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Can AI Be Held Accountable for Medical Negligence

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ABSTRACT

Artificial intelligence, in medical science, refers to tools and devices that are capable of making decisions which a competent doctor would make while diagnosis and treatment of patients. Current research in the field of artificial intelligence shows that it is capable of interpreting radiology results with accuracy and can also diagnose diseases like diabetes efficiently. With various innovations being made in robotics, it is also possible that the world could witness a fully autonomous robot doctor in future. But as the scope of artificial intelligence increases and the possibility of a robot doctor comes into picture, the need to analyse the liability of artificial intelligence in case of medical negligence becomes imperative.

Keywords: *Artificial Intelligence, Negligence, Vicarious liability, Contractual liability, Joint Liability*

I. INTRODUCTION

Artificial Intelligence is being perceived as the pioneering approach in the field of medical science. The world is excited to witness the integration of artificial intelligence in the healthcare system. Many technicians and health care experts believe that it can diagnose and treat a patient with more accuracy than several medical professionals. While innovations have been made to devise tools with artificial intelligence that can help doctors to do their work more efficiently, a fully autonomous device is still a work in progress. However, if technicians are to be believed, the world could witness a robot doctor by 2035. Although the persistent efforts are aimed at making AI efficient contributors in medical field, the silhouette of a question that comes into play is “what if it leads to medical negligence?”.

Medical negligence refers to not providing proper standard of care during treatment of a patient, thus, resulting in the harm of patient’s health and well-being. The issue of negligence is recognized in the law of torts and monetary compensation is provided in such cases. Usually, the hospital and the delegating doctor are sued in cases of medical negligence but

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their liability can be questioned if the negligence has been caused by an autonomous device.

II. HOW ARTIFICIAL INTELLIGENCE WORKS?

Artificial Intelligence enables a computer with the ability to reason just like a human. The implementation of this logical and intellectual requires scientists, technicians and medical experts to come together and conduct a vast research about all possible medical conditions and the know-how to cure them. The AI system is infused with all the data and their effectiveness in solving medical issues depends on how well-informed and efficient they have been made.

III. LIMITATIONS OF AI IN MEDICAL SCIENCE

- **Lack of organized data sets** – For the artificial intelligence to be effective in solving healthcare problems it would require training. The computer cannot be trained unless there is a set of organized and labelled data. The curated data is not easily accessible due to several privacy apprehensions. The absence of curated data would hamper the performance of AI.

- **Difficulty in deployment of AI** – The future of AI in healthcare depends on formulation of algorithms that could save lives. There may be a possibility of AI becoming an integral part of the healthcare system in the near future but its efficiency would be dependent on the accuracy of algorithms. Thus, it is difficult to deploy AI in medical arena.

- **Lacks ability to empathize** – A doctor's ability to empathize plays an important role in the treatment of their patients. Medical illnesses like cancer not only impacts a person's physical health but altogether his state of being, ranging from mental, emotional, psychological to his spiritual health. So, the recovery of patients in such cases depends not only on effective treatment but also on the ability of the doctor to counsel the patients.

Though research indicates that AI can prove very effective in detecting cancer at early stage but what it lacks is the ability to empathize. The AI can only detect the diseases and provide treatment but it cannot understand the mental state of the patients. Thus, how quickly a patient would recover remains questionable.

- **Vulnerability to hacking** – AI is a form of computer which makes it vulnerable to cybercrime. If AI is assigned with the treatment of a patient and it is hacked, the patient's life would fall under grave threat. In such a case, not only would it put the patient in jeopardy but it would also be difficult to determine whose fault it was. Although, technicians would try to make AI such that it cannot be hacked easily, but looking at the increase in cybercrime rates the possibility cannot be ruled out.

IV. WHOM TO BLAME IN CASE OF NEGLIGENCE?

Artificial intelligence is nothing but programming of algorithms, so, it is only as intellectual as the human who made it. Hence, there is a conundrum of its accountability in cases of medical negligence. It is obvious that the AI system cannot be sued since it is a machine and not a legal person. Even if an autonomous AI system is used for medical treatment, there would be some medical expert supervising it. Though AI can become an integral part of medical science, they would always require medical supervision and hence, cannot make the hospitals a “doctor-free” zone. In most cases or not, the work done by an artificially intelligent system is black box. Thus, it is important to discuss who should be made accountable if there is a case of medical negligence: the manufacturer of the device, the hospital or the delegating doctor?

Vicarious Liability

Vicarious liability refers to the accountability of a superior in the wrongful act done by their subordinates. It generally applies in the cases of master and servant, where the master is liable for the wrongful act done by the servant during the period of service.

In the case of medical negligence, usually, the hospital is held liable for the breach of duty by their employee and the injury caused to the patient as a result of it. But the question arises: whether or not the hospital can be held accountable if the device with artificial intelligence errs in the treatment of a patient?

If autonomous artificial intelligence devices like robot doctors take charge of the treatment of certain ailment, in future, then the hospital would be considered as the master of that device and the robot would be the servant. In such a case, if any medical harm is caused in the treatment of the patient then the hospital would have to compensate as the robot was working under the supervision of the hospital.

Liability to/for Third Parties

Sometimes a person may be held liable for the act done by the third party. In case of medical negligence by AI system, the main parties to the dispute will be the patient and the AI system. But it is not that liability will only lie with the device; the hospital and the doctor supervising the device will be the third party in such a case.

When a patient goes to a hospital for treatment, it is the duty of the hospital to ensure that proper medical supervision is provided to the patient. In case of a mishap caused due to misdiagnosis by a system driven with artificial intelligence, the hospital and the delegating

doctor would be liable even though they are the third party in this case.

Joint Liability

When several parties are held liable for tort against one party, it is called as joint liability. If a case of medical negligence by a device operating with artificial intelligence arises, then a case of joint liability is inevitable. The victim is bound to file a suit against the hospital and the doctor under whose supervision the device was working. The hospital, in such a case, may point out to a manufacturing defect in the AI system. Thus, a case of medical negligence by AI system is undoubtedly be the one of joint liability.

Liability of Contract

It is certain that a hospital would not buy a device with artificial intelligence for treatment of its patients without entering into a contract of liability with the manufacturing company. In such a scenario, if the device misdiagnoses the patient due to some bug in it, leading to a medical injury to the patient, the hospital may claim that the liability for the injury lies with the manufacturer and not the hospital.

A hospital can only be successful in its claim against the manufacturing company if any mishap happens, of which it was not warned by the manufacturer. But if the case is such that the manufacturer had already warned of certain drawbacks of the system and the hospital ignored it, resulting in a medical injury to the patient, then the liability would lie with the hospital and not the manufacturer.

V. CONCLUSION

The integration of artificial intelligence is expected to bring advancement in medical science and improve healthcare services by early diagnosis of diseases, saving time that goes into manual work and assisting in surgeries. Although there are many benefits of this technological integration with medical science, the apprehensions and possibilities of things going wrong and endangering the lives of patients cannot be completely ruled out. With the arrival of new technology, it is also a fairly concrete requisite that laws regulating such systems be adequately formulated. Healthcare is a sensitive area and thus it would be important to weigh pros and cons of integration of AI in it. Though every country has laws for medical negligence, changes would be imperative in those laws if AI becomes an integral part of the healthcare system.
