The Ethical Challenges of Utilizing Artificial Intelligence in Patient Care
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**Introduction**
Artificial intelligence (AI) has numerous applications in different occupations such as education, social media, marketing, agriculture, healthcare, etc. Its applications in healthcare can be beneficial to reduce costs and improve patient outcomes. Although AI provides benefits in healthcare, there are some ethical challenges that need to be considered, especially with its application in patient care.

There are four ethical challenges that utilizing AI in patient care presents:
1. Informed consent to use
2. Safety and transparency
3. Algorithmic fairness and biases
4. Data privacy

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**Informed Consent**
Informed consent is used in healthcare to gain the patient’s permission to provide treatment by informing the patient of the risks and benefits of the treatment. When concerning AI use in healthcare, the patient should be informed of how their data is collected, managed, and used. The questions that arise when considering the use of AI in patient care with informed consent are:

1. To what degree should the physician explain the involvement of AI if it is to be used in patient care? Should the physician explain all data being used, the possible biases in the AI system, or the type of data inputs?
   - If the physician is expected to explain AI’s involvement to the patient in totality, it would be time consuming. Also, the physician would be required to have an extensive knowledge on the AI systems being utilized. This question can be challenging to discuss depending on if the AI uses algorithms that use machine learning techniques that can be difficult for physicians to understand. If the physician does not fully understand the AI system being used, then they will not be able to explain these things to the patient.
   - It is common knowledge that patient data is normally kept in computer systems. The physician would not be expected to explain this to the patient. On the other hand, the physician may be expected to explain the imaging or diagnostics that AI is involved in such as MRIs.

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**Safety and Transparency**
Safety and transparency present a large challenge in maintaining a patient’s confidentiality. AI algorithms have been used in healthcare to not only store patient’s data and medical records, but physicians also use them to access patient’s medical records to help explore treatment options for them. To uphold the principle of safety and to protect the patient’s data, there needs to be technical solutions such as built-in data quality evaluations, security, surveillance processes, and third-party audits.

When the patient’s confidentiality and safety are concerned, there also needs to be some transparency. The physician should know the reliability of the software and they should know what data is being used. The patient should also be aware of the AI uses, source codes, evidence bases, and limitations. Transparency with the patients also builds trust between the physicians and patients.

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**Algorithmic Fairness and Biases**
Utilizing AI in patient care presents a challenge in algorithmic fairness and biases because machine learning are commonly used in healthcare. These systems’ reliability, effectiveness, and fairness are dependent on the data that they are trained with. Since these systems are trained with data, they are vulnerable to developing biases and discrimination. To prevent AI software from developing biases, the AI programmers must consider which machine learning procedures to use to train the AI and what datasets to use to program the AI.

If AI algorithms do develop biases, then it might give inaccurate recommendations concerning treatments, or it may give the patient a faulty diagnosis. Another issue with biased AI algorithms is that they are highly advanced and they are not transparent. Most biases seen in AI algorithms could be due to nongovernment organizations not disclosing information and will declare trade secrecy in their companies.

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**Data Privacy**
The patient’s privacy should be upheld and their right to privacy should be secured when concerning data protection. Maintaining this principle of data privacy when using AI in patient care can be accomplished by performing more research, improving awareness, and adjusting approaches to collecting and managing the patient’s data. Data sharing would breach the principle of data privacy and respect for autonomy since the patient’s data is being shared to outside parties and often times is shared without the patients consent.

By upholding this principle, trust can be built between the physicians and patient and the patient’s autonomy can be respected.

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**Conclusion**
The four challenges presented with the utilization of AI in patient care are informed consent, safety and transparency, algorithmic fairness and biases, and data privacy. Each challenge can be overcome by informing the patient of data collection and management, securing the patient’s data with quality evaluations and being transparent about AI limitations, minimizing biases in AI algorithms, and keeping the patient’s data private and not sharing their data with outside parties. By upholding all principles, trust can be fostered between the patient and the physician. If the patient and the physician do not have trust in each other or in AIs applications in healthcare, then AIs integration in healthcare will fail.

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**References**