

Research Article

The Impact of AI on Healthcare Jobs: Will Automation Replace Doctors

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Abstract

The integration of artificial intelligence (AI) into healthcare has sparked considerable debate regarding its impact on the workforce, particularly concerning the roles of healthcare professionals such as doctors. This article explores the potential for AI-driven automation to replace certain medical tasks traditionally performed by physicians, as well as the broader implications for employment in the healthcare sector. While AI has demonstrated significant capabilities in areas like diagnostics, data analysis, and even surgical assistance, its role is largely seen as complementary rather than substitutive. Many experts argue that AI will enhance the efficiency and accuracy of medical practices rather than eliminate the need for human doctors. Moreover, the implementation of AI in healthcare is expected to create new roles focused on managing, interpreting, and improving AI systems, thereby shifting the nature of healthcare jobs rather than reducing their number. However, concerns about the potential for job displacement and the need for reskilling within the medical profession remain. This article concludes that while AI will inevitably alter the landscape of healthcare employment, it is unlikely to replace doctors entirely. Instead, it will transform the profession, requiring a new set of skills and a reimagining of the doctor-patient relationship.

Keywords

Artificial Intelligence, AI in Medicine, Healthcare Automation, Job Displacement, Medical Workforce

1. Introduction

A lot of big changes have happened since artificial intelligence (AI) was introduced into many fields, especially healthcare. AI has the ability to change the way medicine is done, which has led to a lot of discussion about how it will affect the workforce, especially for doctors and other health-care professionals. It is important to note whether AI-driven automation will replace doctors or just change the way they work is at the heart of this argument [2]. Therefore,

this paper tries to deal with the complex issues, examining the capabilities of AI in medical tasks, its implications for healthcare employment, and the future of the medical profession in the age of AI. In this context, an important question comes to our mind as what Artificial Intelligence (AI) can do for healthcare? Here, it can be notified that, AI has shown a lot of promise in doing jobs that are usually done by medical professionals. Some of these are diagnosis, data analysis, and

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even surgery. A study showed that an AI model could find breast cancer from mammograms better than doctors, with a lot fewer false positives and negatives. This feature shows how AI could improve the accuracy and speed of diagnostics.

In addition to diagnostics, AI is now used in surgery, where it helps doctors make more accurate cuts by giving them real-time feedback. Robotic surgery, which is powered by AI, is becoming more and more popular in operating rooms. Hashimoto et al. (2018) say that robotic systems like the da Vinci Surgical System help doctors do minimally invasive procedures more accurately. This means that patients have shorter recovery times and fewer problems. These developments show that AI can be very useful for making the care that people receive better [5].

Moreover, the ability of AI is very significant to analyze a large amount of data in a quick and accurate manner which has made it invaluable in certain areas like as drug discovery, personalized medicine and so on. AI-driven models can find possible drug prospects by analyzing large amounts of biological data. This takes a lot less time and money than the old ways of finding drugs [9]. Similarly, AI can analyze a patient's genetic information and medical history to develop personalized treatment plans tailored to their specific needs [12]. These uses of AI show how it could change the way medicine is done and make things better for patients.

2. The Role of AI: Complementary, Not Substitutive

Even though AI has a lot of useful features, many experts say it probably won't be able to completely replace doctors. AI is instead seen as a tool that can help healthcare workers do their jobs better instead of taking their place. Topol (2019) says that AI's main job in healthcare is to make humans better at what they do, so doctors can focus on the more complicated and nuanced parts of patient care that need human judgement and understanding [15].

AI also can't replace the bond between a doctor and a patient, which is based on trust and talking to each other. Patients often want their doctors to reassure them and understand how they feel, especially when they are dealing with major health problems. With its focus on data, AI may be able to make correct diagnoses, but it can't give patients the emotional support and individualized care they expect from their doctors [16]. This human factor is an important part of healthcare that AI can't replicate. This supports the idea that AI will help doctors do their jobs better instead of replacing them.

3. How Will AI Change Jobs in Healthcare

Even though AI probably won't replace doctors, it will definitely change the jobs in the healthcare field. As AI takes over more chores, healthcare jobs are likely to change, which will mean that medical professionals need to learn new skills. This change makes people worry about losing their jobs and the need for healthcare workers to learn new skills [16].

Some jobs in healthcare could be taken over by AI because it can do boring, repetitive tasks like data entry, image analysis, and even some diagnostic processes. For instance, as AI systems get better at analyzing medical images and samples, there may be less need for the services of radiologists and pathologists, whose main job is to look at these things. It is important to keep in mind, though, that AI may take over these jobs, but it could also create new jobs that are all about controlling, understanding, and improving AI systems [6].

The growing use of AI in healthcare is likely to create new job types that need people who know both a lot about medicine and technology. As healthcare organizations try to better use AI in their work, roles like AI professionals, data analysts, and bioinformatics experts will become more crucial [2]. In order to do their new jobs, medical workers will need to learn new skills, especially in areas like AI system management, data science, and machine learning.

The need for healthcare workers to learn new skills and improve their old ones is a big problem that needs to be fixed so that the switch to an AI-driven healthcare system goes smoothly. In order to work well with AI systems, medical workers will need to learn new skills. To help with this, healthcare organizations need to put money into training and education programs. A 2018 report from the World Economic Forum says that reskilling and upskilling will be very important for reducing the negative effects that AI could have on jobs in the healthcare industry [16].

4. AI's Influence on the Doctor-Patient Relationship

One of the most important things that AI could do for healthcare is change the way doctors and patients interact with each other. As AI-powered tools and technologies become more common in medicine, this relationship could change, and doctors will have to learn new ways to talk to their patients [11]. In recent years, rapid technological progress has reshaped various industries, echoing the early doubts about VCRs and their potential effects on cinemas. Yet, as history illustrates, adapting to innovation is unavoidable. Healthcare is no exception, and AI is set to transform medical practices, bringing profound changes to the doctor-patient relationship [12].

The ability of AI to give real-time insights and suggestions can help people make better choices, which means doctors can make faster, better decisions. But this also makes people worry that AI might take away from doctors' ability to make the most important decisions about patient care. Some patients might start to believe AI-driven suggestions more, which could weaken doctors' authority and freedom [6]. Doctors may have to change how they talk to their patients because they will have to balance the information that AI gives them with their own clinical judgement and experience.

It is also possible that using AI in healthcare will make care more data-driven, with choices being made based on algorithms rather than face-to-face conversations. This could make medical practices more accurate and streamlined, but it could also take away the human touch, which is important for building trust and relationships with patients [15]. Doctors will have to figure out how to use AI in their work without losing the personal touch that is so important to the bond between a doctor and a patient.

5. Ethical Considerations and Challenges

When AI is used in healthcare, it brings up a number of social issues that need to be dealt with to make sure it is used in a responsible way. These include concerns about data protection, algorithmic bias, and the chance that AI will make healthcare even less fair [3].

One of the primary ethical concerns surrounding AI in healthcare is the potential for data privacy breaches. AI systems rely on vast amounts of data to function effectively, and this data often includes sensitive patient information. Making sure that this information is kept private and safe is important for keeping patients' trust and stopping people from getting to their personal health information without permission [13]. To keep patient data safe in the age of AI, healthcare organizations need to put in place strong data protection means and follow strict regulatory standards.

Another big ethical problem in AI-driven healthcare is algorithmic bias. AI systems are only as good as the data they are taught on. If the data is biased or not representative, the algorithms that are made may keep healthcare disparities going or even make them worse [10]. As an example, if an AI system is taught on data from mostly white, wealthy people, it might not do as well with patients of different races or income levels. To fix algorithmic bias, we need to carefully look at the data that is used to teach AI systems and keep an eye on them to make sure that healthcare that is driven by AI is fair and includes everyone [14].

Lastly, there is the worry that AI could make healthcare even less fair, especially if some groups aren't able to use AI-powered tools and technologies. Because AI in healthcare is so expensive, it may only be able to be used by healthcare

organizations with lots of money. This could put patients and places that don't have enough money at a disadvantage [9]. To stop this from happening, lawmakers and healthcare leaders need to work together to make sure that everyone can get AI-driven healthcare, no matter where they live or how much money they have [7].

6. The Future of Healthcare Employment in the Age of AI

The kinds of jobs available in healthcare will change as AI keeps getting better and more integrated into the field. But instead of putting a lot of people out of work, AI is more likely to change healthcare jobs, making them more difficult and opening up new possibilities for medical professionals [4].

In the future, healthcare jobs will probably depend more on how well people and AI programs can work together. It will be necessary for doctors and other health care workers to work with AI and use its features to improve their work while also using their own knowledge and judgement. For this collaboration to work, healthcare workers will need to learn new skills, like how to analyze data, use machine learning, and handle AI systems [6].

Moreover, the use of AI in healthcare will produce new jobs that are devoted to creating, implementing, and maintaining AI systems. These jobs will need both medical and technical knowledge. This means that healthcare professionals who are willing to adapt to the new environment will have new job possibilities [1]. In light of this, the future of healthcare jobs will probably include both standard medical roles and new roles that are driven by technology. Now, to prepare for this future, healthcare companies need to put money into training and education programs that give their employees the skills they will need to do well in a world run by AI. This includes both technical skills and the ability to work well with people from different fields. For example, medical workers and AI experts will need to work together to provide high-quality care [8].

7. Conclusion

When AI is used in healthcare, it changes the way medical services are provided in a big way, which has huge effects on the workforce. AI might be able to automate some jobs that doctors normally do, but it probably won't be able to do everything they do. Instead, AI will change the way healthcare jobs are done, creating new roles that combine medical understanding with tech know-how and requiring new skills. As AI is used more in healthcare, it will be important to deal with the ethics issues it brings up, especially when it comes to data privacy, algorithmic bias, and who can use AI-powered tools.

This way, healthcare organizations can make sure AI is used in a fair and responsible way, which is good for both patients and the doctors and nurses who care for them. In the end, the future of healthcare jobs in the age of AI will rest on how well workers can adapt to new technologies and take advantage of the chances they create. Doctors and other health care workers can use AI to improve their work, help patients, and deal with the difficulties of a changing health care system if they get the right training and help [15].

Abbreviations

AI	Artificial Intelligence
AIH	AI in Healthcare
AI-M	AI in Medicine
JD	Job Displacement
MW	Medical Workforce
DA	Data Analysis
DS	Diagnostics
RS	Robotic Surgery
PTP	Personalized Treatment Plans
DP	Data Privacy
AB	Algorithmic Bias
DPIR	Doctor-Patient Interaction and Relationship
AR	AI Roles
T&EP	Training and Education Programs

Conflict of Interest

The authors declare no conflicts of interest.

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