Forum: World Health Organization (WHO)

Issue: Addressing the Ethical Concerns of AI in Healthcare

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Introduction:

Addressing the ethical concern of AI in health care is a keystone that technologies have found more common ground throughout history. The aim of this document is to provide safety and fairness. The ethical issues arising from the use of AI in health require the thoughtfulness of ethicists, healthcare providers, patients, and technologists of different disciplines. In addition, fairness, transparency, accountability, and patient-centeredness are important underlying principles that must guide when AI becomes increasingly integrated with health services. This will balance the potential benefits of AI with the commitment to the rights and well-being of patients. WHO can help in studying solutions that achieve a balance between innovation and human rights, assure equity in AI applications, and protect patient autonomy and data privacy.

Definition of Key Terms

Ethical Issues Regarding AI

The moral issues or possible harm arising due to development, deployment, and usage of the technology of artificial intelligence are what are considered to be ethical issues in AI.

Background information

Ethical concerns and AI in healthcare seem to represent a very topical issue recently, confusing and complex in many respects. This paper tends to discuss in detail the interaction of

the two important factors and put forward a solution to the problem in order to create a comfortable, secure atmosphere without biases or discrimination. WHO further stated that LLMs generated through AI should be used judiciously in order for it to protect public health and promote human autonomy, safety, and well-being. While the development and integration of AI technologies into health systems continue unabated, ethical concerns have risen on how they go into application, especially in perspective on patient safety, privacy, fairness, and accountability. There are quite a few advantages linked to the application of AI in health: diagnostic precision, personalized treatment plans, and greater efficiency. But these benefits come with some serious ethical implications that must be taken on board if there is to be a need for responsible and equitable use.

Major Parties Involved

United States

- The US sees AI as a tool that will improve healthcare efficiency, allow personalized approaches to treatment, and increase the diagnostic accuracy rate. Technologies involving artificial intelligence, such as predictive analytics and machine learning algorithms, can serve as a repository for medical practitioners to reach a proper decision by reducing human fallibility and thus assisting in cutting down healthcare expenditure. For example, the FDA has already approved several AI-driven diagnostic tools and medical devices, which in itself indicates strong approval for use within a clinical setting;

- While the United States embraces AI, it is concerned that the AI systems could eventually continue to further exacerbate bias in health. Unless these models are trained on representative datasets, they will build biased results that can have significant impacts

on marginal status groups—women or racial minorities—potentially exacerbating health disparities already present. To end such discriminatory practices, regulatory bodies like the FDA, and institutions such as the National Institutes of Health (NIH), are putting more emphasis on making sure AI algorithms are checked for inclusivity and fairness. If these basic ethical issues are not resolved, the United States resrticts AI systems to operate.

United Kingdom

- Leadership in technology also preoccupies the UK especially in AI which the country is enthusiastically developing in the sphere of healthcare. The principle objective is to strike a safe and harmonious rapport between innovation and moral aspects ensuring that AI enhances clinical outcomes while upholding patient's privacy, safety and equity;
- In the UK, the AI Council, in conjunction with the National Health System (NHS) AI Lab, is striving to foster the responsible and open applications of AI in healthcare. For these bodies, the ethical dimension is inclusive and will involve the development of standards defining the usage of AI tools in medicine, its integration, and prioritizing fundamental ethical principles such as transparency, availability and non-discrimination;
- The Network Development Group (NDG) also advises on how patient's data should be used in an ethical manner within the NHS. This includes the adherence of AI technologies to the provisions of data protection and confidentiality.

China

- While China has acknowledged the importance of AI ethics, its primary focus is placed on technological advancement and economic growth. In turn, the Chinese government

invests hugely in the development of AI due to its strategic goals, setting less focus on strict ethical guidelines compared to Western nations. In policies on AI, China's approach focuses much on state control, efficiency, and innovation at the expense of privacy and data protection.

Canada

- Canada is one of the strongest promoters of ethical AI supported by a variety of governmental strategies, including the Pan-Canadian AI Strategy. It focuses on algorithm transparency, equity, and data privacy, particularly in healthcare;

- Canada is very serious about pressing forward, particularly in the health industry, with a rather complete and broad-ranging Pan-Canadian AI Strategy for ethical AI. The strategic focus remains upon developing responsible AI applications within highly sensitive areas such as healthcare, well-defined on transparency and fairness, protecting privacy. This will be underpinned by initiatives like the proposed Artificial Intelligence and Data Act, aimed at making AI technologies safe for society's benefit.

- The government's commitment is underlined by major investments in research and ethical frameworks that will guarantee AI developments: inclusion and human rights.

Japan

- Japan has thus committed to responsibly, securely, and morally bring AI technologies into its healthcare system, actively addressing the ethical issues of AI in health. With its challenges of an aging population, Japan is eager to use AI in improving healthcare outcomes but also very aware of the important work that is in front of it to address ethical issues along the way;

- The Act on the Protection of Personal Information (APPI) is the federal law in Japan that regulates the processing of personal information conducted by individuals and organizations-business, nonprofits, and government agencies. An independent administrative body, known as Personal Information Protection Commission (PPC), was set up in 2005-two years after the APPI went into effect-to oversee the Act.

Timeline of Key Events

Date	Description of Event
1960s	Emergence of technologies including early artificial intelligence developments such as natural language processing and rudimentary decision-support systems, begin to emerge in educational and research environments that set the groundwork for ethical argument. The technology is still in its infancy, but moral issues relating to the use of AI in healthcare begin to appear, yet these are not mainstream arguments at this time.

1970s	The development of MYCIN represented a sea change in the application of AI in healthcare during the 1970s. Its heuristic-based reasoning model inspired later generations of expert systems and AI technologies, which have since used machine learning and big data analytics to develop modern diagnostic tools. MYCIN took a rule-based approach to deducing probable pathogens from symptoms, case history, and test results.
2020	In 2020, the Food and Drug Administration (FDA) made serious attempts to overcome ethical considerations related to AI in health. Interest also developed in both groups to develop regulations that could address the unique challenges that artificial intelligence imposed in the health industry. The focus will be mainly on the consideration of ethical considerations, including patient safety, data security, and transparency during the development, use, and regulation of AI

	technologies.
2022	AI had become a significant pivot for the healthcare industry in tackling COVID-19 by 2022. As a matter of fact, because the crisis has brought an unparalleled load to hospitals and health systems, AI technologies have increasingly been included in diagnostic capabilities, treatment plans, and even operational management. Examples of applications include the use of AI in early COVID-19 detection by image analysis, in patient destiny predictions, and efficient management of hospital resources. After all, under pressure and uncertainty, it helped doctors arrive at evidence-based decisions.
2023	One or more data input formats, such as text, images, and videos, and generate a variety of output unrestricted by the data type. What characterizes the LLMs is the amazing ability to imitate human-like communication and even perform acts for which it was never

	explicitly programmed. Evermore rapidly than any consumer application in history, LMMs have been embraced. Of those, several are popular in the year 2023: ChatGPT, Bard, and Bert.
2024	Ethics and issues in AI application in Healthcare in 2024, while many stakeholders began to raise many questions about the benefits and drawbacks possibly presented by this technology, the ethical issues surrounding the application of AI in healthcare increased in complexity. Of these technologies, Large Multimodal Model (LMMs) have become integral, from scientific research and clinical care to diagnostics to administrative work. While AI has the potential to help in achieving better health outcomes, significant challenges have risen with these developments.

Previous Attempts to Resolve this Issue

1. **Data Encryption with Blockchain**

   This involves the precise usage of blockchain technology with higher methods of encryption to secure healthcare data;

2. **Continuous Monitoring Systems**

   Several healthcare organizations have implemented the continuous monitoring of the performance for AI post-implementation. This makes AI operate the way that it should and does not worsen performance in some measures of time;

3. **Encryption of data and Blockchain**

   In this, blockchain technology has been implemented along with advanced encryption methods for securing healthcare data;

4. **Model Audits and Post-market Surveillance**

   This is the initiation of monitoring by the regulatory bodies once the AI systems are deployed. These frameworks have been partly successful in laying down guidelines; however, audits will not be sufficient to make AI systems transparent about how they work in real-world practice.

Possible Solutions to Resolve this Issue

1. **Accountability Bonds**

   Financial bonds that developers are supposed to maintain to track good behavior; in case any damages come about due to AI, that bond comes in for compensatory or remedial measures;

2. **AI Transparency and Consent by Design**

Designing AI systems that would inform patients when AI is used and request their consent at major points in the course of their care;

3. **AI Ethics Sandbox**

   A controlled environment in which ethical risks of AI systems are tested before being put out in the healthcare settings.

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