Chapter 10
The Impact of Procedural Law on Artificial Intelligence by Improving the Healthcare Systems

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ABSTRACT

We could not deny that artificial intelligence has had an impact on healthcare. However, it has certain issues. In recent years, civil law and medical ethics have both addressed this issue. The law of liability is necessary when artificial intelligence is applied in healthcare services because it raises the possibility of bad decisions and the issue of who has responsibility for them. The Ethical and Governance Recommendations for AI for Health Systems, released by the World Health Organization, intends to establish ethical guidelines on the deployment of artificial intelligence to address the potential ethical and legal implications of non-discrimination and accountability. Providers of artificial intelligence services must adhere to moral and legal principles that are consistent with international considerations and user protection laws. To build AI ethics, it is necessary to raise accountability and enhance legal and regulatory frameworks.

INTRODUCTION

Artificial intelligence (AI) is generally accepted as having started with the invention of robots. The word "robot" spelled "robota" in Czech was introduced into literature by the writer Karel Capek in his 1921 play "R.U.R." (Possum's Universal Robots). It signified a factory where biosynthetic machines are used as forced labor (Needham et al., 1971). John McCarthy first referred to artificial intelligence (AI) in 1955 as "the science and engineering of creating intelligent machines." In the 1950s and 1960s, he had a significant impact on the advancement of artificial intelligence. Dartmouth College, where he and

his colleagues held a conference on artificial intelligence in 1956, is credited with founding the field of artificial intelligence. As a result of this conference, a new interdisciplinary field of research emerged. In addition, it served as a foundation for all subsequent computer research and development.

In the middle of the last century, Isaac Asimov immortalized the word "robot" in a collection of short stories of modern science fiction. The first mention of a humanoid automaton, however, can be traced back to the third century in China, when a mechanical engineer, Yan Shi, presented to the Emperor Mu of Zhou a human-shaped figure of mechanical handiwork built with leather, wood, and artificial organs (Needham et al., 1971). The United States Department of defense was soon attracted to the computer's ability to solve complex mathematical problems, and the use of data mining in logistics and medical diagnosis brought about a new golden age after a period of slowdown in the 1980s. Tools were developed with increased computing power.

Today, the literature on AI is abundant and unbridled. AI was portrayed as a possible threat to the world economy during the 2015 economic forum held at Davos, where Stephen Hawking even expressed his fear that AI may one day eliminate humanity (Sharma et al., 2020). The World Economic Forum stated in 2019 that "multi-stakeholder collaboration is required to optimize accountability, transparency, privacy, and impartiality to create trust" as a result of "rapid advances in machine learning increase the scope and scale of AI's deployment across all aspects of daily life" (AI Report, 2020).

In our modern world, artificial intelligence is a branch of engineering that tries to solve complex problems with new concepts and solutions. It is important to note that cybernetics played an important role in the development of artificial intelligence as electronic speed, capacity, and software programming advanced. Artificial intelligence (AI) is clearly gaining ground in medicine and will undoubtedly be a disruptive yet inventive technology. The field of artificial intelligence, which focuses on building intelligent machines, was first recognized in 1956.

While AI in medicine can enhance clinical and research capabilities as well as improving workflow and productivity, in the end, artificial intelligence is just a tool, and how we use it is up to us. There is potential for AI applications to enhance clinical and research practice in medicine and create deeper and more meaningful interactions between clinicians and patients (Currie et al., 2021). The hype around artificial intelligence in medicine obscures the fact that artificial intelligence has been widely used for many years (e.g. quantitative cardiac software packages). Robot design books written by Leonardo da Vinci were instrumental in the development of this technology. There are three separate but interconnected areas within these responsibilities. This legacy has been extended to urological and gynecological complex procedures via robotic-assisted surgery in his honor.

It is important to distinguish between virtual and physical artificial intelligence in medicine. Information technology approaches in the virtual branch range from deep learning to clinical decision support and active doctor guidance to control health management systems. Robots that assist elderly patients or visiting surgeons are best exemplified by the physical branch. A new drug delivery system, targeted nanorobots, and a unique social and ethical dilemma are all included in this branch. It will take more reflection, proof of medical utility, economic value, and the development of interdisciplinary strategies to use these applications in a wider context. An American company, Intuitive Surgical, developed a surgical system named after Da Vinci's inspiration. It was approved by the Food and Drug Administration (FDA) in 2000, and the number of units in operation worldwide now exceeds 5,000. Complex procedures can be carried out minimally invasively and under the surgeon's direct supervision using the Da Vinci surgical system. The console of this system has been used to repair heart valves as well as perform prostatectomy and gynecological procedures. Using technology in an ethical, social, and legal

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