

Artificial Intelligence In Medicine - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Artificial Intelligence In Medicine Market size is estimated at USD 11.66 billion in 2024, and is expected to reach USD 36.79 billion by 2029, growing at a CAGR of 25.83% during the forecast period (2024-2029).

The growing global geriatric population, varying lifestyles, and growing prevalence of chronic diseases have contributed to the surge in the need for diagnosing and enhanced understanding of diseases in their initial phases. For instance, according to the American Heart Association, in 2022, the prevalence rate of heart failure in the United States is 6 million, 1.8 percent of the total population.

Key Highlights

-The Market is driven by various factors, including the need to handle data more effectively and optimize healthcare expenses, the growth of public-private partnerships, and regional spending on healthcare. Additionally, the Market is predicted to grow as opportunities in geriatric population care with AI technology, imaging, and diagnostics to generate data for research development occur. According to IBEF, in the Union Budget 2023-24, the government allocated INR 89,155 crore (USD 10.76 billion) to the Ministry of Health and Family Welfare (MoHFW).

-Small-molecule drug discovery benefits from AI in four ways; permit new biology, higher success rates, improved or unique chemistry, and speedier and less expensive discovery procedures. For instance, the FDA's Center for Drug Evaluation and Research recently approved 50 new medicines and biological products. About 33 of the 50 novel medications and biological products authorized for use had tiny molecules, while 17 were monoclonal antibodies and other large molecules. However, the number of biological approvals has constantly increased during the past few years. Such huge approvals for drugs will drive the Market's growth.

-Further, the healthcare sector transitioned significantly due to the digital revolution over the past decade. Care delivery and

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system performance have been the best-demonstrated change enabled by innovation and integration. The next wave of revolt in healthcare is already laying the groundwork for a customer-driven business model as digital convergence makes it possible to seamlessly integrate new technologies such as AI, IoT, and ML.

-For instance, in June 2023, Dartmouth launched its Center for Precision Health and Artificial Intelligence (CPHAI), which is set to advance interdisciplinary research into how artificial intelligence (AI) and biomedical data can improve precision medicine and health outcomes. CPHAI's launch is supported by USD 2 million in initial funding from Dartmouth's Geisel School of Medicine and the Dartmouth Cancer Center. The center's research aims to improve public health and healthcare delivery while maintaining rigorous ethical standards for health AI. Such developments may further drive the studied market growth.

-Furthermore, AI and associated technologies are becoming increasingly common in business and society and are starting to be used in healthcare. These technologies could change many facets of patient care and internal administrative procedures at payer, provider, and pharmaceutical organizations. Healthcare services are constantly growing, and many nations need more healthcare professionals, particularly doctors. Healthcare organizations are likewise working hard to stay up with all the latest technological advancements and the high standards people have for service and results. Further, in November 2022, healthcare technology innovator ModMed announced the US government granted Patent No. 11,443,836, protecting some of the core functionality of its EHR system, a system designed to save clinicians time documenting exams and allowing them to focus more on the patient in front of them.

-AI is offering transformative opportunities for the life sciences industry. It is a crucial investment target in the coming years, with myriad organizations hoping to capitalize on its potential. The number of applications is expected to continue to increase, and investors are expected to enter the AI industry early. However, at the start-up stage, AI investment can pose a risk to a company's growth. Massive cash injections are required to launch robust AI products off the ground, and it is not a sector that can be monetized quickly or easily. Often, these products require R&D teams and specialist engineers in machine learning, which would come at a cost.

-Moreover, the COVID-19 pandemic influenced international politics and the economy. There weren't any particularly potent therapies or medications to treat the disease at the time. Therefore, developing unique techniques for early illness isolation, diagnosis, and treatment became essential. Artificial intelligence with multimodal data helped different segments of the healthcare industry to cater to the rapid disease outbreak by providing cutting-edge applications in disease, treatment, medicine, and target recognition during the pandemic.

Artificial Intelligence in Medicine Market Trends

Patient Management Application to Witness Significant Growth

- Patient management streamlines administrative tasks and stores patient records. It aims to enhance practice efficiency, deliver timely care, and improve patient knowledge and outcomes. This includes appointment scheduling, billing details, and patient diagnoses.

- The increasing availability of electronic health data and the methodological techniques to analyze data proposed the massive potential of AI and significant machine learning methods for offering better services at lower costs.

- Smart wearables play a critical role in transforming the current healthcare industry. For instance, they are utilized in heart rate monitoring, blood pressure monitoring, step counting, and many more. This develops data that must be examined and processed to provide interactive feedback. This is where AI comes in, as it enables quickly analyzing and processing data.

- The growing physician shortage continues as the Association of American Medical Colleges (AAMC) reports the United States could see a need for 37,800 to 124,000 doctors by 2034. Such a massive drop in the workforce in the healthcare enterprise demands improvements in patient management. AI can support and increase the productivity of healthcare providers while enhancing patient outcomes with the capacity to identify those at the most risk.

- In October 2022, Cerba, a specialty clinical pathology reference, announced a partnership with Taliuz, a digital health

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organization, to deliver physicians with an AI-driven precision psychiatry solution that indicates treatment usefulness in depression. The test helps physicians make the best therapeutic conclusion faster for their patients and can accelerate the recovery of people suffering from depression globally.

- Moreover, with the help of AI, certain aspects, such as biometric indicators, diet tracking, mental well-being, fitness tracking, and genomic screening, can be tracked in real time.

North America is Expected to Hold Significant Market Share

- The high adoption rate of AI technologies across healthcare and pharma, the substantial existence of prominent AI software and system suppliers, and the incorporated investment by government and private firms in the improvement and growth of research and development activities are anticipated to drive the Market's demand in the United States. Over time, the nation is expected to dominate the regional Market due to its increased infrastructure that can house advanced medical solutions. The increasing inflow of investments in startups for AI implementation would accelerate the studied market growth.

- The role of AI in assessing patients' condition and progress through multiple stages of illness attracted the awareness of healthcare professionals. This is the primary cause why real-time remote patient monitoring systems, apart from their benefits, can deliver a paradigm-shifting approach to healthcare advancement in the long term.

- Furthermore, the rising prevalence of chronic diseases in the region has contributed to the surge in demand for diagnosing and enhanced knowledge of diseases in their initial phases. According to International Diabetes Federation, in 2022 the number of diabetes patients is projected to reach 3,288.2 thousand by 2030 and 3,468.5 thousand by 2045. The diabetes

- high blood sugar caused by can damage caused by the nerves controlling the heart and blood vessels, leading to cardiovascular diseases like coronary artery disease and stroke.

- Various healthcare industry players have inspired AI technology since it can improve the service provided manifold. Access to data, collection of symptoms related to patients, and the communication of complementary treatments are the primary functions that require the highest integration of AI in the industry. For instance, in August 2022, PathAI expanded its AI-driven partnerships with BMS(Bristol Myers Squibb) to leverage AI-powered pathology in translational research and clinical trials. PathAI and BMS intend to leverage these models to gather crucial insights that would aid in boosting the segmentation of patients in clinical trials across various disease symptoms.

- As technology advances every aspect of health care, software incorporating AI, specifically the subset of AI known as machine learning, has become an essential part of increasing medical instruments. One of ML's most significant potential advantages resides in its ability to construct new and crucial insights from the vast amount of data developed daily in healthcare delivery.

Artificial Intelligence in Medicine Industry Overview

The overall competitive rivalry remains moderately high in the Market studied. The growing existence of big players in the industry is anticipated to intensify competitive rivalry during the projection period. Incumbents, such as IBM Watson Health, Atomwise Inc., etc., considerably influence the overall Market.

- June 2023- Stanford Medicine and Stanford Institute for Human-Centered Artificial Intelligence (HAI) launched Responsible AI for Safe and Equitable Health (RAISE-Health), intending to address critical ethical and safety issues regarding the technology. RAISE-Health will be co-led by Stanford School of Medicine Dean Lloyd Minor, M.D., and Stanford HAI co-director and computer science professor Fei-Fei Li, Ph.D. The two will establish a go-to platform for responsible AI in health and medicine, define a structured framework for ethical standards and safeguards, and regularly conduct expert discussions on the subject.

- September 2022 - AiCure announced its clinical site services program opening. The new program offers sites end-to-end,

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personalized support and monitoring of KPIs relating to adherence, compliance, data management, and use of technology among study participants. With this solution, AiCure provides research coordinators with proactive insights into their patient demographics to reduce risk across studies and improve workflows.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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