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AI in Healthcare Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Offering (Software v/s Hardware), By Technology (Machine Learning, Computer Vision, Natural Language Processing, Context-Aware Computing), By Application (Medical Imaging & Diagnostics, Robotic Surgeries, Drug Discovery, Inpatient Care & Hospital Management, Patient Data & Risk Analysis, Others), By End User (Healthcare Providers, Pharmaceutical & Biotechnology Companies, Patients, Others) By Region & Competition, 2021-2031F

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Abstracts

The global AI in healthcare market is projected to expand significantly, rising from USD 36.02 billion in 2025 to USD 250.08 billion by 2031, demonstrating a compound annual growth rate of 38.12%. Artificial intelligence in healthcare involves leveraging machine learning, natural language processing, and other cognitive technologies to analyze medical data, thereby assisting in diagnosis, optimizing treatment plans, and improving administrative efficiencies. This substantial market growth is fundamentally propelled by the escalating volume of intricate healthcare data, the urgent necessity to curtail operational expenditures, and the increasing worldwide incidence of chronic diseases demanding ongoing oversight. These core elements establish a robust foundation for integrating computational intelligence into clinical processes to enhance decision-making and patient outcomes.

In 2024, a notable 66% of physicians reported utilizing artificial intelligence in their

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practice, according to the American Medical Association, indicating a considerable increase in adoption. However, a significant obstacle to further market expansion stems from inadequate data interoperability and ongoing concerns surrounding patient data privacy. The fragmented nature of health information systems leads to data silos, which impede the seamless exchange of information essential for training sophisticated algorithms and implementing scalable AI solutions across varied healthcare environments.

Market Driver

A primary driver fueling the AI in healthcare market is the global shortage of healthcare professionals and the pervasive issue of clinician burnout. Health systems are actively seeking automated solutions to address the growing disparity between patient demand and available workforce capacity. This structural deficit necessitates the use of intelligent systems to enhance human capabilities, particularly by alleviating administrative responsibilities and optimizing diagnostic processes. For instance, Philips' 'Future Health Index 2025' report, May 2025, forecasts a critical shortfall of 11 million health workers by 2030, underscoring the urgent need for technological intervention. As a result, healthcare providers are quickly incorporating AI tools to uphold care standards, a trend further supported by Elsevier's 'Clinician of the Future 2025' report, July 2025, which indicates that 48% of clinicians have already employed an artificial intelligence tool in their professional work.

Furthermore, the accelerated adoption of AI for drug discovery and development significantly contributes to market expansion by transforming the pharmaceutical research pipeline. Traditional approaches, often marked by high failure rates and extended timelines, are increasingly being replaced by generative algorithms that can identify promising drug candidates with greater efficiency. This paradigm shift encourages substantial investment in computational platforms, which in turn reduces the capital investment required to introduce new therapeutics to the market. The strategic importance of this application is clear; according to NVIDIA's 'State of AI in Healthcare and Life Sciences: 2025 Trends' report, March 2025, 62% of pharmaceutical and biotechnology company respondents identified drug discovery as their leading generative AI application.

Market Challenge

A significant impediment to the growth of the global AI in healthcare market is the lack of data interoperability, coupled with ongoing concerns about patient data privacy.

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Artificial intelligence models depend on extensive, varied, and interconnected datasets to generate precise clinical insights and ensure effective outcomes across diverse patient groups. Nevertheless, the prevailing healthcare environment is characterized by disjointed information systems that confine vital medical records within isolated silos. This fragmented infrastructure obstructs the effortless collection of data essential for training resilient algorithms, consequently limiting the scalability of AI solutions and diminishing their dependability when deployed in various clinical environments.

These operational inefficiencies are exacerbated by considerable worries regarding the security of sensitive health information, which often results in stringent data governance policies. Such caution slows the rate of innovation as organizations frequently prioritize mitigating risks over integrating new technologies. The Healthcare Information and Management Systems Society reported in 2024 that 72% of healthcare professionals viewed data privacy as a major concern regarding AI adoption. This prevalent apprehension hinders market expansion by complicating compliance efforts and delaying the implementation of potentially transformative computational tools.

Market Trends

A significant trend observed is the adoption of generative AI for clinical documentation, which is fundamentally transforming provider workflows by shifting from manual data entry to ambient listening and automated note creation. This approach involves deploying natural language processing tools within patient rooms to record consultations in real-time, allowing physicians to maintain direct engagement and rapport with patients instead of focusing on computer screens. Healthcare systems are actively integrating these solutions to enhance documentation accuracy and reduce the cognitive burden associated with electronic health records. The Scottsdale Institute's 'Adoption of Artificial Intelligence in Healthcare' survey, May 2025, indicated that 53% of health systems reported high success with AI in clinical documentation, suggesting this technology is quickly moving beyond initial pilot phases.

Another critical trend is the emergence of autonomous agentic AI, which signifies an evolution from merely passive analysis to proactive operational execution within healthcare organizations. In contrast to conventional chatbots, these independent agents are capable of performing intricate, multi-step tasks such as scheduling appointments, processing claims, and triaging patient inquiries without requiring human intervention. This move towards agentic workflows empowers institutions to efficiently scale their operations while upholding high service standards for patients. The strategic importance of this technology is increasingly acknowledged; Google Cloud's 'The ROI of

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AI in Healthcare and Life Sciences' report, October 2025, found that 34% of healthcare executives identified technical support and patient experience as the primary applications for autonomous AI agents, emphasizing their expanding role in automating core business functions.

Key Market Players

Google Health / DeepMind

Tempus AI

GE Healthcare

Siemens Healthineers

Philips Healthcare

Teladoc Health

Aidoc

PathAI

Butterfly Network

Arterys

Report Scope

In this report, the Global AI in Healthcare Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

AI in Healthcare Market, By Offering

Software

Hardware

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- Canada
- Mexico

Europe

- France
- United Kingdom
- Italy
- Germany
- Spain

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea

South America

- Brazil
- Argentina
- Colombia

Middle East & Africa

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South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global AI in Healthcare Market.

Available Customizations:

Global AI in Healthcare Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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