How to Cite:
Malik, J. (2023). Development of new AI in healthcare: A threat to human rights. *International Journal of Health Sciences*, *7*(S1), 1590–1599. https://doi.org/10.53730/ijhs.v7nS1.14379

Development of new AI in healthcare: A threat to human rights

Javeria Malik
Masters in European Legal Studies University of Turin, Department of law
Corresponding author email: javeriamalik62@gmail.com

***Abstract*---**The research paper focuses on the development made by AI in the healthcare sector regarding the protection of human rights. It has been identified in the studies that Machine learning developers have infringed fundamental rights in many ways. The stated issue analyses have been drawn upon the right balance between technological development and alienable rights protection. A discussion has been drawn upon the ethical and legal challenges raised due to the rapid involvement of AI in the healthcare sector. Lastly, a conclusion has been drawn to overcome and take full advantage of the technology.

***Keywords*---**artificial intelligence, technology, healthcare, threat, human rights, violation.

Introduction

In the past several years, AI has revolutionised healthcare with the assistance of different means, such as imaging and diagnosing medical issues. However, AI development authorities are still progressing regarding guidelines protecting fundamental, ethical, social and legal rights. The paper analyses AI guidelines, documents and proposed laws that are in process, raising the issue of protecting human rights at the earliest possible. We will begin by briefly stating what exactly AI means, followed by talking about an application of AI in healthcare. Further, in the second part, an analysis is drawn upon the AI use in healthcare, such as AI diagnostic machines and equipment, clinical care and the changes that have been brought up with newinventions such as the chat box. In addition, a focus has been given to the issues raised while using

AI in health care, identifying that AI cannot fully replace clinical care. However, it can bring improvement and accuracy in clinician decisions with new methods and techniques. In the third chapter of the paper, a discussion has been made upon the question What ethical and legal challenges raises due to AI involvement in healthcare"to ensure the protection of moral and legal rights, how WHO and other

organisations shed light upon the issue of AI and human rights. The fourth part of the paper focuses on the central ethical and human rights infringement, such as; safety and transparency, fairness and biasness, right to privacy, liability and cybersecurity.

Lastly, while looking into the infringements, a recommendation for developing laws and policies has been made to overcome and take advantage of AI in healthcare by all stakeholders in the AI field, including AI developers, clinicians, and patients. In addition, a conclusion is drawn upon AI's successful implementation and practice in health care.

Artificial intelligence

While talking about what precisely Artificial intelligence (used from now on as AI) means, we can find the definition in both scholarly works and legal documents. Taking into account both aspects, AI refers to machine learning which allows the use of technological methods and performance by computer programs of tasks commonly associated with intelligent beings. The basis of AI is the extraction of data and code through algorithms, which are later used to analyse and transform data into a conclusion, information or other outputs. However, legal of AI is defined in a recommendation of the council on the Artificial Intelligence of the OECD (4), which states that *"An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendation, or decision influencing the real or virtual environment. AI systems are designed to operate with varying levels of autonomy."*

AI assistance has been taken in almost all fields of work either, including business running, recruitment, healthcare, etc. It would be wrong to say that AI is a new process; it was used a long time ago, but to date, it is being used in day-to-day life for quick and accurate and tangible result through "big data". The primary and unique properties of big data are defined by four maindimensions such as volume, velocity, veracity and variety.

As stated above, AI assistance has improved healthcare work by diagnosing disease of the patient with one test and how it is changing the quality of treatment and services in several high-income countries (used hereafter as HIC), which is discussed in detail how AI has taken up progress in the medicalfield.

AI application in healthcare

AI, with new methods and techniques, is replacing clinicians and human decision making it can be well seen that AI is improving diagnosis and clinical care in one way or another. AI intelligence is used in many different ways in health care which are as follows: -

Firstly, with the help of AI diagnostic machines and equipment, it is used for diagnoses such as oncology (which includes thoracic imaging, brain imaging etc.), diabetes, DNA and LMIC for x-ray scanning, detection of Covid-19 symptoms and many others. It has been proven in a recent comparison of deep-learning algorithms with healthcare professionals who assist in detecting diseases through

medical images, and such data is considered equivalent to human medical decision diagnosis. However, the question is whether AI-detected data can be used similarly for another person. As it is a well-known fact, every human body is different from one another, whereas machines at one time can function according to the algorithm data instructed. At the same time, we must pay attention to the fact that data collected by AI is more accurate and faster than the one by human beings. It is hard to determine whether AI is harmful in healthcare or valuable.

Secondly, AI is being used to integrate clinical care by providing consultation and identifying at-risk patients' diseases. An example of this is AI assistance in managing antiretroviral therapy by determining the presence of HIV drugs and diseases and to assure physicians optimise therapy; however, there is still a need for experience and knowledge while handling clinical care issues. When we see a more comprehensive picture of AI in healthcare, there are a lot of technical challenges, such as constant changes in computing and information technology which results in obsolete systems and companies disappearing. In addition, it is always tricky for low-income countries to use expensive machinery and methods due to a lack of infrastructure.

Lastly, as already written above, AI involvement in clinical care has brought several changes in healthcare such as a shift of patients from hospital to home-based care (e.g., COVID-19 treatment via chat box) by treating themselves outside the formal health system such as hospitals, clinics etc. While looking into the above discussion, AI cannot fully replace clinical care. However, it can bring improvement and accuracy in clinician decisions with new methods and techniques. AI can provide assistance in the health care sector for faster work, for instance, conducting screening and evaluation, and with extracted data from a machine, the doctor can treat a patient; however, both can work collectively to bring a positive outcome and avoid all kinds ofchallenges

What ethical and legal challenges raises due to ai involvement in healthcare?

Regarding AI for the healthcare sector, laws, regulatory principles, andpolicies are fragmented with a limited scope. However, numerous guidelines have been published for the ethical implementation of AI in both the public and private sectors. However, there are many lacunas since there has yet to be a consensus on its definition, best practices or ethical requirements. n 2021, World Health Organization (used from now on WHO) published guidelines on "Ethics and governance of Artificial Intelligence for health" to protect AI's ethical and legal rights. The same is discussed in detail below from a perspective of human rights.[6]

AI ethical and human rights challenges

Human rights are universal rights which are recognised morally and legally all over the world. The Universal Declaration on Human rights and the Internationa Covenant on Economic, Social and Cultural rights explicitly talkabout the Right to health despite discrimination based on sex, colour, ethnicity etc. The same rights have been protected under the International Covenant on Civil and Political Rights. Apart from international recognition, it is the fundamental obligation of

every state/region at the domestic level to be obliged with human rights. In Europe, at a regional level, the human rights convention is the European Convention on human rights. However, when it comes to the implementation of human rights that are fully protected under AI guidelines and by machine learning is a question which is still under discussion for a long time. Machine-learning systems provide an efficient way of treating and advancing human rights, but at the same time, it undermines the core human rights standards.

The issue in hand is not new that has been brought up today. A light on this was shed in guidance issued in March 2020 by the High Commissioner for human rights office. It has been stated that AI and big data can improve human Rights to health with the assistance of new technologies, individualisation of care with the help of assistive devices, built-in environmental applications and robotics. However, it dehumanizes care and risks patient privacy, which is contrary to the Right to health. One cannot protect one fundamental Right while infringing another, whereas all rights should be protected with all forms of AI advancement. Despite all of the conferences, recommendation, laws, and policiesidentifying the issues that human rights, one way or another, are infringed and, a conclusion have been drawn up in WHO guidelines that for ethical useof AI, convergence was found on transparency, justice, fairness, non- maleficence and responsibility. These issues have been addressed at inter- governmental organisations countries, including the Council of European Commissioner for human rights, Japan, China, and Singapore, yet, none of them concluded a proper guideline for the ethical use of AI for healthcare thatcan be prosed worldwide widely.

AI in health requires a principle guideline recognised at an International level so that fundamental rights are not threatened but protected. There is no doubt that with time AI technologies are likely to be developed and implemented by ensuring efficacy, safety and appropriate use of the latest method and techniques for developing healthcare. In recent guidelines of WHO, a focus has been drawn upon transparency risk, data quality, biasness, privacy and data protection. However, every discussion is worthless until a proper guideline is published and implemented, and liability is imposed in case of any breach.

Challenges and infringement of basic Human Rights AI in healthcare development

Until now, there are still many challenges regarding the protection of human rights in AI healthcare sectors since it is the duty and responsibility of the developer of new technologies to keep fundamental Rights intact whilemaking and using AI equipment. Some of the challenges are addressed below:

Consent to use AI assistance: informally

When we talk about AI in health applications, it is the machine from which a doctor or an organisation takes assistance to get an image, diagnostic and surgery during the treatment of a patient with due consent.However, with the advancement of machines and equipment and a shift from clinical care toself-home care with different application on devices, an ethical issue arises which have not been given much attention to what extend doctors/ clinical organisations owe

a responsibility to educate the patient about complexities of AI usage and when they have to concern a doctor? More attention should be given to this area of complexity. The principle of informed consent has yet to be discussed anywhere rather than focused on the assistance of AI in healthcare and how a patient can treat themselves at home. Above stated questions have been raised in cases where AI operates using technologies such as “black box” algorithms; one could ask the question to themselves of to what extent clinicians have a responsibility to inform/educate the patients' regarding the complex nature of AI, such as the kind of input data and possibilities of biasness. Moreover, another question raised is in which circumstances does a patient have to be notified that AI is being used? All these questions still need to be discussed, which is caused when non-interpretable machine-learning techniques are used. Clinicians find it very difficult to understand new methods fully since they do not know how algorithms data decide due to a lack of knowledge.

When it comes to consent in clinical care, a patient can agree that, to a certain extent, they need to be operated on. For others, they need to think about what is considered proportional consent. The same goes for the date since people feel reluctant while giving whole information/data, e.g., family history, genetic issues etc., all these things are still not questioned by AI, and up till now, there has been no such technology in self-care applications targeting these issues. Targeting above stated questions is tricky and complicated when it comes to protecting data privacy, health and safety of a person. Also, while addressing the question of consent, the information generated in digital platforms (such as health apps or chat boxes) fed back into clinical decision- making to answer and safeguard the complete protection of fundamental rights.

Biasness and fairness

Despite the rapidly increased involvement of AI in healthcare, we still cannot entirely rely upon the validity since any machine learning process will be sincere with the data it is trained with to evaluate. The same goes for humans as well in some circumstances. Ever since the formation of AI, there has been much risk of biasness, unfairness and discrimination. AI developers always have to consider equality on the basis of sex, age, and colour to protect and safeguard fundamental rights as declared in national and international law. The challenge AI developers particularly faces while developing is, firstly, to make sure that algorithm data is trained in a manner that they analyse fairly and secondly, programming is made to analyse issue rather than the biasness. While considering AI data in health care, it has been seen that biasness can be on the basis of age in most cases. An example of this is that in the case of phenotype and genotype, biasness can be in the form of a fake diagnosis hence, end up risking the safety of a person.

In order to avoid some biasness, it can be resolved by increasing data availability and attempts to collect data from minority populations, and a precautionary note or guideline should be given stating that available data is used explicitly for the population, either younger or old. Considering the black box example, an argument has been drawn by many scholars that elaboration is necessary when it comes to recommendations in AI healthcare to detect data. Moreover, similarly,

another question was raised about when AI will be deployed. AI assistance in healthcare must be accurate and authentic for the safety of health. In order to avoid such negligence, more burden has been put upon the regulatory obligations to make all machine learning available for high-income countries and the people living in low- income countries to provide services without any discrimination, biasness andfairness.

Data privacy risk

With the advancement of technology of AI in healthcare from the first day right to privacy is at risk. Ensuring complete protection by machine learning is difficult and hard to say in digital means and scrutiny. It is evident that all form of the digital environment requires a large amount of personal data with or without knowledge in order to bring a result/ prediction of our behaviours in apps like health care in, telephone etc. In the middle of 2017, the United Kingdom Information Commission held liable NHS Foundation Trust for a breach of the UK Data Protection Act for forwarding the personal data of approximately a 1.6million patients to Google Deep mind. The purpose behind sharing the data was to evaluate the clinical safety testing of Streams to diagnose accurate data for kidney injury patients, and the same was done without their consent of them. Keeping into consideration the issue of shared that Commissioner Elizabeth Denham states that the "price of innovation andtechnology does not need to be an erosion of fundamental privacy rights". In one way or another, human rights are being infringed upon by the developersof the technology.

Stream apps are not, in general, a usage for AI, but it is referred to as an example to highlight the level of infringement of privacy right due to new innovations. If in whatsoever manner, a clinician does not trust AI in privacy, then it is going to be really difficult to see any successful integration. It is theduty of every professional to protect the privacy of a patient and their data cannot be transmitted without formal informed consent.

Recently, a case has been brought up concerning the issue of patient privacy in AI, i.e., Dinerstein v. Google and Project v. Nightingale by Google and Ascension 2017. Another ethical implication concern for regulatory bodiesofthe AI Act is the security of health information stored and conveyed through connected devices. It has been reported by the health and science reporter Nicole Wetsman that the technologies used are often vulnerable to cyberattacks which have devasting results for patients (access to personal health data) as well as institutions, such as a hospital (e.g., shutting down an entire hospital until a ransom is paid). Thus, it is necessary that data should be liable for a high level of protection and security from the collection by thedoctor in presence individually.

In addition to the above, it is a fact that the Right to privacy of a person is at risk in one way or another, which is a fundamental right. In clinical care services in hospitals and health care organisations, it can be assured that sensitive data of a patient are stored in an encrypted and safe way. However, they do not have control over the security of the data access points used to transmit the data. One of the recent examples of leak of data and ransom demand is found in the case of Vastaamo Case, 2022 in Finland and the decision of this case is essential for

future legal assessments since the Court of Justice of the European Union has not by this period delivered any authoritative ruling dealing with similar issue application and sanctions on the hacked company. In the case at hand, Vastaamo was a private firm that ran 25 Finnish psychotherapy clinics. The firm was hit by the hackers in November 2018 through ransom email hacker demands to clients of this private healthcare company. Each client demanded 200 euros and paid the same in bitcoins to keep the record secret. However, 2000 documents were leaked on the dark web. The Finnish Data Protection Authority (DPA) in December 2021 charged a fine to Vastaamo around 600,000 euros for violating the General Data Protection Regulation (GDPR) provision. Considering the case, AI is providing an efficient facility, but at the same time, the Right to the privacy of an individual is at stake.

Here in such a situation, there are many violations under the law, such as breach of contract main element and ownership of data. In situations where the data can be sold for billions of dollars and used for business purposes; what grounds should be taken into consideration for protection? Considering this issue, an example is the Royal Free NHS Foundation Trust had a deal with Google DeepMind for a streaming app to extract data in exchange for the Trust's free use of the application for five years. Hence, patient data without the knowledge of the actual owner have been used for a long time, and no actions were taken against it.

The Right to privacy has been affected in different ways for a very long time. Beyond all the above-stated arguments, it is arguable that whatever data is collected is imperative to protect patients against outside a doctor- patients' reputation is affected in day-to-day life due to a leak of data on the job etc. In clinical care, most of the time, a patient requests the doctor to keep an issue between the two. Can data inserted once erased in AI machine learning be complete? There are still many areas which are still under evaluation and require improvement.

Lack of transparency and safety

One of the fundamental challenges foreseen while using AI in healthcare is the lack of transparency. When we specifically talk about health data and AI, safety is highly crucial and essential that needs to be protected. The safety and transparency of a person can be divided into two parts. First is cybersecurity, and second is the privacy aspect as well as the problem with AI systems deciding on a diagnosis and the medical professionals not knowing how to use conversational agents such as (black box and chat box).So, in a real sense, is AI providing safety to a person or is it harmful? It is tough to answer the question since it is assumed that the use of the new healthcare technology is used to improve efficiency and quality of healthcare;however, one must be cautious since healthcare is a susceptible area and fundamental human Right protected and recognised all over the world.

As stated already, hence it comes to any new invention, safety is the biggest challenge to keep in consideration before launching in the market same is the case with AI in healthcare. One of the examples is IBM Watson for Oncology AI invention, which is used to extract information from a patient medical record and help to assist clinicians in exploring cancer treatment for them. [13]However, the

question is data extracted is correct and a reliable source to be used for cancer treatment recommendations. Taking into account Watson for Oncology example software was trained for a limited amount of cancer cases and, with time, created an error and, unfortunately, ended up giving wrong information to a real-time patient. It is necessary for an AI potential use to keep in mind two essential things such as the reliability and validity of the datasets and transparency.[14] These are the two essential ingredients that need to be considered while using AI technology in the healthcare sector. Firstly, when we talk about reliability and validity, it is considered to ensure the safety of a person, which is a fundamental right (right to life) of a person, protection of which is the first thing that needs to be considered when it comes to the development of AI in healthcare. Secondly, AI developers should be sufficiently transparent especially introducing anything in the clinical profession. Considering above stated example, we should learn our lesson from error of the Watson for Oncology unsafe and incorrect data. One must keep in mind safety and transparency before bring anything into the market to protect human rights. Moreover, law-making bodies should take strict actions against such issues because the Right to life of a person is at high risk.

Recommendation for the safety of AI systems used in healthcare

This part of the research put forth some recommendations to protect fundamental human rights and ensure the safety of AI systems that can be qualified as medical devices and assist healthcare organisations with efficient and productive outcomes while respecting all aspects of the laws. Some of the recommendations are as follows: -

- Firstly, keeping into account the most significant issues raised by Ai in healthcare is privacy, and cybersecurity by data leak of patients, as already discussed above. It can be overcome when blockchain technology for securing the electronic health record of patients can be used by keeping a check and balance.
- Secondly, providing a proper guideline, knowledge, and age limit for public security and avoiding discrimination that machine learning and all mobile phone health care applications must be used by a person of a certain age. Information is essential because one should be liable first for their actions and conduct before it is enumerated under the law.
- Thirdly, law-making bodies should take account fundamental Right to life of a patient into consideration and impose a strict liability so that the developer of technology makes such a machine that instead not give any assistance or if given, and it must be accurate and correct so that an accurate prescription for a disease can be given.
- Fourthly, to fully protect against human rights infringement, the AI system must always be under human control. In addition, where the independent working of machine learning is done still, a check and balance should be kept by a human being since, in a typical organization, working bodies, check, and a different department does balance to avoid any error while talking about AI in health care human life is at stake hence, requires more attention.
- Fifthly, the developer's in-laws must make a clear line of responsibility for

human rights violations at AI system phases.

- Sixthly, while considering above stated cases, anyone harmed due to a violation of a fundamental Right by AI in healthcare shall be liable for temporary remedial protection either solely or collectively to ensure that the protection of human rights is the first thing to protect even before revolutionized. Newly invented technology informs of so-called developments.
- Lastly, consent is essential while transmitting patient data for even taking a statistic report out of it since, legally, it is a breach of contract as well. Machine learning data should be end-to-end encrypted.

Conclusion

While conclusion, it is stated that AI has undoubtedly impressed the world with new development and accurate and fast results. However, with a new increase in development, new problems are also raised to keep room for improvement. AI in healthcare is breaching fundamental human rights, which are inevitable rights assured and protected world widely. As per the above- stated discussion, the Right to privacy, accountability, biasness and fairness, lack of transparency, consent of patients, promotion of human values, and Right to life have been analysed under the AI guidelines and International human rights law.

After all the above explanations, there is still a wide gap between the articulation of AI machine learning concepts and their actual achievement in the real world. The first part of the paper explains AI and its applicability in healthcare. In contrast, the second part discusses the question of whether development made by AI is protecting fundamental human rights. Further analyses have been drawn by discussing human rights concerning the case laws. Also, while looking into all the above-stated arguments and debates, AI cannot fully replace clinical care; however, it can bring improvement and accuracy in clinician decisions with new methods and techniques. AI can provide assistance in the health care sector for faster work, for instance, conducting screening and evaluation, and with extracted data from a machine, doctors can treat a patient; however, both can work collectively to bring a positive outcome and avoid all kinds of challenges.

Lastly, we need to re-think and formulate the current frameworks in a mannerthat protects inalienable rights. This can only be done with the help of public and political discussion centres on the human rights of AI-driven organisations and their direct implication on human work and society. Undoubtedly, AI has played a vital role in COVID-19 and has tremendous potential to improve healthcare by providing efficient and quick results. However, these potentials can only be fully used and considered when we overcome the above-stated challenges.

References

1. Abbott R and Mathew BR, “The Artificial Inventor Project” (The Artificial Inventor ProjectJuly 10, 2022) accessed October 10, 2022
2. Brian A. Pattengale B, "Guest Post -- AI and Inventorship -- Will next Blockbuster Drug Be Denied Patent Protection?" (Patent DocsAugust 28, 2022) accessed October 10, 2022
3. IBM. IBM Watson for oncology 2020, https://www.ibm.com assessed on 20

october, 2022
4. Gerke, Minssen, Cohen: *Ethical and legal challenges of artificial intelligence-driven healthcare*, Chapter 12 in Artificial Intelligence in Healthcare (2020) assessed on 20 October 2022.
5. Schönberger, Daniel: Artificial intelligence in healthcare: a critical analysis of the legal and ethical implications, *International Journal of Law and Information Technology*, Volume 27, Issue 2, Summer 2019, Pages 171– 203 assessed on 20 October 2022
6. Surbhi bhatia, ashutosh kumar dubey, rita chhikara, poonam chaudhary, abhishek kumar, Intelligent Healthcare : Applications of AI in EHealth [Elektronisk resurs] (2021)
7. Vinuesa R, Azizpour H, Leite I, Balaam M, Dignum V, Domisch S et al. The role of artificial intelligence in achieving the Sustainable Development Goals. Nat Commun. 2022 Flynn L. When AI is watching patient care: Ethics to consider. Bill of Health, 2020 (https:// log.petrieflom.law.harvard.edu/2020/02/18/when-ai-is-watching-patient-care-ethics-to- consider/, accessed 20 October 2022
8. WHO Guidance: *Ethics And Governance Of Artificial Intelligence ForHealth (2021)* assessed on 20 October 2022.