Artificial Intelligence in Diabetes Management Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Device (Diagnostic Devices, Glucose Monitoring Devices, Insulin Delivery Devices), By Technique (Case-Based Reasoning, Intelligent Data Analysis), By Region and Competition, 2020-2030F

Market Report | 2025-02-28 | 180 pages | TechSci Research

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Report description:

Global Artificial Intelligence in Diabetes Management Market was valued at USD 13.62 Billion in 2024 and is expected to reach USD 19.03 Billion by 2030 with a CAGR of 8.69% during the forecast period. The Global Artificial Intelligence in Diabetes Management Market refers to the use of artificial intelligence (AI) technologies in the management and treatment of diabetes. According to the IDF Diabetes Atlas (2021), 10.5% of adults aged 20-79 are affected by diabetes, with nearly half unaware of their condition. Projections by the IDF indicate that by 2045, 1 in 8 adults, or approximately 783 million people, will have diabetes-a 46% increase

AI has been increasingly employed in healthcare to enhance the accuracy and efficiency of diagnosis, monitoring, and treatment of various diseases, including diabetes. Managing diabetes involves monitoring various aspects of a patient's health, including glucose levels, blood pressure, and medication adherence. AI excels at integrating data from diverse sources, providing healthcare professionals with a comprehensive view of a patient's health. This integrated approach enables better decision-making and coordination of care, addressing the complexity of diabetes management in an increasingly prevalent population.

Key Market Drivers

Rising Diabetes Prevalence

Diabetes, often referred to as a global epidemic, has been steadily on the rise for several decades More than 90% of diabetes cases are type 2, driven by socio-economic, demographic, environmental, and genetic factors. Key contributors to the rise in type 2 diabetes include urbanization, an ageing population, reduced physical activity, and increasing rates of overweight and obesity. This alarming increase in diabetes prevalence presents a significant challenge to healthcare systems worldwide. However, it also

presents a unique opportunity for the development and adoption of Artificial Intelligence (AI) in diabetes management. With the growing number of individuals at risk of developing diabetes, early diagnosis and risk prediction have become critical. AI-powered algorithms can analyze vast datasets, including medical records and genetic information, to identify individuals at high risk of diabetes. This proactive approach allows healthcare providers to intervene early, potentially preventing or delaying the onset of the disease. As a result, the demand for AI-driven diagnostic tools and risk assessment models is on the rise.

Managing diabetes is not a one-size-fits-all approach. Each individual's response to treatment varies, making personalized treatment plans essential. AI algorithms can analyze a patient's unique health data, including glucose levels, medication history, and lifestyle factors, to create personalized treatment plans. These plans optimize medication regimens, dietary recommendations, and exercise routines, leading to better glycemic control. As diabetes prevalence increases, the demand for tailored, AI-driven treatment plans is set to grow. Continuous Glucose Monitoring (CGM) devices, integrated with AI algorithms, are revolutionizing diabetes management. These devices provide real-time data on blood glucose levels, allowing individuals with diabetes and their healthcare providers to make informed decisions about insulin dosages, diet adjustments, and exercise routines. As more people seek efficient and accurate ways to manage their diabetes, the demand for CGM solutions powered by AI is expected to surge.

The rise of telemedicine and remote monitoring solutions is closely tied to the increasing prevalence of diabetes. AI-enhanced telemedicine platforms enable healthcare providers to remotely monitor patients with diabetes, reducing the need for frequent in-person visits. This not only improves patient convenience but also ensures timely interventions and support. As the diabetic population continues to grow, so does the demand for convenient and accessible care, driving the adoption of AI in telemedicine.

Key Market Challenges

Data Privacy and Security Concerns

Data privacy and security are among the most significant concerns when implementing AI in diabetes management. AI systems in healthcare rely heavily on patient-specific data, including personal medical records, genetic information, and lifestyle details. The collection and analysis of such data are crucial for AI algorithms to deliver accurate predictions and treatment recommendations. However, the highly sensitive nature of this information makes it a target for cyber threats and breaches, which could severely compromise patient confidentiality. To mitigate such risks, healthcare organizations must adhere to stringent data protection regulations like the Health Insurance Portability and Accountability Act (HIPAA) in the U.S. or the General Data Protection Regulation (GDPR) in Europe, which impose strict rules on how patient data is collected, stored, and shared. Compliance with these regulations requires significant investment in cybersecurity infrastructure, legal expertise, and staff training. Moreover, patient consent and transparency about how their data is used become vital to maintain trust in AI systems. As healthcare organizations look to implement AI solutions, they must not only invest in secure data storage and transmission systems but also establish robust protocols for data access and usage, ensuring the ethical handling of sensitive health data. Balancing the need for AI to function effectively with stringent data protection requirements remains an ongoing challenge, one that requires continued attention to both technical and legal frameworks.

Key Market Trends

Rising demand for Predictive Analytics

The prevalence of diabetes is on the rise worldwide, creating an urgent need for more effective and efficient ways to manage this chronic condition. Predictive Analytics, when combined with Artificial Intelligence (AI), is emerging as a powerful tool in the field of diabetes management. Predictive Analytics utilizes AI algorithms to analyze extensive datasets, including patient health records, genetic information, and lifestyle factors. By identifying patterns and correlations, these algorithms can predict an individual's risk of developing diabetes or prediabetes. Early detection and risk assessment are crucial in combating the rising prevalence of diabetes, as they enable healthcare providers to intervene proactively and provide personalized preventive measures. In April 2023, Insulet Corporation announced FDA clearance for its latest innovation, the Omnipod GO, an insulin delivery device designed for individuals with type 2 diabetes aged 18 and older. This device offers a more convenient alternative to traditional injection methods for those who typically require daily long-acting insulin injections.

One of the critical challenges in diabetes management is tailoring treatment plans to individual patients. Predictive Analytics enhances the personalization of these plans by taking into account an individual's specific health metrics, medication history, dietary preferences, and activity levels. This precision in treatment recommendations improves patient compliance and ultimately

contributes to better glycemic control. Diabetes is associated with various complications, including neuropathy, retinopathy, and cardiovascular diseases. Predictive Analytics can analyze patient data to predict the likelihood of these complications developing. By identifying high-risk patients, healthcare providers can implement preventive measures, offer specialized care, and closely monitor those at risk, potentially reducing the incidence and severity of complications.

Managing diabetes often involves adjusting medication regimens. Predictive Analytics can analyze a patient's glucose trends and medication response over time. This data-driven approach enables healthcare providers to optimize medication dosages and types for each patient, reducing the risk of hypoglycemia and hyperglycemia episodes.The rise of tele health and remote monitoring is transforming diabetes care, and Predictive Analytics plays a pivotal role. These systems continuously collect patient data, including glucose levels, activity, and vital signs. AI-driven predictive models can analyze this real-time data to detect deviations from the norm, prompting timely interventions by healthcare providers. Remote monitoring offers convenience for patients and can help reduce the strain on healthcare systems. On a broader scale, Predictive Analytics can be used to identify trends and patterns in diabetes prevalence within specific populations. Public health organizations and policymakers can leverage this information to allocate resources, design targeted interventions, and implement preventive strategies. This population-level approach can contribute to reducing the overall burden of diabetes. In the realm of diabetes research, Predictive Analytics is invaluable. It can analyze vast datasets from clinical trials to identify potential biomarkers, treatment responses, and patient subgroups. This information accelerates the development of new therapies and interventions for diabetes management.

Key Market Players

- Vodafone Group PLC
- Apple Inc
- Google Inc
- International Business Machines Corporation (IBM)
- Glooko Inc
- Tidepool Inc

Report Scope:

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

- Artificial Intelligence in Diabetes Management Market, By Device:
  - Diagnostic Devices
  - Glucose Monitoring Devices
  - Insulin Delivery Devices
- Artificial Intelligence in Diabetes Management Market, By Technique:
  - Case-Based Reasoning
  - Intelligent Data Analysis
- Artificial Intelligence in Diabetes Management Market, By Region:
  - North America
    - United States
    - Canada
    - Mexico
  - Europe
    - Germany
    - United Kingdom
    - France
    - Italy
    - Spain
  - Asia-Pacific
    - China
    - Japan

- India
- Australia
- South Korea
- South America
- Brazil
- Argentina
- Colombia
- Middle East & Africa
- South Africa
- Saudi Arabia
- UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Artificial Intelligence in Diabetes Management Market.

Available Customizations:

Global Artificial Intelligence in Diabetes Management 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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