

Trends in the Healthcare Business Intelligence

Santa Pildava, Senior Business Analyst

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TOP 3 TRENDS – KEY TAKEAWAYS

01

- Healthcare organizations are increasingly adopting cloud BI solutions for their scalability, remote accessibility, and cost efficiency, enabling faster data integration across departments

02

- Advanced BI tools now incorporate AI and machine learning to support early diagnosis, patient risk stratification, and outcome forecasting, driving data-driven clinical decisions.

03

- The demand for real-time dashboards and self-service BI tools is rising, allowing clinicians and administrators to independently analyze performance metrics and improve response times.

Executive Summary (1)

Statement	Explanation
The global healthcare business intelligence market size was estimated at USD 9.92 billion in 2024	The global healthcare business intelligence market size was estimated at USD 9.92 billion in 2024 and is projected to grow at a CAGR of 13.7% from 2025 to 2030. The market growth is attributed to the increasing adoption of data-driven decision making, and increasing government initiatives focused on promoting EHR adoption, which drives market growth.
The software segment held the largest revenue share in 2024	On the basis of component, the software segment held the largest revenue share in 2024 and is anticipated to grow at the fastest rate over the forecast year. The business intelligence software allows administrators to track critical performance that analyzes, manages, and helps organizations adapt their performance based on accurate data and analytics-based insights.

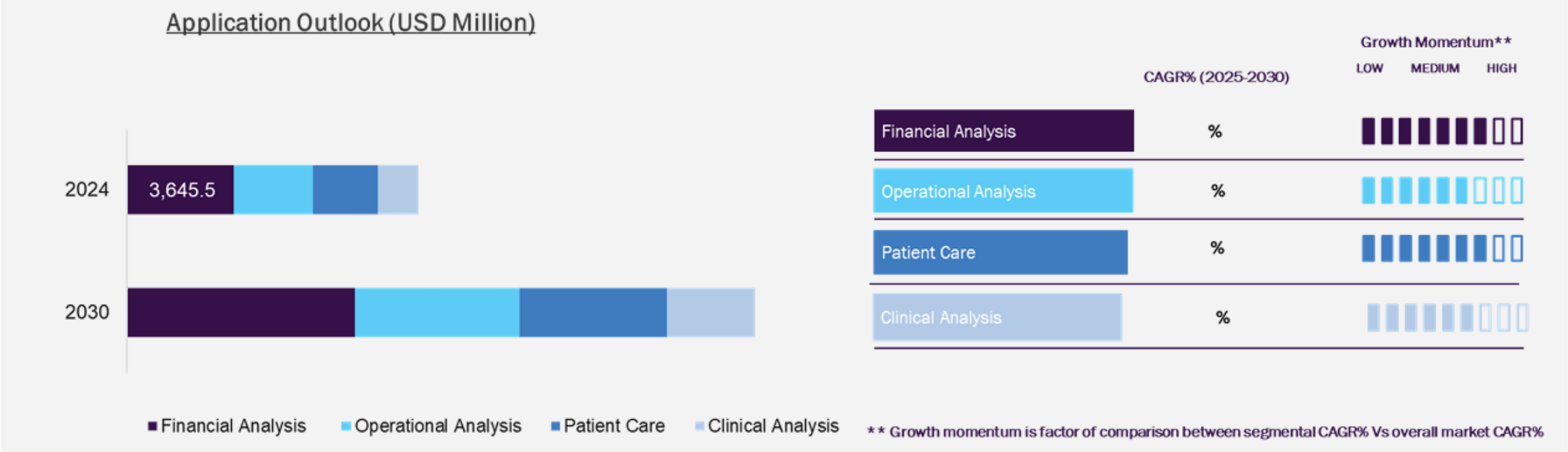
Executive Summary (2)

Statement	Explanation
The cloud-based segment accounted for the largest revenue share of over 48.30% in 2024.	On the basis of the mode of delivery, the cloud-based segment held the largest revenue share of over 48.30% in 2024 and is anticipated to grow at the fastest growth rate over the forecast year. Cloud computing enables ample storage and processing power by allowing extensive data operations. The increased adoption of cloud-based BI tools owing to properties such as agility and accessibility is fueling market growth .
The financial analysis segment dominated the market with the largest revenue share in 2024.	On the basis of application, the financial analysis segment held the largest revenue share of over 36.76% in 2024. It offers multiple functionalities, such as cost, cash flow, claims, and sales and profitability management. The increased adoption of financial analytic software among the providers for managing revenue cycle, risk assessment, and claims processing is propelling market growth.

Executive Summary (3)

Statement	Explanation
The payers segment dominated the market with the largest revenue share in 2024.	On the basis of end use, the payers segment held the largest revenue share of over 38.55% in 2024. The increased need to optimize provider networks, adopt various healthcare BI tools to reduce operational costs, and increase competition among payers efficiently is propelling market growth.
The key players in the market include Microsoft, Oracle, SAP, and Salesforce, Inc. among others	Key participants in the healthcare business intelligence market focus on developing innovative business growth strategies, such as product portfolio expansions, partnerships and collaborations, mergers and acquisitions, and new product launches. For instance, in August 2024, Exdion Health introduces a new platform in its AI technology suite, designed to deliver real-time business intelligence and actionable analytics...

Application Outlook



Source: WHO, U.S. CDC, FDA, NIH Journals, Investor Presentations, Primary Interviews, Grand View Research Analysis

Gartner: Key Healthcare BI trends (1)

Statement	Explanation
Growing Demand for Data-Driven Healthcare	<ul style="list-style-type: none">Healthcare providers are increasingly relying on BI platforms to improve clinical outcomes, operational efficiency, and patient experience.There is a strong focus on integrating clinical, financial, and operational data into unified dashboards.
Self-Service and Augmented Analytics	<ul style="list-style-type: none">Gartner highlights the shift toward self-service analytics where clinicians, administrators, and managers can independently explore data without heavy IT involvement.Qlik Sense is noted for its augmented analytics and AI-powered insights, which make it easier for healthcare professionals to identify trends in patient care, costs, and resource utilization.
Data Integration and Interoperability	<ul style="list-style-type: none">A persistent challenge in healthcare BI is combining data from multiple sources (EHRs, labs, financial systems, patient monitoring devices).Qlik Sense is valued for its strong ETL capabilities and associative data model, enabling healthcare organizations to link disparate datasets and uncover hidden insights.

Gartner: Key Healthcare BI trends (2)

Statement	Explanation
Real-Time Analytics and Decision Support	<ul style="list-style-type: none">• Real-time dashboards are gaining importance in hospital management, bed occupancy, emergency care, and patient flow monitoring.• Qlik Sense supports streaming data and interactive dashboards, making it a fit for healthcare use cases that require timely decisions.
Focus on Patient Outcomes and Value-Based Care	<ul style="list-style-type: none">• BI tools are being adopted to measure and report on Key Performance Indicators (KPIs) such as:<ul style="list-style-type: none">○ Readmission rates○ Average length of stay○ Cost per patient episode○ Quality and safety metrics• Qlik Sense provides visual KPI tracking that helps healthcare leaders align with value-based care models.

Qlik Sense in Healthcare – Use Cases & Examples (1)

Statement	Explanation
Hospital Operations	<ul style="list-style-type: none">• Optimization of bed usage and staff allocation using real-time dashboards.• Example: Hospitals use Qlik Sense to track patient flow from ER to discharge, ensuring efficient use of resources.
Clinical Outcomes	<ul style="list-style-type: none">• Analysis of chronic disease management (e.g., diabetes, cardiovascular conditions) by integrating lab results, treatment adherence, and outcomes.• Supports population health management initiatives.
Financial & Administrative Analytics	<ul style="list-style-type: none">• Tracking billing, reimbursement, and DRG-based payments.• Qlik Sense helps CFOs and administrators identify revenue leakages and manage costs more effectively.

Qlik Sense in Healthcare – Use Cases & Examples (2)

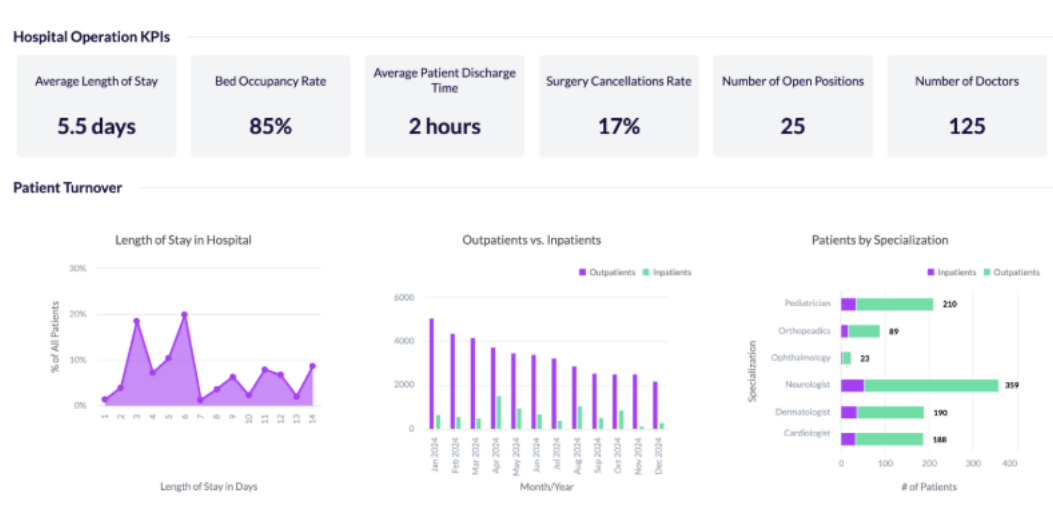
Statement	Explanation
Public Health & Research	<ul style="list-style-type: none">• Integration of registry data (e.g., cancer, rare diseases) for epidemiological studies.• Example: Using Qlik to analyze COVID-19 patient pathways and resource allocation.
Quality & Safety Monitoring	<ul style="list-style-type: none">• Monitoring compliance with clinical guidelines, infection control, and safety indicators.• Example: Dashboards that alert staff about anomalies in infection rates or treatment delays.

Gartner: Key Takeaways

- **Trend:** Healthcare BI is moving towards **AI-driven, self-service, and real-time analytics.**
- **Qlik Sense** stands out for its:
 - Strong **data integration and associative model**
 - **AI/ML-powered insights** for clinicians and administrators
 - Wide applicability across **clinical, operational, financial, and research use cases**
- **Use Cases:** Patient flow optimization, chronic disease management, DRG financial tracking, public health research, and quality monitoring.

Trending topic

Real-time dashboard



Predictive analytics



Predictive Analytics in Healthcare

Predictive analytics uses historical and real-time data to identify potential health issues early. Key applications include:

- **Early Disease Detection**
ML models analyze medical records, lab results, and genetic data to detect diseases like cancer, diabetes, and heart conditions early, improving diagnostic accuracy
- **Patient Risk Assessment**
ML predicts patient risks based on factors like age, medical history, and lifestyle, helping identify high-risk patients for early intervention and reducing readmissions
- **Hospital Resource Management**
ML forecasts patient admissions, staffing needs, and resource allocation, optimizing hospital operations and improving patient care

Predictive Analytics in Healthcare

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Early Disease Detection

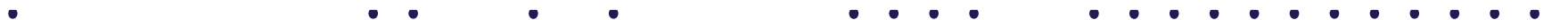


Patient Risk Assessment



Hospital Resource Management

<https://www.biostatistics.ca/predictive-analytics-in-healthcare-uses-and-benefits/#:~:text=In%20summary%2C%20predictive%20analytics%20is%20transforming%20healthcare%20by%20enabling%20more,operational%20efficiency%20across%20healthcare%20systems.>



Predictive Analytics in Healthcare

Use cases (1)

- Geisinger Health has used predictive analytics to predict sepsis outcomes by analyzing records from over 10,000 patients. This capability enables earlier interventions, significantly improving treatment success rates.
- **Treatment analytics** - BI tools process large datasets to uncover treatment efficiency trends for different patients, track medication adherence, and identify which treatments yield the best results. All to optimize care strategies and **get better therapy success rates**. [NHS Wales](#) is a testament to BI's efficiency in this area. For several years, the provider has used BI to compare patient-reported outcomes against clinical ones, visualize findings, and **gain insight into which treatment options work best**.
- **Healthcare management analytics** - BI platforms help providers optimize scheduling, resource allocation, and patient flow. These systems scan the historical data and predict peak times for patient demand. This way, the management can be sure **staffing and resource levels will always match the needs**. For several years now, doctors and nurses at [Johns Hopkins Hospital](#) have been using BI to monitor patient flow data in the emergency department and **managed to cut unnecessary patient stays**.
- **Asset management** - Hospitals use BI to track reusable and disposable healthcare assets, medical equipment, medications, and inventory. BI apps **receive asset data in real-time and help plan procurement**, see asset usage trends, reduce equipment downtime, and come up with timely maintenance schedules. So, healthcare professionals can get everything they need when they need it.
- **Billing and financial analytics** - BI is a way for healthcare providers to **keep track of their billing processes**, revenue cycles, and payer reimbursements. The advanced solutions analyze claims data, payments, outstanding balances and highlight inefficiencies, errors, and bottlenecks that could've remained unnoticed otherwise.



Predictive Analytics in Healthcare

Use cases (2)

- **Preventing readmissions** - Healthcare predictive analytics can identify patients with traits indicating a high possibility of readmission so that doctors can allocate additional resources for follow-ups and personalize discharge protocols to prevent a quick turnaround.
- **Forecasting appointment no-shows** - Predictive analytics in healthcare can improve cost efficiency by allowing hospitals and private clinics to forecast which patients are likely to skip appointments without prior notice. Consequently, they can prevent revenue loss and increase provider satisfaction. A team of researchers cooperated with Doctor Luis Calvo Mackenna Hospital, a pediatric facility in Chile, which reported a high no-show rate of 29%. The researchers used healthcare predictive analytics and ML to process patient data, such as demographics and social conditions, to spot patients prone to no-shows and call them with a reminder. During the eight-week experiment, the researchers managed to reduce no-shows by 10.3%.



Challenges of implementing predictive analytics

- **Gaining doctors' acceptance** - Healthcare providers are finding themselves in constant need to advance their computer skills. And with predictive analytics, they will not only need to access dashboards but also keep capturing and processing patient data. It can be hard to find the balance between patient care and data collection during appointments.
- **Ethics and moral hazards** - People are more likely to engage in risky behavior when they know someone's got them covered. This is what we observe in healthcare settings where some doctors may rely excessively on predictive analytics for decision-making, under the assumption that these tools bear the responsibility for outcomes.
- **Algorithmic bias and lack of regulations** - There are several [types of algorithmic bias](#) that can affect a model's performance on particular datasets.
- **Model explainability** - Many powerful healthcare predictive analytics models have a black-box architecture, meaning they don't explain how they produce their output. This approach is acceptable in administrative matters, such as predicting which insurance claims will be declined. But doctors will not take any recommendation that affects patients' well-being without understanding the motives.



Big Data in Healthcare

Future Growth Prospects

The Big Data in Healthcare market is expected to continue its strong growth trajectory, with analysts predicting a **compound annual growth rate (CAGR) of over 16.5% from 2023 to 2032**. This growth is fueled by several factors:

- 1. Increasing Healthcare Digitization:** As healthcare systems around the world transition to electronic health records (EHR) and other digital systems, the amount of healthcare data being generated continues to surge, presenting an enormous opportunity for Big Data analytics to derive insights.
- 2. Rising Demand for Personalized Medicine:** With the shift toward more personalized, precision-based medicine, healthcare providers are increasingly relying on data analytics to tailor treatments to individual patients, opening up new applications for Big Data technologies.
- 3. Healthcare Cost Optimization:** Big Data has the potential to significantly reduce healthcare costs by identifying inefficiencies in hospital operations, enabling more accurate diagnoses, predicting disease outbreaks, and improving patient care protocols.
- 4. Technological Advancements in AI and ML:** The rapid development of AI and machine learning algorithms is enabling more efficient and accurate analysis of healthcare data, further enhancing the capabilities of Big Data solutions.

<https://www.linkedin.com/pulse/big-data-healthcare-market-grow-165-cagr-2032-ronny-white-kennf/>



Big Data in Healthcare

Opportunities	Drivers	Restraints	Trends
<p>Predictive Analytics for Disease Prevention: Big Data can be leveraged to predict the onset of chronic diseases like diabetes, heart disease, and cancer, helping in early diagnosis and preventive measures.</p>	<p>Improvement in Data Analytics Tools: The development of sophisticated data analytics tools that can process unstructured data such as medical images, clinical notes, and genomics data is driving market expansion.</p> <p>Rising Adoption of Cloud Computing: The shift toward cloud-based platforms allows healthcare organizations to store and process vast amounts of data without significant infrastructure investments, making Big Data more accessible and cost-effective</p>	<p>Data Integration Issues: Healthcare data is often stored in siloed systems, making it difficult to integrate disparate data sources and achieve a unified view of patient information. Overcoming interoperability challenges is a key hurdle in unlocking the full potential of Big Data.</p> <p>Lack of Skilled Workforce: There is a shortage of professionals skilled in data science, AI, and machine learning within the healthcare industry. This shortage may hinder the implementation of Big Data solutions in certain regions.</p> <p>Data Privacy and Security Concerns: The healthcare industry is a prime target for cyber-attacks, and ensuring the privacy and security of patient data is paramount. Many healthcare organizations are concerned about the potential risks of data breaches and the regulatory requirements for data protection</p>	<p>Artificial Intelligence and Machine Learning: AI and ML are being increasingly integrated into healthcare analytics to provide real-time insights, automate processes, and predict health outcomes with higher accuracy.</p> <p>Real-Time Data Analytics: The use of real-time analytics is gaining traction, especially in critical care settings, where immediate insights can significantly impact patient outcomes.</p> <p>Patient-Centric Solutions: There is a growing focus on patient-centered care, where Big Data is used not only to enhance clinical decision-making but also to provide personalized care experiences based on patient preferences, genetics, and historical data.</p>



Top 12 insight in healthcare

The top 12 transformative insights in healthcare.

More than 3000 healthcare organizations rely on Qlik® to uncover insights that lead to transformation. Many of them use one, several, or all of these 12 high-impact solutions:

- 1 **Clinical Variation >**
- 2 **Predictive LOS and Readmissions >**
- 3 **Revenue Cycle Management >**
- 4 **Operating Room and Emergency Department Flow >**
- 5 **Population Health >**
- 6 **Labor Productivity/ Workforce Analysis >**
- 7 **Clinical Documentation Improvement (CDI) >**
- 8 **Pharmacy Supply Chain and Medication Use >**
- 9 **Clinical Quality >**
- 10 **Care Transitions and Coordination Population Health >**
- 11 **Patient Experience and Engagement >**
- 12 **Executive Dashboard >**

THE iNFOTRUST

Santa Pildava, Senior Business Analyst

Contacts:

s.pildava@theinfotrust.com

<https://theinfotrust.com>