

On the other hand, an approach that limits artificial intelligencewill also smother innovation and restrain competition within the counterfeit intelligence-focused healthcare segment. Numerous licenses on AI algorithms can also prevent the improvement and spread of AI innovation by making boundaries for small commerce proprietors and new businesses. Furthermore, concerns almost get to therapeutic data, and the potential for data-restraining infrastructures may lead to imbalances in AI-powered healthcare solutions (Ashok et., al 2022).

Overcoming these challenges requires an adjustment recognizing savvy innovation's significance in supporting advances, persistent security, and empowering communication. An administrative system that strikes a balance adjustment between ensuring mental property rights and advancing access to therapeutic data for investigation-investigation and advancement is essential to bolster a solid and competitive AI-driven healthcare environment. By tending to intellectual property rights issues, partners can realize the full potential of AI innovation to move forward with quiet care while guaranteeing value and advancement.

Future Directions

As the field of artificial intelligence (AI) develops, the crossing point of morals, law, and pharmaceuticals will become progressively complex. Rising patterns and future headings in AI healthcare and law may affect the advancement and utilization of AI innovation in healthcare. Furthermore, giving great thoughts and proposals to policymakers, professionals, and innovation

engineers can offer assistance in illuminating moral and lawful issues while making the most of AI-powered healthcare solutions (World Health Organization, 2021).

One wonder within the moral and lawful field of artificial intelligenceis the increment in algorithmic straightforwardness and responsibility. As AI algorithms play a progressively imperative part in clinical decision-making, individuals are becoming progressively mindful of the requirement for straightforwardness in calculation forms and results. Future advancements will incorporate improving models and strategies to precisely distinguish and assess medicines for patients and assess the execution of artificial intelligenceAlgorithms.

Another critical perspective is the integration of morals into aptitude advancement and appraisal. Improvement. Future progress in AI healthcare applications will incorporate Integrating moral standards such as reasonableness, straightforwardness, and security into the plan of AI algorithms and frameworks. This approach, called ethical design, points to Integrating morals into advancing AI innovation, advancing the responsibility and morals of AI in healthcare (Yin et., al 2021).

The significance of collaborative endeavours to address moral and legitimate issues in AI healthcare is acknowledged. Future improvements will require better collaboration between specialists, legitimate specialists, policymakers, and innovation designers to make a social and legitimate system for AI (Chen & See 2020). By empowering exchange and collaboration, partners can use different viewpoints and skills to explore AI-driven treatment's moral and legitimate suggestions.

Recommendations

- ✓ Build up clear rules and benchmarks for advancing, sending, and utilizing AI in healthcare, counting standards of algorithmic straightforwardness, reasonableness, and accountability.
- ✓ Contributing to investigative and advancement endeavors to address disparities and holes in AI and frameworks, counting endeavors to move forward representation and integration over the curriculum (Senbekov et., al 2020).
- ✓ Reinforce the checking and control handle to comply with guidelines and rules, and controls concerning the application of therapeutic insights. 4. Advance instruction and preparing programs to raise mindfulness among doctors, policymakers, and the open about therapeutic expertise's moral and lawful nature.
- ✓ Advance collaboration and exchange among partners to back the advancement of consensus-based moral and legitimate systems for AI healthcare (Ellahham 2020).

Conclusion

In conclusion, this survey highlights the advancement of artificial intelligence (AI) in healthcare, highlighting the significance of enhancing clinical evaluation with morals and law. When the

fundamental standards of morals and legal frameworks are inspected, it is evident that artificial intelligenceinnovation requires a great understanding of the interaction between innovative improvements, social values, and directions. This survey highlights the need for straightforwardness, reasonableness, and responsibility and the significance of understanding rights, protection, and opportunities in AI to create a solid environment. Furthermore, collaborative collaboration and regular dialogs between doctors, specialists, legitimate specialists, controllers, and innovation producers will be imperative in tending to the moral and lawful issues inborn in AI healthcare applications. Through collaboration and collaboration, partners can use AI's transformative potential, guaranteeing that moral and lawful principles are kept up so that patients are not cleared out within the cold.

References

Naik, N., Hameed, B. M., Shetty, D. K., Swain, D., Shah, M., Paul, R., ... & Somani, B. K. (2022). Legal and ethical consideration in artificial intelligence in healthcare: who takes responsibility? *Frontiers in surgery*, *9*, 266.https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full?gclid=Cj0KCQi AjbagBhD3ARIsANRrqEsSbEC-BHyiNltKKBRXm4CkJOwBot_U3M1rDu9zP0GaORA5bEfrypoaAtqFEALw_wcB

Murphy, K., Di Ruggiero, E., Upshur, R., Willison, D. J., Malhotra, N., Cai, J. C., ... & Gibson, J. (2021). Artificial intelligence for good health: a scoping review of the ethics literature. *BMC medical ethics*, *22*(1), 1-17.https://bmcmedethics.biomedcentral.com/articles/10.1186/s12910-021-00577-8

Alowais, S. A., Alghamdi, S. S., Alsuhebany, N., Alqahtani, T., Alshaya, A. I., Almohareb, S. N., ... & Albekairy, A. M. (2023). Revolutionizing healthcare: the role of artificial intelligence in clinical practice. *BMC Medical Education*, *23*(1), 689.https://link.springer.com/article/10.1186/s12909-023-04698-z

Čartolovni, A., Tomičić, A., & Mosler, E. L. (2022). Ethical, legal, and social considerations of AI-based medical decision-support tools: A scoping review. *International Journal of Medical Informatics*, *161*, 104738.https://www.sciencedirect.com/science/article/pii/S1386505622000521

Carter, S. M., Rogers, W., Win, K. T., Frazer, H., Richards, B., & Houssami, N. (2020). The ethical, legal and social implications of using artificial intelligence systems in breast cancer care. *The Breast*, *49*, 25-32.https://www.sciencedirect.com/science/article/pii/S0960977619305648

Morley, J., Machado, C. C., Burr, C., Cowls, J., Joshi, I., Taddeo, M., & Floridi, L. (2020). The ethics of AI in health care: a mapping review. *Social Science & Medicine*, *260*, 113172.https://www.sciencedirect.com/science/article/pii/S0277953620303919

Amann, J., Blasi me, A., Varena, E., Frey, D., Madai, V. I., & Precise4Q Consortium. (2020). Explainability for artificial intelligence in healthcare: a multidisciplinary perspective. *BMC medical informatics and decision making*, *20*, 1-9.https://link.springer.com/article/10.1186/s12911-020-01332-6

McGreevey, J. D., Hanson, C. W., & Koppel, R. (2020). Clinical, legal, and ethical aspects of artificial intelligence–assisted conversational agents in health care. *Jama*, *324*(6), 552-553.https://jamanetwork.com/journals/jama/article-abstract/2768927

Ahmad, Z., Rahim, S., Zubair, M., & Abdul-Ghafar, J. (2021). Artificial intelligence (AI) in medicine, current applications and future role with special emphasis on its potential and promise in pathology: present and future impact, obstacles including costs and acceptance among pathologists, practical and philosophical considerations. A comprehensive review. *Diagnostic pathology*, *16*, 1-16.https://link.springer.com/article/10.1186/s13000-021-01085-4

Gerke, S., Minssen, T., & Cohen, G. (2020). Ethical and legal challenges of artificial intelligence-driven healthcare. In *Artificial intelligence in healthcare* (pp. 295-336). Academic Press.https://www.sciencedirect.com/science/article/pii/B9780128184387000125

Safdar, N. M., Banja, J. D., & Meltzer, C. C. (2020). Ethical considerations in artificial intelligence. *European journal of radiology*, *122*, 108768.https://www.sciencedirect.com/science/article/pii/S0720048X19304188

Secinaro, S., Calandra, D., Secinaro, A., Muthurangu, V., & Biancone, P. (2021). The role of artificial intelligence in healthcare: a structured literature review. *BMC medical informatics and decision making*, *21*, 1-23.https://link.springer.com/article/10.1186/s12911-021-01488-9

Kaur, D., Uslu, S., Rittichier, K. J., & Durresi, A. (2022). Trustworthy artificial intelligence: a review. *ACM Computing Surveys (CSUR)*, *55*(2), 1-38.https://dl.acm.org/doi/abs/10.1145/3491209

Sarker, S., Jamal, L., Ahmed, S. F., & Irtisam, N. (2021). Robotics and artificial intelligence in healthcare during COVID-19 pandemic: A systematic review. *Robotics and autonomous systems*, *146*, 103902.https://www.sciencedirect.com/science/article/pii/S0921889021001871

Nasim, S. F., Ali, M. R., & Kulsoom, U. (2022). Artificial intelligence incidents & ethics a narrative review. *International Journal of Technology, Innovation and Management (IJTIM)*, *2*(2), 52-64.https://journals.gaftim.com/index.php/ijtim/article/view/80

World Health Organization. (2021). Ethics and governance of artificial intelligence for health: WHO guidance.https://apps.who.int/iris/bitstream/handle/10665/341996/9789240029200-eng.pdf

Ellahham, S., Ellahham, N., & Simsekler, M. C. E. (2020). Application of artificial intelligence in the health care safety context: opportunities and challenges. *American Journal of Medical Quality*, *35*(4), 341-348.https://journals.sagepub.com/doi/abs/10.1177/1062860619878515

Chen, J., & See, K. C. (2020). Artificial intelligence for COVID-19: rapid review. *Journal of medical Internet research*, *22*(10), e21476.https://www.jmir.org/2020/10/e21476/

Lee, D., & Yoon, S. N. (2021). Application of artificial intelligence-based technologies in the healthcare industry: Opportunities and challenges. *International Journal of Environmental Research and Public Health*, *18*(1), 271.https://www.mdpi.com/1660-4601/18/1/271

Senbekov, M., Saliev, T., Bukeyeva, Z., Almabayeva, A., Zhanaliyeva, M., Aitenova, N., ... & Fakhradiyev, I. (2020). The recent progress and applications of digital technologies in healthcare: a review. *International journal of telemedicine and applications*, *2020*.https://www.hindawi.com/journals/ijta/2020/8830200/

Yin, J., Ngiam, K. Y., & Teo, H. H. (2021). Role of artificial intelligence applications in real-life clinical practice: systematic review. *Journal of medical Internet research*, *23*(4), e25759.https://www.jmir.org/2021/4/e25759/

Vesnic-Alujevic, L., Nascimento, S., & Polvora, A. (2020). Societal and ethical impacts of artificial intelligence: Critical notes on European policy frameworks. *Telecommunications Policy*, *44*(6), 101961.https://www.sciencedirect.com/science/article/pii/S0308596120300537

Markus, A. F., Kors, J. A., & Rijnbeek, P. R. (2021). The role of explainability in creating trustworthy artificial intelligence for health care: a comprehensive survey of the terminology, design choices, and evaluation strategies. *Journal of biomedical informatics*, *113*, 103655.https://www.sciencedirect.com/science/article/pii/S1532046420302835

Alami, H., Lehoux, P., Auclair, Y., de Guise, M., Gagnon, M. P., Shaw, J., ... & Fortin, J. P. (2020). Artificial intelligence and health technology assessment: anticipating a new level of complexity. *Journal of medical Internet research*, *22*(7), e17707.https://www.jmir.org/2020/7/e17707/

Shinners, L., Aggar, C., Grace, S., & Smith, S. (2020). Exploring healthcare professionals' understanding and experiences of artificial intelligence technology use in the delivery of healthcare: an integrative review. *Health informatics journal*, *26*(2), 1225-1236.https://journals.sagepub.com/doi/abs/10.1177/1460458219874641

McLean, S., Read, G. J., Thompson, J., Baber, C., Stanton, N. A., & Salmon, P. M. (2023). The risks associated with Artificial General Intelligence: A systematic review. *Journal of Experimental & Theoretical Artificial Intelligence*, *35*(5), 649-663.https://www.tandfonline.com/doi/abs/10.1080/0952813X.2021.1964003

Ashok, M., Madan, R., Joha, A., & Sivarajah, U. (2022). Ethical framework for Artificial Intelligence and Digital technologies. *International Journal of Information Management*, *62*, 102433.https://www.sciencedirect.com/science/article/pii/S0268401221001262

Nassar, A., & Kamal, M. (2021). Ethical dilemmas in AI-powered decision-making: a deep dive into big data-driven ethical considerations. *International Journal of Responsible Artificial Intelligence*, *11*(8), 1-11.https://neuralslate.com/index.php/Journal-of-Responsible-AI/article/view/43

Arnold, M. H. (2021). Teasing out artificial intelligence in medicine: an ethical critique of artificial intelligence and machine learning in medicine. *Journal of bioethical inquiry*, *18*(1), 121-139.https://link.springer.com/article/10.1007/s11673-020-10080-1

Bærøe, K., Miyata-Sturm, A., & Henden, E. (2020). How to achieve trustworthy artificial intelligence for health. *Bulletin of the World Health Organization*, *98*(4), 257.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133476/