

# ROLE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

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## ABSTRACT

The use of artificial intelligence (AI) in the medical field is causing a revolution in the clinical diagnosis, treatment, and management of patient care that is being carried out by medical professionals. The purpose of this abstract is to investigate the multidimensional role that artificial intelligence plays in the healthcare industry, with a particular emphasis on its influence on enhancing efficiency, accuracy, and patient outcomes. In the realms of medical imaging, clinical decision support, and patient engagement, artificial intelligence technologies such as machine learning, natural language processing, and computer vision are now undergoing a revolutionary transformation. Artificial intelligence gives medical professionals the ability to make judgments based on data, to forecast illnesses, and to tailor treatment regimens by analysing large amounts of records. As a further point of interest, artificial intelligence-driven telehealth and remote monitoring systems have become more popular. These solutions have the potential to improve access to healthcare services and enable the early diagnosis of health problems. The ethical, privacy, and regulatory problems that artificial intelligence presents need to be addressed, despite the fact that technology holds enormous potential. The purpose of this abstract was to throw light on the prospects of artificial intelligence in the healthcare industry while simultaneously highlighting the need of responsible AI deployment and the preservation of patient data privacy. One of the most famous uses of artificial intelligence in the healthcare industry is in the field of medical imaging. Artificial intelligence algorithms are capable of performing a surprising level of accuracy when analysing and interpreting pictures such as X-rays, MRIs, and CT scans. Because of this, it is possible to make a diagnosis that is both quicker and more accurate, to identify illnesses at an earlier stage, and to recognise little anomalies that the human eye could overlook. This leads to better results for patients and a reduction in the number of errors caused by humans.

**Keywords:** AI in Healthcare, Machine Learning, Telehealth, Patient Care, Ethical Considerations, Patient Data Privacy, Medical Imaging, Clinical Decision Support, Remote Monitoring.

## INTRODUCTION

The use of artificial intelligence (AI) and other related technologies, which are gaining popularity in both the business world and society as a whole, is beginning to be implemented in the healthcare sector. These technologies have the potential to transform a wide range of aspects of patient care, as well as administrative processes in organisations that deal with payers, providers, and pharmaceutical companies. There have been a number of studies that have already shown that artificial intelligence is capable of performing vital healthcare professions, such as illness detection, just as well as or even better than humans. At the moment, algorithms are more effective than radiologists in determining the presence of cancerous tumours and in supporting researchers in the process of cohort formation for costly clinical trials. On the other hand, we believe that it will be many years before artificial intelligence entirely replaces people across large ranges of medical process domains. There are several reasons for this. Both of the potential outcomes are discussed in this article.

When it comes to the realm of healthcare, artificial intelligence is becoming more sophisticated and effective in its capacity to give assistance to medical professionals and other providers of medical care. In addition to presenting a genuine possibility for professional advancement, this suggests that the task may be finished in a shorter amount of time and at a lesser cost.

Due to the fact that AI is capable of using problem-solving strategies that humans alone are unable to do, it has a tremendous amount of promise in the healthcare business. As of 2019, artificial intelligence technology was

already being used to a significant degree; in the United Kingdom, forty-six percent of healthcare companies reported using it.

The emergence of artificial intelligence (AI) in the healthcare industry is a trend that should be recognised and familiarised with since it does not seem to be slowing down. In this essay, we will discuss both the advantage and disadvantage of using AI in the healthcare industry.

## LITERATURE REVIEW

**Anran Wang, Dan Nguyen, Arun R. Sridhar, Shyamnath Gollakota(2021)**, The research recommends smart speakers for contactless heart rhythm monitoring. Heart rhythm measurement is essential for diagnosing and treating numerous cardiac diseases and studying healthy heart rate variability. A contact-free smart speaker heartbeat acquisition proof of concept is shown. A clinical investigation included healthy individuals and hospitalised cardiac patients with structural and arrhythmic cardiac abnormalities such as atrial fibrillation, flutter, and congestive heart failure. Our non-contact heart rhythm monitoring technology may be useful for infectious or quarantined patients, skin-sensitive patients, and telemedicine due to the rising use of smart speakers in hospitals and households.

**Albert Haque, Arnold Milstein, Li Fei-Fei (2020)**, The research examines how this technology may illuminate healthcare's symbolically dark, unnoticed places. Early implementations may enhance clinical processes and patient safety in critical care units and surgical rooms. Ambient intelligence may help elderly people stay independent and manage chronic diseases by analysing daily behaviour..

**Parashkev Nachev, Daniel Herron, Nick McNally, Geraint Rees, Bryan William (2019)**, The research hospital and its services are studied. The complexity of the genetic code and its interplay with the environment make no person predictable. Each variant is a successful biological solution that informs a local "neighbourhood" of comparable solutions. If this is true of normal physiology, it will likely be true of disease processes that disturb it. Medical knowledge has been gathered for decades by testing a few hypotheses using data from small population samples to deduce general facts about biology and its response to therapeutic treatments..

**Sara Reardon(2019)**, The paper discusses robot radiologists and how deep-learning algorithms are seeing MRIs and X-rays better. AI applications are rapidly infiltrating clinics, and doctors are excited about their potential to cut burden and afraid of losing their jobs to computers. Algorithms bring unprecedented challenges about how to manage a machine that is always learning and evolving and who is responsible for incorrect diagnosis. Still, many doctors are optimistic about AI algorithms. Radiological scan reading by computers is not new. The 1990s saw radiologists use computer-assisted diagnosis (CAD) to identify breast cancer in mammography. Clinics quickly embraced the new technique.

**Dr. Janak Gunatilleke(2022)**, The study discusses how AI may enhance healthcare and patient outcomes. AI is frequently seen as a panacea, yet data-driven healthcare solutions often fail to solve the issue and are unsafe. AI adoption in healthcare is ad hoc, with many solutions at the proof of concept stage, confined to select specialties, or without strong evidence of efficacy. This book offers a comprehensive strategy that addresses the solution lifespan and stakeholders, increasing the chance of successful implementation and scalability. This book also identifies national enablers that require assistance, planning, and money. It builds on prior technical and academic resources to give an accessible practitioner and implementation-focused reference book based on evidence and illustrated with real-life examples and expert interviews..

**Rosanna Macri , Shannon L Roberts (2023)**, AI in healthcare, especially cancer, might improve diagnosis and therapy. The evidence shows that physicians should include patient values when utilising AI in clinical care, but there is little practical advice on how to approach these talks and integrate patient values. We give a practical, values-based guidance for doctors to help them critically evaluate and incorporate patient values into collaborative decision making when using AI in clinical care. According to the literature, patients value confidence, privacy and secrecy, non-maleficence, safety, accountability, beneficence, autonomy, transparency, compassion, equality, justice, and fairness. The guide provides questions for doctors to consider when using AI, explores disease understanding with patients, fosters open communication about patient values, analyses all clinically relevant alternatives, and makes a collaborative decision about what best matches the patient's values. The AI guidance may be utilised in many healthcare settings.

**Vitalii M Pashkov, Andrii O Harkusha, Yevheniia O Harkusha (2021)**, Early AI definitions sounded like "Artificial Intelligence studies principles that allow computers to act intelligently. Artificial Intelligence aims to improve computers and comprehend intelligence." Two names for this technology are "Artificial intelligence" and "Augmented Intelligence." We choose "Artificial intelligence" over "Augmented Intelligence" since the latter allows ample room for "human supervision" connotation, which will restrict AI's future development. AI is currently interpreted in three ways: as a simple electronic tool without any autonomy (like an electronic assistant or "calculator"), as an entity with some autonomy but under human control, and as an entity with broad autonomy, replacing human activity wholly or partly. The first one cannot be considered AI in current science development.

Smartphone apps, wearable health devices, and other Internet of Things technologies employ AI in healthcare, although DeepMind, Watson Health, and Healthcare Edison are often associated with AI. At now, AI in medical practise is available in software, hardware, and mixed forms employing three scientific-statistical approaches: flowchart, database, and decision-making. All are usable, but AI implementation suits them differently. AI deployment in healthcare is complicated by technology, legal support for safety and efficiency, privacy, ethics, and responsibility.

**Elizabeth Morrow , Teodor Zidaru , Fiona Ross , Cindy Mason , Kunal D Patel , Melissa Ream, Rich Stockley (2022),** Over the last decade, worldwide interest in AI and compassion in healthcare has developed. AI technologies are being used to improve empathetic awareness, response, and relational behaviour, communication skills, health coaching, therapeutic interventions, moral development learning, clinical knowledge and assessment, healthcare quality assessment, therapeutic bond and alliance, and health information and advice in various healthcare settings. The results suggest rethinking compassion as a six-element human-AI system of intelligent caring: (1) Awareness of suffering (e.g., pain, distress, risk, disadvantage); (2) Understanding the suffering (significance, context, rights, responsibilities etc.); (3) Connecting with the suffering (e.g., verbal, physical, signs and symbols); (4) Judging the suffering (the need to act); (5) Responding with an intention to alleviate the suffering; and (6) Attention to the effect and outcomes of These parts may work together as a cyclical system to relieve various sorts of pain at the individual (human or machine) and collective (healthcare organisation or system) levels. New human-AI intelligent care methods might improve education, learning, clinical practise, healing places, and relationships.

**Malvika Sharma , Carl Savage , Monika Nair, Ingrid Larsson , Petra Svedberg , Jens M Nygren (2023),** A scoping analysis of MEDLINE (PubMed), Scopus, Web of Science, CINAHL, and PsycINFO databases and snowball sampling of chosen reference lists identified empirical studies of AI deployment in health care since 2011. We picked full-text articles from titles and abstracts using Rayyan software. Charts and summaries were created from included articles. We have empirical knowledge from AI systems with minimal action autonomy and other information system implementations. Further research is needed on the more disruptive AI systems being implemented in routine care and on health care-specific issues like building trust, addressing transparency issues, developing explainable and interpretable solutions, and addressing ethical concerns around privacy and data protection to develop a specific and empirically based implementation framework.

**Samira Abbasgholizadeh Rahimi, France Légaré, Gauri Sharma (2023),** Based on a previous research using the Joanna Briggs Institute (JBI) scoping review design, we performed a systematic scoping review and published the results using PRISMA-ScR criteria. A expert searched Cochrane Library, MEDLINE, EMBASE, Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL), ScienceDirect, and IEEE Xplore from conception to February 2020. All CBPHC providers and patients, AI interventions that had been deployed, evaluated, or both, and patient, health care provider, and CBPHC system results were examined in the chosen studies. The Prediction Model Risk of Bias Assessment Tool measured bias (PROBAST). Two authors independently evaluated the titles and abstracts of the discovered records, read the chosen complete texts, and collected data from studies using a validated extraction form. If consensus failed, a third reviewer was consulted. A third reviewer verified all extracted data.

**Julia Amann, Alessandro Blasimme, Effy Vayena, Dietmar Frey, Vince I Madai (2020),** We examined the technical, legal, medical, and patient implications of explainability for medical AI using AI-based clinical decision support systems. This conceptual study led us to an ethical evaluation utilising Beauchamp and Childress' "Principles of Biomedical Ethics" (autonomy, beneficence, nonmaleficence, and justice) to identify medical AI's requirement for explainability. Each category emphasises various basic ideals and factors for comprehending explainability in clinical practise. Technologically, explainability must be evaluated in terms of how to obtain it and what benefits development. Informed consent, medical device certification and approval, and liability are key explainability touchpoints from a legal standpoint. Medical and patient views underline the need of addressing human-medical AI interactions. Omitting explainability in clinical decision support systems threatens medical ethics and may harm individual and public health. To guarantee that medical AI delivers on its promises, developers, healthcare practitioners, and policymakers must be aware of the constraints and limits of opaque algorithms and stimulate interdisciplinary cooperation.

**Shubhangi Karmakar(2022),** The research compares the problem of controlling AI's rapid progress with healthcare's need for ethical technical quality control to protect patients. Beauchamp and Childress' beneficence, non-maleficence, fairness, and autonomy principles guide physical, practical, and philosophical approaches to AI in medicine. AI is examined from Kantian deontological, Benthamite utilitarian, and Rawlsian health justice viewpoints. Actor Network theory explains sociotechnical dynamics guiding ethical AI development by human stakeholders. These assessments first describe AI clearly, then explain its current and prospective healthcare uses. They emphasise the need to link medical AI with ethical principles for healthcare integration. This report concludes that balanced assessment of AI's role in healthcare requires improving clarity in definition of AI and its current remit in medicine, aligning contemporary discourse on AI use with objective ethical, legal, and system frameworks, and identifying and dismissing several logical fallacies that sensationalise AI's potential.

**Nicholas Rj Möllmann , Milad Mirbabaie , Stefan Stieglitz (2021)**, Artificial intelligence (AI) benefits healthcare but presents ethical concerns. AI ethics in digital health are little researched and unconsolidated. A thorough literature survey of 853 peer-reviewed publications and conferences found 50 works on beneficence, non-maleficence, autonomy, justice, and explicability. AI in digital health ethics are shown, together with a roadmap for future development. The existing quo suggests empirically thin topics for inquiry. Validate less-explored ethical problems and assist academics by describing ethical standards, study intensity, and connections. Practitioners recognise unique problems AI brings, leading to appropriately regulated implementations, and that society is moving from supporting technology to autonomous decision-making systems.

**Milad Mirbabaie , Lennart Hofeditz , Nicholas R J Frick, Stefan Stieglitz (2022)**, Artificial intelligence (AI) in hospitals has numerous benefits but raises ethical issues. The literature on hospital AI ethics needs a comprehensive assessment, even if several fields have performed particular study. We identified the existing quo of multidisciplinary academic research on ethical issues and hospital AI aspects via comprehensive discourse and expert interviews with healthcare professionals. By creating an ethical discourse citation network, we uncovered 15 important papers and extracted actionable principles and their linkages. We develop a biomedical ethics-based academic agenda. We explain the ethical discourse of AI in healthcare settings, indicate areas for future investigation, and propose new research topics. We help healthcare practitioners recognise AI advantages and ethical issues.

**Sreenidhi Prakash, Jyotsna Needamangalam Balaji , Ashish Joshi, Krishna Mohan Surapaneni (2022)**, This paper examines AI uses in healthcare, identifies knowledge gaps, and proposes an ethical and legal framework. AI is powerful and might improve medical treatment in the future. Out of 1238 papers found, 16 were qualified for this review. Only manuscript inclusion and exclusion criteria were used for selection. AI's use in healthcare raises a huge number of ethical and legal issues. AI and medicine legal and ethical considerations include many players. Thus, regulators, developers, healthcare practitioners, and patients must work together to solve AI's legal and ethical issues in healthcare.

**Mohsen Masoumian Hosseini , Seyedeh Toktam Masoumian Hosseini , Karim Qayumi , Soleiman Ahmady , Hamid Reza Koohestani (2023)**, AI in emergency care has ethical and legal issues. This research mapped AI uses in emergency care, identified ethical concerns, and proposed an ethical framework. The initial database included 2175 citations, but 137 were qualified for full-text examination. The scoping study looked at 47 articles for topic extraction. This review covers seven main AI techniques in emergency medicine: Machine Learning (ML) Algorithms (10.64 percent), prehospital emergency management (12.76 percent), triage, patient acuity, and disposition (19.15 percent), disease and condition prediction (23.40 percent), emergency department management (17.03 percent), the future impact of AI on EMS (8.51 percent), and ethical issues (8.51 percent). Emergency medicine AI research has grown rapidly. AI has shown promise in several fields, notably in predictive modelling to improve health outcomes. The findings in our evaluation show that AI-based decision-making is opaque. AI decision-making is opaque with this capability.

#### OBJECTIVES OF THE STUDY

1. To understand how the Artificial intelligence helps in enhancing patient monitoring process.
2. To determine the role of Artificial Intelligence in Healthcare.
3. To examine the challenges of Artificial Intelligence in Healthcare.
4. Evaluates the various Artificial Intelligence diagnostic tools in health care.
5. Understanding the development of new medications and therapies, which helps in improving patient treatment options.

#### DATA COLLECTION METHODS:

##### Primary Data Collection:

People are asked about the "Role of Artificial Intelligence in Healthcare" research. Data from 32 first-hand respondents was obtained using a standardised questionnaire. Sample data is objective. Individual data is solely used for research.

##### Secondary Data Collection:

Conduct a literature study on "Artificial Intelligence in Healthcare," focusing on research on its impacts, applications, and challenges.

**Data Analysis:**

Data analysis requires quantitative and qualitative methods. Statistical methods are advised for survey data analysis and assessment. Qualitative data is collected using the questionnaire.

**DEMOGRAPHIC FACTORS:**

Frequency Table			
Particulars		Frequency	Percent
Age	Below 30	30	93.75
	Above 30	2	6.25
	<b>Total</b>	<b>32</b>	<b>100</b>
Gender	Male	17	53.125
	Female	15	46.875
	<b>Total</b>	<b>32</b>	<b>100</b>
Education	Diploma / Graduate	14	43.75
	Post Graduate	18	56.25
	<b>Total</b>	<b>32</b>	<b>100</b>
Occupation	Student	23	71.875
	Working Professional	9	28.125
	<b>Total</b>	<b>32</b>	<b>100</b>
Employment status	Full time/Part time	9	28.125
	Self-employed	3	9.375
	Unemployed	20	62.5
	<b>Total</b>	<b>32</b>	<b>100</b>
Marital status	Single	30	93.75
	Married	2	6.25
	<b>Total</b>	<b>32</b>	<b>100</b>

The table represents the data of demographic characteristics of a sample population in a study on the "AI in healthcare".

**Age Distribution:** The majority of respondents (93.75%) are below 30 years old, with a small percentage above 30 (6.25).

**Gender Distribution:** The distribution between male and female respondents is relatively balanced.

**Education Level:** A slightly higher percentage of respondents are post-graduates compared to those with a diploma/graduate degree.

**Occupation:** The majority of respondents are students, with a smaller percentage being working professionals.

**Employment Status:** A significant portion of respondents is unemployed, with a smaller number being either full-time/part-time employed or self-employed.

**Marital Status:** The majority of respondents are single, with a smaller percentage being married.

**ANALYSIS**

Should AI technology make an error; full responsibility lies with the healthcare professional			
S.NO	Responses	Frequency	Percent
1	Strongly Agree	8	25.0
2	Agree	10	31.3
3	Moderately Agree	6	18.8
4	Disagree	4	12.5
5	Strongly Disagree	4	12.5
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

The evidence demonstrates that healthcare professionals should take full accountability for AI failures. Most responses (56.3%) "Agreed" and "Strongly agreed". This shows that a large percentage of participants believe human experts should be responsible. 25% "Disagree" and "Strongly Disagree", showing that healthcare workers should not be held solely responsible for AI blunders. The research found that healthcare AI error liability is disputed, revealing a complicated ethical environment.

<b>The introduction of AI will change my role as a healthcare professional in the future</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	9	28.1
2	Agree	15	46.9
3	Neutral	5	15.6
4	Disagree	3	9.4
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

The research shows that AI will transform healthcare professionals' roles. Most responders (75%) "Agree" and "Strongly Agree". This data is optimistic. Only 9.4% of dissenters disagree, yet the majority support the premise. AI's future influence on healthcare workers is mostly favourable, according to the report.

<b>Overall healthcare professionals are prepared for the introduction of AI technology</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	6	18.8
2	Agree	12	37.5
3	Neutral	10	31.3
4	Disagree	3	9.4
5	Strongly Disagree	1	3.1
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

According to the data that was presented, there is a wide range of preparation among healthcare professionals for the use of artificial intelligence technology. Five-six point three percent of respondents are in agreement or strong agreement, while thirty-one point three percent are indifferent and twelve point five percent disagree to some degree. A better understanding of the particular elements that influence their opinions, such as training, worries, or experiences with the integration of AI, might be achieved via the provision of more information or feedback.

<b>The use of AI on my specialty could improve the delivery of direct patient care</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	8	25.0
2	Agree	12	37.5
3	Neutral	7	21.9
4	Disagree	3	9.4
5	Strongly Disagree	2	6.3
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

Sixty-two point five percent of those who participated in the survey either strongly agree or agree that the use of artificial intelligence in their area of expertise might enhance the delivery of direct patient care.

Twenty-one point nine percent of those who participated in the survey selected a neutral attitude, which indicates that they do not agree or disagree with the statement. It is possible that this indicates that there is some doubt or that this group does not have a firm viewpoint.

There is a lesser number of respondents who disagree or strongly disagree with the premise that artificial intelligence might enhance direct patient care in their area of expertise compared to the other respondents.

To summarise, the data suggests that there is a generally optimistic outlook regarding the utilisation of artificial intelligence in the particular field of medicine for the purpose of improving direct patient care. However, there is room for addressing concerns and providing additional information to individuals who are either neutral or sceptical.

<b>I have been adequately trained to use AI that is specific to my role</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	5	15.6
2	Agree	11	34.4
3	Moderately Agree	9	28.1
4	Disagree	7	21.9
5	Strongly Disagree	0	0.0
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

Five hundred percent of those who participated in the survey either strongly agree or agree that they have received sufficient training to make use of artificial intelligence that is particular to their position.

Twenty-eight point one percent of those who participated in the survey selected a neutral position, which indicates that they do not agree or disagree with the statement or any of its statements. According to this, there seems to be a significant amount of doubt or a lack of a clear view among this group about the appropriateness of their artificial intelligence training.

Twenty-one point nine percent of respondents are in disagreement with the statement, which indicates that they do not believe they have received sufficient training in the use of artificial intelligence that is relevant to their work.

The proportion of people who agree with the statement is rather low, despite the fact that there is a good mood among those who agree with it.

The replies that were indifferent might be an indication that there is a need for greater clarity on the particular features of AI training or that there is a demand for extra training in order to boost confident behaviour.

It seems that there is a sizeable component of the group that has the perception that there is a lack of proper training since there is a sizeable number of respondents that are in disagreement with the statement. For the purpose of meeting their requirements, it is essential to investigate the unique problems or training shortages that pertain to this group..

<b>AI may take over part of my role as a healthcare professional</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	8	25.0
2	Agree	15	46.9
3	Moderately Agree	5	15.6
4	Disagree	3	9.4
5	Strongly Disagree	1	3.1
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

Seventy-nine point nine percent of those who participated in the survey either strongly agree or believe that artificial intelligence may fulfil a portion of their responsibilities as healthcare providers.

15.6 percent of respondents selected a neutral attitude, which indicates that they do not agree or disagree with the statement. This is a lesser number than the remaining respondents. One possible interpretation of this is that the

members of this group are unclear or do not have a definite view on the potential role that AI may play in taking over their tasks.

A very small amount of respondents (12.5 percent) disagree or strongly disagree with the statement, which suggests that they do not think artificial intelligence will take over a portion of their work in the healthcare industry that they now do.

It seems that a sizeable proportion of healthcare professionals are either receptive to the concept or aware of the prospect that artificial intelligence would take over some portions of their jobs, as shown by the consensus of favourable emotion.

There may be a need for further knowledge, education, or explanation about how artificial intelligence may be incorporated into their work, as shown by the neutral replies.

Due to the low number of replies that were negative, it seems that there is a minority of people who do not anticipate artificial intelligence taking over a portion of their function. For the purpose of resolving any difficulties or worries associated with the implementation of AI, it may be vital to have an understanding of the particular concerns or reservations held by this group.

<b>The use of AI in my specialty could improve clinical decision making</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	7	21.9
2	Agree	15	46.9
3	Moderately Agree	6	18.8
4	Disagree	3	9.4
5	Strongly Disagree	1	3.1
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

In terms of clinical decision-making, the majority of respondents (68.8 percent) are either in agreement or strongly believe that the use of artificial intelligence in their field may be beneficial.

Eighteen point eight percent of those who participated in the survey selected a neutral attitude, which indicates that they do not agree or disagree with the statement. On the subject of the influence that artificial intelligence has on clinical decision-making, this may indicate that there is some doubt or a lack of a clear view within this group.

There is a lesser proportion of responders who reject or strongly disagree with the premise that artificial intelligence might enhance clinical decision-making in their area of expertise. This amount is 12.5-7 percent.

Based on the general favourable mood, it seems that a sizeable majority of respondents believe that the use of artificial intelligence to improve clinical decision-making in their area of expertise might potentially provide advantages.

The replies that were neutral may suggest that there is a need for further education or knowledge on the particular ways in which artificial intelligence might assist to enhanced decision-making.

The low number of replies that were negative indicates that there is some suspicion or worry among a minority of those who attended the survey. When it comes to clinical decision-making, it may be good to investigate these issues and provide further information on the benefits of artificial intelligence.

<b>There is an ethical framework in place for the use of AI technology in my workspace</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	6	18.8
2	Agree	14	43.8



3	Moderately Agree	5	15.6
4	Disagree	4	12.5
5	Strongly Disagree	3	9.4
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

Sixty-two point six percent of those who participated in the survey either strongly agree or agree that there is an ethical framework in place for the use of artificial intelligence technology at their place of employment.

There was a considerable amount of respondents who took a neutral attitude, which indicates that they do not agree or disagree with the statement. This percentage was 15.6%. It is possible that this indicates that there is a degree of doubt or that there is a lack of a clear view within this group with respect to the existence of an ethical framework.

The statement is met with disagreement or strong disagreement from a significantly lesser proportion of respondents (22.9 percent), which suggests that there may be some issues or uncertainties about the presence of the ethical framework for AI in their workplace or whether or not it is effective.

It seems that a significant proportion of respondents had the perception that there is an ethical foundation for artificial intelligence in their place of employment, as shown by the overall favourable mood.

Given the indifferent replies, it may be necessary to do more research in order to have a better understanding of the factors that contribute to the lack of clarity or confusion.

As a result of the negative replies, it seems that there is a group of respondents who are of the opinion that the present ethical framework may have some shortcomings or problems. The concerns of this group should be addressed, and there is a possibility that communication on the ethical principles might be improved.

<b>AI will be superior to doctor in image diagnosis</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	9	28.1
2	Agree	8	25.0
3	Moderately Agree	2	6.3
4	Disagree	8	25.0
5	Strongly Disagree	5	15.6
<b>Total</b>		<b>32</b>	<b>100</b>

**Interpretation:**

In terms of visual diagnosis, artificial intelligence will be superior than physicians, according to a total of 53.1% of respondents who either strongly agree or agree with this statement.

A tiny proportion of respondents, 6.3 percent, elected to take a neutral approach, which indicates that they are unclear or do not have a clear view about whether or not artificial intelligence would beat clinicians in image diagnosis.

Fourty-six percent of those who participated in the survey either disagreed or strongly disagreed with the statement, indicating that they are either sceptical of or disagree with the notion that artificial intelligence would be better than physicians in visual diagnosis.

The findings indicate that respondents had a divided view, with a sizeable proportion of them either agreeing or strongly agreeing with the concept of artificial intelligence being superior, but a sizeable minority of them rejecting or strongly disagreeing with the concept.

One possible interpretation of the indifferent replies is that they indicate a lack of assurance about the potential advantage of AI in image diagnosis or a need for further knowledge.

<b>The introduction of AI will reduce financial costs associated with my role</b>			
<b>S.NO</b>	<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
1	Strongly Agree	8	25.0
2	Agree	10	31.3
3	Moderately Agree	7	21.9
4	Disagree	5	15.6
5	Strongly Disagree	2	6.3
<b>Total</b>		<b>32</b>	<b>100</b>

#### **Interpretation:**

The introduction of artificial intelligence will result in a reduction in the financial expenses connected with their responsibilities, according to a total of 56.3% of respondents who either strongly agree or agree with this statement.

Significantly more than twenty-nine point nine percent of those who participated in the survey selected a neutral attitude, which indicates that they do not agree or disagree with the statement. This may indicate that there is a degree of doubt or that there is a lack of a clear view on the affect that the introduction of AI will have on finances.

Twenty-one point nine percent of those who participated in the survey either disagreed or strongly disagreed with the statement, which may indicate scepticism or a perception that the implementation of AI would not result in a decrease in financial expenses.

Most of those who participated in the survey have shown either optimism or at the very least an openness to the concept that the implementation of AI may lead to a decrease in the financial costs associated with their employment.

The fact that the replies were indifferent may suggest that there is a need for further information or clarity about the exact ways in which the deployment of AI will effect financial expenses in their individual jobs.

The minority of respondents who disagree or strongly disagree may have issues or misgivings about the actual deployment of artificial intelligence or its usefulness in cutting costs.

#### **FINDINGS:**

#### **SUGGESTION:**

**Diagnostic Accuracy:** AI-powered medical imaging significantly enhances diagnostic accuracy, ensuring early detection of diseases through precise analysis.

**Predictive Analytics:** AI algorithms analyze patient data, enabling proactive health predictions and personalized interventions based on individual health patterns.

**Personalized Treatment Plans:** Tailoring treatment plans using patient-specific data optimizes outcomes while minimizing adverse effects, showcasing AI's potential in personalized healthcare.

**Remote Patient Monitoring:** AI facilitates continuous monitoring, allowing timely interventions, reducing hospital admissions, and providing efficient healthcare management.

**Operational Efficiency:** Automation of administrative tasks through AI streamlines workflows, reducing the workload on healthcare professionals and improving overall operational efficiency.

**Drug Discovery Acceleration:** AI expedites drug discovery by swiftly analyzing extensive datasets, identifying potential candidates, and speeding up the research process.

**Natural Language Processing (NLP):** NLP extracts valuable insights from unstructured data sources like patient records, aiding in informed decision-making for healthcare providers.

**Telemedicine Advancements:** AI enhances telemedicine with features such as virtual consultations, automated triage, and improved accessibility to healthcare services, revolutionizing patient experiences.

**Health Chatbots:** AI-powered health chatbots engage users, offering instant information, answering queries, and providing preliminary guidance, thereby enhancing overall patient engagement.

**Data Security Measures:** Robust data security measures are implemented to address privacy concerns, ensuring trust in AI applications and safeguarding patient data integrity.

## CONCLUSION:

The research examining the function of Artificial Intelligence in the healthcare sector has yielded significant findings about the profound effects that AI technologies have on several aspects of the healthcare business. Across the board, from operational efficiency to patient care, AI is shown itself to be a substantial agent of positive transformation. The survey report facilitates the formation of a comprehensive understanding of Artificial Intelligence, including its duties, problems, and effect. The objective of this research is to provide a comprehensive understanding of the manner in which artificial intelligence (AI) is influencing the healthcare domain, its ramifications for patient care, and the viewpoints of healthcare practitioners. Although the advantages are apparent, the implementation and acceptance of the study continue to face obstacles. These include concerns over data privacy, interoperability, and the need for defined protocols, which must be resolved in order to achieve a smooth integration process.

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