



**IJPPR**

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH  
An official Publication of Human Journals

ISSN 2349-7203



## **OVERVIEW ON ARTIFICIAL INTELLIGENCE IN HEALTHCARE**

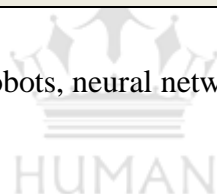
**Akil Munir Mulla, Trupti Masanu Naik, Raturaj Ganesh Mali**

*Anandi Pharmacy College, Kalambe Tarf Kale*

### **ABSTRACT**

Artificial intelligence (AI) is more useful in solving the problematic challenge in health care by using computers and other software for the diagnosis of various chronic disease Alzheimer's, various types of cancer like breast cancer, etc. By using AI which reduces the economic burden and severity of the disease. AI can perform tasks in health care better than humans. But some ethical issues of AI in healthcare discussed below.

**Keywords:** - Artificial intelligence, robots, neural network, the footer of medicine



## **INTRODUCTION**

The founders of modern computers and AI named Alan Turing (1950). The Turing test is used to check that the intelligent behavior of a computer can achieve human-level performance perception related to the tasks. About 1980-1990 there was saw a wave in interest in AI .the artificial intelligence techniques like fuzzy expert system, artificial neural network, Bayesian networks, and hybrid intelligent systems were used in various clinical settings in healthcare.

## **AI IN HEALTHCARE**

AI in healthcare use complex algorithms and software to analyze human complicated medical data. AI is the ability for computers to approximate conclusions without direct human input. The primary aim of AI in healthcare is to analyze the relationship between prevention or treatment techniques and patient outcomes. AI program has been developed and applied such as diagnosis, treatment, drug development, and patient monitoring. Some medical institutions developed AI algorithms for healthcare like Mayo clinic, memorial Sloan Kettering cancer center and British National Healthcare service.

## **MEDICAL RESEARCH**

1. **Diagnosis disease:** When a correct diagnosis disease takes a year of medical training and diagnostic is a time-consuming process. But in machine learning have recently made huge advances in automatically diagnosis disease cheaper and more accessible.
2. **Faster drug development:-** Drug development is an expensive process. But many in the analytical process involved in drug development can be made more efficient with machine learning.

## **CLINICAL CARE:**

AI is used to diagnose disease and currently trialed in some U.K hospitals. Possible uses of AI in clinical care include.

- **Medical imaging –** Medical scan imaging like X-ray have been systematically collected and stores for some time. AI is reducing the time and coast involves an analysis scan. AI is used for detecting conditions such as pneumonia, breast cancer, and skin cancer, eye disease, etc.

- Echocardiography – In echocardiography AI used to analyze and detect patterns of heartbeats and diagnoses coronary heart disease.
- Screening for neurological condition - AI tools are developed to analyze speech patterns to psychotic episodes and identify and monitor symptoms of a neurological condition such as Parkinson's disease.
- Surgery – Some robotics tools control AI has been used to carry specific tasks in surgery such as tying knots to close wounds.

### **Patient and Consumer-Facing:**

**Application:** Some app that uses AI to offer personalized health assessment and home care currently on the market. E.g. Information tools or chatbots are driven by AI this is used to help the management of the chronic medical condition.

Example: IBM developed Arthritis Virtual Assistance. It provides personalized information and advice concerning medicine, diet, and exercise.

**Public health:** Early-stage AI used to detection of infectious disease and its source of epidemics. Such as water contamination. AI also used to predict adverse drug reaction.

### **Limits of AI:**

AI totally depends upon digital data so inconsistencies and quality of data restrict AI. AI also significant computing power is required for analyzing large and complex data sets. Other point to practical challenges such as the fact that medical records are not consistently digitalized across the NHS. In clinical practice often involves complex judgment and abilities that AI currently is unable to replicate. Such as contextual knowledge and ability to read the social case.

**Ethical and Social issues:** Some ethical and social issues raised by using AI those raised by data use. Automation. The reliance on technologies more broadly and issues are arises with the use of technologies and 'Telehealth'.

### **Reliability and Safety:**

This reliability and safety are key issues where AI is used to control equipment, make a decision in healthcare, deliver treatment. AI makes some errors are very difficult this has a serious implication.

E.g. in Clinical trial, an AI app is used to predict which patients were likely complications developed following pneumonia. And therefore should be hospitalized.

### **Transparency and Accountability:**

- It can difficult to determine underlying logic that generates the outputs produced by AI is deliberately kept secret but some are simply too complex for a human understand.
- This creates problems for validating outputs AI system and detects errors or biases in the data.

**Trust:** Collaboration between Deep mind and royal free hospital led to public debate about the commercial in U.K companies given patient data. The public backlash against AI if people feel unable to trust that the technologies are being developed in the public interest.

### **EFFECT ON HEALTHCARE PROFESSIONAL:**

Healthcare professionals may feel autonomy and authority is threatened expertise is challenged by AI.

### **EFFECTS ON HEALTHCARE PROFESSIONAL:**

Healthcare professionals may feel that their autonomy and authority is threatened if their expertise is challenged by AI. The ethical obligations of healthcare professionals towards individual patients might be affected by the use of AI decision support systems, given these might be guided by other priorities or interests, such as cost efficiency or wider public health concerns.

## **DATA PRIVACY AND SECURITY:**

AI in healthcare use data that have considered to be sensitive and private. These subject to legal controls. other kinds of data that are not obviously about health statuses, such as internet search history and social media activity. the Nuffield Council of Bioethics has proposed that activities utilizing information that raise protection concerns ought to go past consistency with the law to assess an individual's assumptions regarding how the information will be utilized.

**MALICIOUS USE OF AI:** The AI has the potential to use for good, its also used for malicious purpose. For example – there is a chance that AI could be used for screening or covert surveillance. AI technology that may analyze the behavior and mobility pattern detect by tracing smartphones may reveal information about personal health without knowing their knowledge. AI may be used to carry out cyberattacks at a low financial cost and on a large scale. It led to call for government, researchers and engineers to reflect on the multiple-use nature of AI and to prepare the possible malignant use of AI technologies.

**CHALLENGES FOR GOVERNANCE:** Application for AI in fields that are subject to regulate the following such as data protection, healthcare, and research. AI is the fastest developing and entrepreneurial manner that may challenge the established framework. There is the question about AI should be regulated as a distinct area or different area of regulation should be reviewed with the impact of AI in the mind. The challenges may include the necessary to ensure the way AI is used in transparent, compatible and accountable the public interest and developed and balanced with the desire to drive U.K innovation.

## **CONCLUSION**

AI technologies are used or trialed for purposes in the field of the health care system and research into includes detection of disease and disorder management of the delivery of health data and the AI is unable to possess sum human characteristics like compassion .the use of AI raises many ethical and social issues some may overlap with issues which are raised by the use of data and the healthcare technologies .more widely and broadly the challenge of for future governance of AI technologies will ensure that AI is developing and used in such a way that it is transparent and compatible with the human interest when simulating a driving innovational in the sector area.

## **REFERENCES**

1. See, for example, Engineering and Physical Sciences Research Council, Artificial intelligence technologies.
2. US National Science and Technology Council (2016) Preparing for the future of artificial intelligence.
3. Royal Society (2017) Machine learning: the power and promise of computers that learn by example.
4. The development of AI systems usually involves ‘training’ them with data. For an overview of different training models, see Nesta (2015) Machines that learn in the wild: machine learning capabilities, limitations, and implications.
5. House of Lords Select Committee on Artificial Intelligence (2018) AI in the UK: ready, willing and able.

