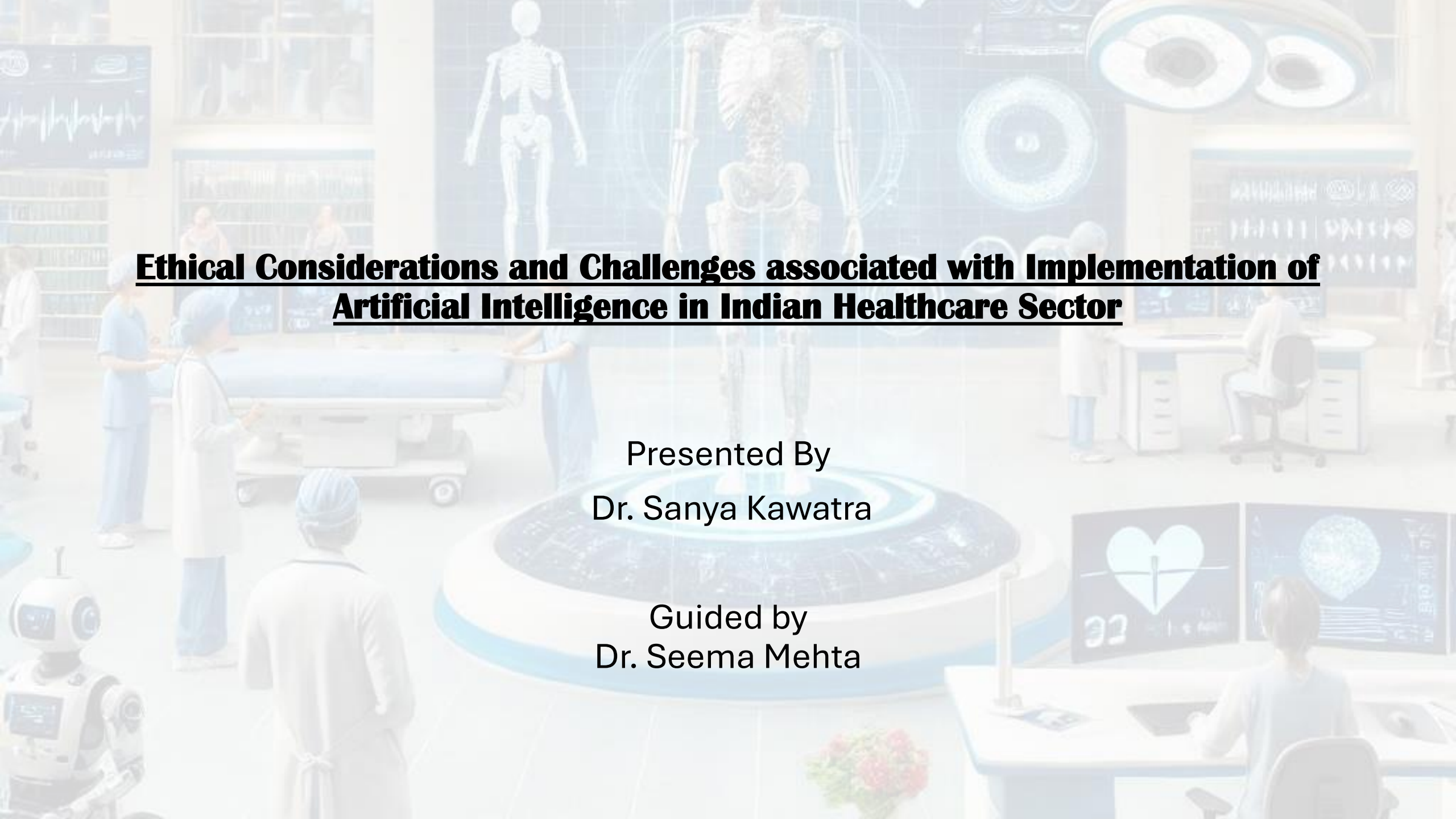


The background image is a conceptual illustration of a futuristic healthcare environment. It features medical professionals in white coats and blue scrubs, a small service robot in the bottom left, and various digital displays showing medical data like ECGs and anatomical diagrams. A large, translucent human skeleton is visible in the center background, and a patient is lying on a gurney. The overall aesthetic is clean, modern, and high-tech.

Ethical Considerations and Challenges associated with Implementation of Artificial Intelligence in Indian Healthcare Sector

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Introduction

- Artificial Intelligence: It is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities.
- Machine Learning: Gives computers "the ability to learn without being explicitly programmed".

Artificial Intelligence in Indian Healthcare Sector

Integration of AI in healthcare is changing and bringing significant advancements in areas like Diagnostics, Treatment planning, patient care, and AI technology like Machine Learning, Language processing, and robotics have been (/are) important in enhancing the healthcare delivery.

ICMR Guidelines for use of AI

- The Indian Council of Medical Research (ICMR) came up with detailed guidelines on the use of Artificial Intelligence (AI) in the field of healthcare.
- Released in 2017
- Deployment of AI-based solutions in healthcare, has to deal with several issues, including those related to data safety, data sharing, data privacy, etc.
- The purpose of these guidelines is to guide effective yet safe development, deployment and adoption of AI based technologies in biomedical research and healthcare delivery.

Study Objectives & Methodology

Study Objectives:

1. To identify the challenges faced by healthcare sector in adopting AI technologies.
2. To identify the ethical issues of AI implementation in Indian healthcare sector.
3. To provide recommendations addressing ethical concerns and overcoming implementation challenges.

Study Design

The research design for the study is a “Desk Study”. It is a Literature Review on the ethical factors and issues emerging from the application of Artificial Intelligence (AI) in the context of Indian health care industry. 6 Articles and various guidelines in relevance to the title were studied.

Data Collection

- Secondary data has been collected from the following sources: Google Scholar, BirlaSoft, ICMR Guidelines for AI use in Indian Healthcare, NITI Aayog Guidelines.
- Selection: Relevance to the Topic and Inclusion & Exclusion criteria.
- Extraction: Initial Review and highlighted key information.

Literature Review

No.	Author	Title	Study of location
1	Shantanu Jindal <i>IndusLaw, Gurgaon</i> Shweta Gupta, Partner <i>IndusLaw, Gurgaon</i>	AI in healthcare: trends and challenges in India	India
Discusses first about how AI can boost healthcare productivity in India. Then Challenges and Risk associated such as: Discrimination, Legal responsibility and patient's privacy, Medical chatbots etc. Lastly, Discusses about AI and it's role in future Healthcare.			
2	Keerti Pradhan Preethi John Namrata Sandhu	Use of artificial intelligence in healthcare delivery in India	India
This article talks about how AI holds the promise of revolutionizing the healthcare in India not only in decision support but also in research, public health surveillance and many more. Then the barriers of integration of AI: Data privacy, ethical questions, and skilled human resource. Challenges such as infrastructural deprivations, data accessibility etc. The disorganization of legal framework and insufficiency of rules for data acquisition, clinical trials and responsibilities for AI decisions.			

3	LIFE SCIENCES, BIRLASOFT By CK Birla Group	Artificial Intelligence in Healthcare: Addressing Ethical and Regulatory Hurdles	India
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Refers to AI models as ‘black boxes,’ or systems that no one can really understand how they came to the decisions they made which causes mistrust between patients and healthcare workers.

AI engineered models may end up being inherently prejudicial if trained using non-robust datasets.

Raises the questions of data protection and patient’s permission.

AI integration might reduce the importance of the healthcare professional and decrease over-sight thus de-skilling of the profession

And barriers that relate to the practical aspect of its implementation which include interoperability and infrastructural deficits that slow down the AI implementation in the healthcare system.

4	NITI Aayog	National Strategy for Artificial Intelligence	India
Talked about challenges in points like: - Lack of Enabling Data Ecosystems - Low Intensity of AI Research - Inadequate AI Expertise and Skilling Opportunities - High Resource Costs and Low Awareness - Unclear Privacy, Security, and Ethical Regulations			