



# WHAT IS THE IMPACT AND ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN REDUCING HEALTHCARE COSTS?

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## STEP ONE: DEFINE THE PROBLEM OR STATE THE RESEARCH QUESTION

Clearly articulate a research problem that requires insights and methods from multiple disciplines to solve complex, multifaceted issues.

<https://gloriumtech.com/ai-reducing-healthcare-costs/>

Potential Cost Savings in AI Applications	
<ul style="list-style-type: none"> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$40B</span> Robot-Assisted Surgery</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$20B</span> Virtual Nursing Assistants</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$18B</span> Administrative Workflow Assistance</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$17B</span> Fraud Detection</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$16B</span> Dosage Error Reduction</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$14B</span> Connected Machines</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$13B</span> Clinical Trial Participant Identifier</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$5B</span> Preliminary Diagnosis</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$3B</span> Automated Image Diagnosis</li> <li><span style="background-color: #007bff; color: white; border-radius: 50%; padding: 2px 5px;">\$2B</span> Cybersecurity</li> </ul>

Source: Healthcare IT news

- What is the impact and role of Artificial Intelligence (AI) in reducing healthcare costs?

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- AI in healthcare involves multiple fields, including computer science, medicine, economics, and ethics, requiring an interdisciplinary approach to assess its financial, technological, and societal impact.

### STEP TWO: JUSTIFY USING AN INTERDISCIPLINARY APPROACH

Explain why looking at the problem from just one field isn't enough and highlight the importance of combining ideas from different areas to get a more complete understanding.

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### STEP 3: IDENTIFY RELEVANT DISCIPLINARIES

Determine the academic fields or areas of expertise that can contribute valuable perspectives to the problem, ensuring a broad interdisciplinary approach.

- Relevant disciplines related to AI implementation in healthcare cost reduction include computer science, healthcare management, economics, biomedical engineering, and ethics.

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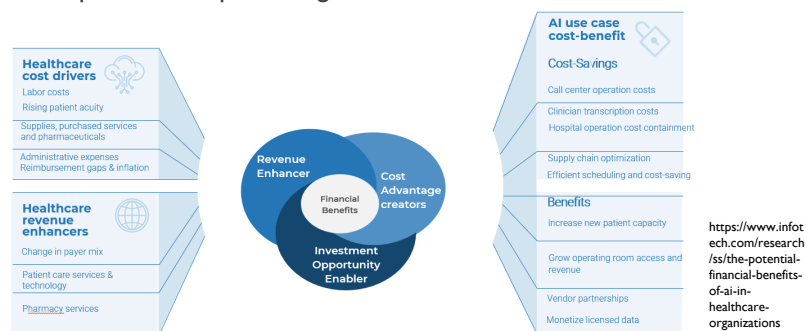
## STEP 4: CONDUCT THE LITERATURE SEARCH

Conduct thorough literature research across identified disciplines to gather existing research, theories, and methodologies relevant to the problem.

- Review peer-reviewed journals, industry reports, case studies, and government publications on AI applications in healthcare cost reduction will play an essential part in supporting my stance.

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- To goal is to gain an understanding of how AI influences healthcare technologies, organizational cost and benefit analysis, healthcare policies, also patient rights.



## STEP 5: DEVELOP ADEQUACY IN EACH RELEVANT DISCIPLINE

Ensure a sufficient understanding of the theories, methods, and key concepts within each identified discipline, so each field's contribution is robust and well-understood.

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## STEP 6: ANALYZE THE PROBLEM AND EVALUATE EACH INSIGHT OR THEORY

Analyze AI's efficiency in automating administrative tasks, improving diagnostics, optimizing treatment plans, and reducing operational costs in healthcare.

Examine in depth the insights, theories, and methodologies from each discipline to assess their relevance, applicability, and contributions to understanding the research problem

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## STEP 7: IDENTIFY CONFLICTS BETWEEN INSIGHTS AND THEIR SOURCES

Detect and explore potential conflicts or contradictions between the insights from different disciplines, considering how these discrepancies may arise from divergent theoretical or methodological assumptions.

- Some studies highlight AI's potential cost savings for patients and organizations, while other reports warn of high implementation costs, data privacy risks, and ethical concerns in relation to operational functions.

<https://redresscompliance.com/ai-in-healthcare-a-detailed-exploration/>

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## STEP 8: CREATE COMMON GROUND BETWEEN INSIGHTS

Arrange key insights from different disciplines to find shared concepts, frameworks, or methodologies that can bridge the knowledge gaps between fields.

- AI can reduce long-term costs by improving efficiency and patient outcomes, but its adoption must address initial investment challenges and ethical considerations beforehand.

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- AI plays a crucial role in reducing healthcare costs through automation, predictive analytics, and improved resource allocation, balancing financial and ethical concerns.



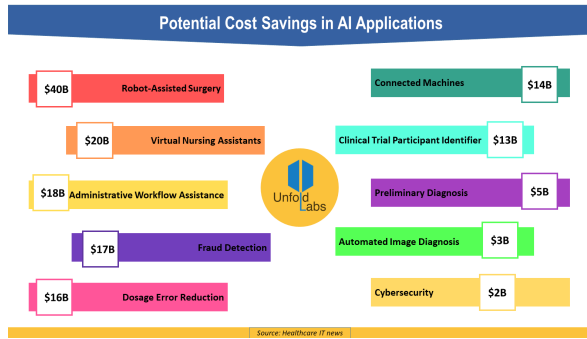
<https://www.vlmhealthcare.com/news/discovering-ai-as-the-future-of-medical-coding-in-healthcare>

## STEP 9: CONSTRUCT A MORE COMPREHENSIVE UNDERSTANDING

Develop a unified, holistic understanding of the research problem by combining the strengths of each discipline's insights and addressing any gaps or contradictions between them.

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Implementing AI in healthcare is effective for cost reduction when integrated responsibly, supported by policy frameworks, and continuously evaluated for efficiency and security.



<https://unfoldlabs.medium.com/the-impact-of-artificial-intelligence-in-healthcare-4bc657f129f5>

## STEP 10: REFLECT UPON, TEST, AND COMMUNICATE THE UNDERSTANDING.

REFLECT ON THE SYNTHESIZED UNDERSTANDING, TEST ITS ROBUSTNESS THROUGH FURTHER ANALYSIS OR EMPIRICAL VALIDATION, AND COMMUNICATE THE RESULTS CLEARLY TO BOTH ACADEMIC AND PRACTICAL AUDIENCES.