ARTIFICIAL INTELLIGENCE AND THE HEALTHCARE SYSTEM

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ABSTRACT

This essay explores the possibility of artificial intelligence being used in routine clinical practices given the increasing adaptation of the AI system in medical applications. Artificial intelligence has revolutionized the healthcare industry by enhancing diagnostic accuracy, better response time, and increased efficiency through analysis of complex medical data in short spans and providing solutions to result in improved patient outcomes. It should be noted that despite such advancements in healthcare delivery, application of AI brings to light the possibilities of biases or lack of transparency during the processing of data which further raises ethical questions and data privacy issues and highlights the need for proper regulation of the system before it is incorporated in the medical field without hesitation. This essay mainly addresses the question of whether artificial intelligence should be allowed to operate in the field despite its drawbacks.

Keywords: Artificial Intelligence, healthcare, biases, lack of transparency, ethics, regulation

I. INTRODUCTION

Artificial Intelligence in the field of healthcare is restrained by the laws that exist and on the other hand, the developments in the field of artificial intelligence lead to changes in the legislation. AI has revolutionised the medical industry with the introduction of computer-automated patient monitoring, administrative workflow, and clinical documentation. It has resulted in the provision of increased care with minimum utilisation of resources. Regardless of the advancement in the healthcare industry due to artificial intelligence, it has some visible and serious flaws. One of the most impactful is the accusations related to data privacy.

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The essay focuses on specific sections of the Indian Council of Medical Act, 1956, and the International Code of Medical Ethics among other legislations.

II. ARTIFICIAL INTELLIGENCE

AI is a simulation of human intelligence by machines. It is capable of producing human-like outputs after the consumption of data. Usually, a large amount of data is necessitated for the training of the AI in the respective matters. Robotic Process Automation makes the work of humans easier and effective by allowing us to delegate repetitive and monotonous tasks to it. But AI allows us to go a step further and predict outcomes and perform functions as humans would do through processing data and finding patterns and utilising them to produce the output. A major red flag in the working of artificial intelligence is its necessity to collect large amounts of information. Especially in the healthcare industry, this means collection of patient information which is sensitive and private.

III. PRIVACY OF PATIENT INFORMATION

Even simple computer systems and interactive interfaces nowadays are able to perform calculations and provide recommendations based on user history and other relevant information. Take Netflix for example, it suggests the user content based on the user's previous watch history. However such retrievement of patient records with explicit permission of the patient for the purpose of delegating duties to AI systems to make the healthcare system effective is questionable. Patient health records may consist of previous ailments, current weaknesses, and various other sensitive data which the owner might not want to be disclosed to the public, and which might also endanger and target the owner if it ends up in the hands of those who can take unlawful advantage of it. The data collected on a patient by the AI network becomes a reserve of data which makes it susceptible to breaches.

The Digital Privacy Data Protection Act of 2023 discusses the regulation of personal data in line with individual rights and the general welfare of society. It lays down regulations related to the personal data of the Data Principle and the subsequent processing of the data by Data Fiduciary. Chapter II of the Act – Obligations of the Data Fiduciary highlights the need for explicit permission for the collection and processing of personal data, which includes health information. But the issue that arises here is the lack of awareness on the part of the patients since they are unaware of the extent to which such data can be utilised to harm them. A simple

example could be that knowledge of the presence of a pacemaker in a patient may allow a cyber-expert to connect to the pacemaker in cyberspace and produce an intentional heart-attack causing the patient to die.

IV. BIAS IN DATA PROCESSING

Patient records may not only include the medical history of the patient but also demographic information such as gender, caste, economic status, and religion among others. The question that arises here is whether it is possible to avoid vulnerability, discrimination, and exclusion when such data is made available to the AI system. Many might make the claim that as a computer system, such bias is not inherent in its behaviour. But let me remind you once again that artificial intelligence softwares are unlike other computational systems, it imitates human actions and takes inspiration from decisions taken in the past. Even if biases are not apparent in its functioning, there is a high chance that the biases of the developer may have seeped into the code resulting in a lopsided output. Also, past discriminations which have been recorded and which is accessed by the AI system to modify its own outcomes may influence the decision-making process. Such past discriminations hidden in the data which could be identified through pattern recognition by AI may result in algorithmic discrimination.

V. WHO IS ACCOUNTABLE?

Another important question is who shall be held accountable for the mistakes made by the AI system? There have been no clear legislations regarding the operation of AI in healthcare and the claim that even developers cannot predict the actions of the AI system since they modify and adapt themselves after learning from their environment and hence ever evolving, restrains the law from holding them accountable.

Section 20A of the Indian Council of Medical Act talks of Professional Conduct and clause (1) in particular says –

'The Council may prescribe standards of professional conduct and etiquette and a code of ethics for medical practitioners.'

Medical ethics has been defined as 'the responsibility of the medical practitioners to not exploit their superiority.' But this is highly unlikely in the context of AI which is bound to exploit the data provided to it and take advantage of the resources provided to it.

VI. CONCLUSION

Above, we discussed a few ways by which the use of AI in the medical field may prove to be harmful and intrusive. The attribution of accountability is the major question that is yet to be answered while the issues of apparent bias and privacy are equally important and need to be seriously considered before normalizing the use of AI in the healthcare system. I believe that it would be logical to consider the benefits of the utilisation of AI in a particular work or function as opposed to the breach of privacy of the individuals in order to determine the course of action, depending on what is more important in the particular scenario.

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