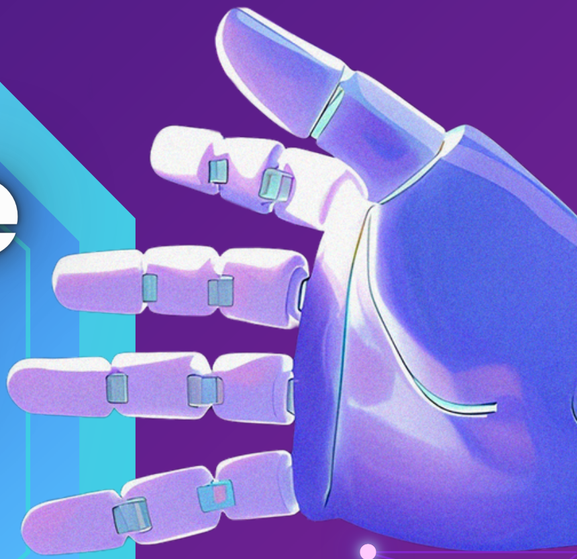
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Artificial Intelligence in Clinical Decision Support



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Introduction

Artificial intelligence is transforming the pattern of decision-making of doctors with the patient healthcare segment.

This advanced technology offers recommended treatments, diagnoses, and even estimates the health outcome of patients.

This demonstration will cover the impact of artificial intelligence utilisation in the healthcare workplace.



Impact on Workforce



Positive effect

- The use of AI in Clinical Decision Support is changing the work management pattern in the healthcare industry.
- This digital advancement permits healthcare experts to prioritise patient care instead of spending time on other tasks.

Negative impact

- The maximum use of artificial intelligence in Clinical Decision Support is transforming the workforce protocol significantly.
- Healthcare experts may seek to transform their roles from direct decision-making to an AI system.

Impact on service delivery

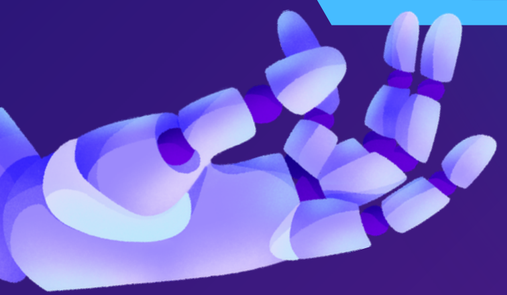


Positive impact

The usage of artificial intelligence in the CDS has greatly developed service delivery, particularly in making customised care plans. (Gallagher, 2025).

Negative effect

The overall use of this technological advancement has negative impacts on the service delivery, specifically in efficient workflows and customised care plans.



Impact on patients





POSITIVE

- The involvement of artificial intelligence in clinical decision-making has been one of the crucial segments for future progression in the healthcare sector.
- For example, within the NHS, this technological advancement is used for CT report analysis to detect Lung and Breast cancer (GOV.UK, 2023).



NEGATIVE

- The consideration of misdiagnosis due to AI has been a negative area within the healthcare sector.
- For example, a UK healthcare service AI tool has generated various false reports which have directed him towards the diabetes screening appointment (Nolan, 2025).

Impact on community

Positive

- The inclusion of AI-CDSS helps to integrate vast amounts of patient data with medical knowledge to improve overall outcomes, efficiency and safety.
- Various secondary articles have indicated that technological implementation has been essential for identifying the underserved population and mitigating bias to ensure more equitable access to high-quality care (Dankwa, 2024).



Negative

- AI models trained on historical data might extend and amplify existing bias which can lead to unequal treatment, misdiagnosis and underdiagnosis of marginalised groups.
- Mind UK indicated that the utilisation of Google AI for mental health considerations has been very dangerous as medical advice (Gregory, 2026).

Challenges of the innovation



Algorithmic bias
The use of artificial intelligence in clinical decision-making has been an innovative approach.

Low transparency
The above-mentioned aspect can be referred to as one of the significant challenges related to the AI which is also known as the black box issue.

Reduction of clinical judgment
The excessive overreliance on the AI-based clinical decision support creates a risk towards reducing critical thinking and professional expertise (Saban and Dubovi, 2025).

Recommendations

Data quality & diversity

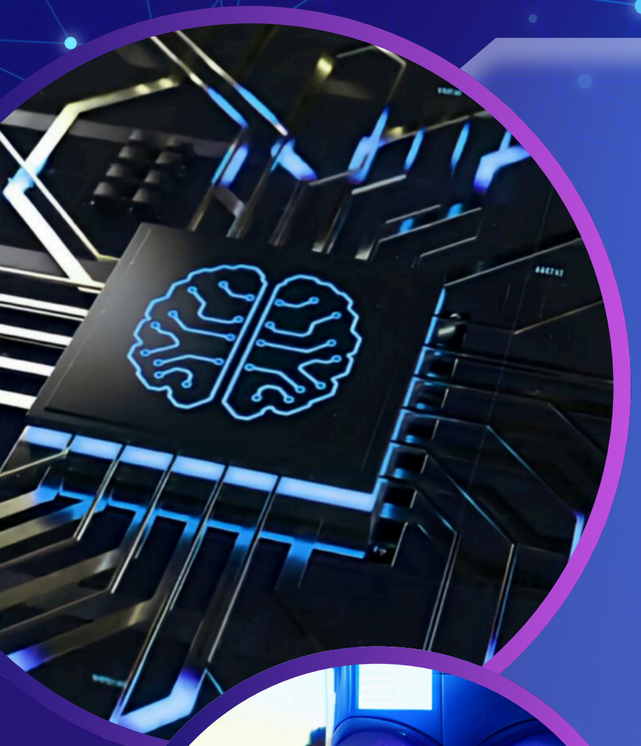
A stronger emphasis towards the quality related to data diversity and transparency during the use of AI within the healthcare system should be properly examined.
This can reduce the chances of algorithmic biases and improve the accuracy during the time of diagnosis (Ivanovic, 2023).

Training collaboration between AI and clinicians

Within the field of health and social care, the consideration on educational opportunities related to understanding the AI framework is important. Healthcare professionals should receive a structured training related to the functions of AI tool, their limitations and evaluation (Skills for Health, 2026).



Conclusion





- The consideration towards the digital transformation within the healthcare environment has provided a wider opportunity to improve the outcomes.

- The use of AI in the clinical decision-making has brought forward positive and negative impact.

- The discussion has shed light on its both perspective on patient, community and others where many cases has been highlighted related to contribution and error.

- However, the challenges related to algorithmic bias, transparency beads to be taken into consideration by providing training and proper government policies development.



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Thank You