

Orthopedic Software Market Assessment, By Product [Preoperative Planning Software, Orthopedic Electronic Health Record, Orthopedic Practice Management, Orthopedic Picture Archiving and Communication Systems, Orthopedic Revenue Cycle Management, Others], By Deployment Mode [Cloud-based, On-premises], By Application [Surgical planning, Rehabilitation Management, Telemedicine, Implant design and customization, Others], By End-user [Hospitals, Specialty Clinics, Others], By Region, Opportunities and Forecast, 2017-2031F

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# Report description:

Orthopedic software market is projected to witness a CAGR of 6.69% during the forecast period 2024-2031, growing from USD 401.3 million in 2023 to USD 673.69 million in 2031. Various factors, such as the increasing aging population, a significant rise in the prevalence of musculoskeletal disorders, higher demand for orthopedic software in healthcare facilities, technological advancements, and increased adoption rate of electronic health records within hospitals and other healthcare facilities drive growth in the global orthopedic software market. Increased application of orthopedic software in orthopedic surgeries and continuous research and development to bring innovative and advanced orthopedic software solutions further accelerate growth in this market.

Growth in the global orthopedic software market is also driven by the growing elderly population worldwide, increasing vulnerability towards musculoskeletal disorders such as arthritis, bursitis, and scoliosis. This, in turn, has led to a higher demand for orthopedic software to improve patient outcomes by streamlining workflow for healthcare professionals. Technological advancements, such as the integration of AI to enhance and speed up the workflow system and continuous research and

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development by leading market players to bring innovative and advanced orthopedic software solutions further accelerate the market growth. The presence of several top players and the frequent developmental strategies like mergers, acquisitions, and collaborations accelerate the growth of the global orthopedic software market.

Growing adoption of orthopedic software, such as electronic health records, in hospital settings to manage patient records efficiently and ensure accurate medical documentation of medical history, treatment, and outcome are supporting the market growth. Increased application of orthopedic software in orthopedic surgery to assist orthopedic surgeons in planning surgical procedures, as well as providing virtual assistance during surgeries, is also escalating the growth of this market. Moreover, increased investments by public and private organizations to increase research and development and bring innovative orthopedic software launches are accelerating the market growth.

For instance, in November 2023, Thoma Bravo, a leading software investment firm, announced the acquisition of NextGen Healthcare, Inc., known for its innovative, cloud-based healthcare technology solutions, such as orthopedic software. This strategic acquisition would help the company develop orthopedic solutions, such as electronic health records and practice management software, to facilitate the healthcare system and improve the overall patient experience.

Increasing Prevalence of Musculoskeletal Conditions

The need for orthopedic software is increasing due to the rising geriatric population that is more prone to developing musculoskeletal disorders such as arthritis, spinal abnormalities, fractures, and joint discomfort and inflammation. Orthopedic software assists healthcare professionals in multiple areas, such as interpreting medical images to accurately diagnose musculoskeletal conditions and planning surgical procedures. The continuous rise in the aging population in developed and developing countries ensures a sustained market for orthopedic software. For instance, according to the World Health Organization, in the year 2022, 1.71 billion individuals worldwide suffered from musculoskeletal disorders. It also states that the primary causes of disability globally are musculoskeletal disorders, which include osteoarthritis, rheumatoid arthritis, and traumatic fractures. These ailments impair joint movement and stability and produce excruciating pain, which leads to increased demand for orthopedic treatments. Due to this, the demand for orthopedic software is increasing significantly to provide an efficient workflow system and enhance communication and collaboration among healthcare professionals and patients, leading to a satisfactory patient experience. Moreover, the increased adoption rate of orthopedic software to cater to the needs of this growing population suffering from musculoskeletal conditions is further leading to the growth of the global orthopedic software market.

#### **Technological Advancements**

Technological advancements in orthopedic software are crucial in enhancing the medical workflow system in healthcare settings. Technological advancements, such as utilizing 3D printing technology to create anatomical models for surgical planning, implementing AI algorithms for image analysis, providing an automated platform for efficient workflow, and launching cloud-based solutions for easy medical data sharing and facilitating seamless access to patient records, are increasing the demand for orthopedic software globally. Due to these potential benefits, several leading players are launching AI-based orthopedic software in their product portfolio.

For instance, in May 2023, Formus Labs, which is a leading provider of cutting-edge orthopedic solutions, announced that it had received 510(k) clearance from the United States Food and Drug Administration (FDA) for its latest Al-based orthopedic software, "Formus Hip." It is the company's first "automated radiological image processing software" that works on pre-operative planning technology and assists surgeons in creating personalized patient surgical plans beforehand to improve patient outcomes. These innovative technological advancements in orthopedic software led to the market's growth.

Growing Demand for Advanced Electronic Health Record Systems

Among the product segment, orthopedic electronic health record (EHR) holds the highest share in the overall orthopedic software market. As the healthcare industry grows, the application of electronic systems, such as electronic health records, for efficient, coordinated, and patient centric care is also increasing. EHR systems assist orthopedic practitioners to manage patient's medical data, create efficient treatment plans, facilitate better patient coordination, and help reduce time consuming paperwork. Due to this, many key market players are integrating EHR systems into their orthopedic solutions product portfolio and bringing advancements in their existing EHR systems.

For instance, in September 2023, the Georgian Bay Information Network (GBIN), which is a partnership of six Ontario healthcare

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organizations, announced an advancement in its existing electronic health record by creating a single, centralized patient record across multiple sites in the region. This integration will increase productivity, enhance care coordination, improve patient care decisions, and reduce the administrative burden on healthcare providers. This widespread adoption of EHR systems within healthcare facilities is further propelling the global orthopedic software market.

Growing Product Applications in Orthopedic Surgery

Among the application segments, orthopedic software is majorly used in orthopedic surgeries. Orthopedic software assists surgeons in preoperative planning, guides them during surgery by providing real-time feedback on instrument positioning, improves surgical precision and outcomes, and provides overall efficiency in orthopedic surgeries. Moreover, orthopedic software assists in postoperative monitoring by tracking recovery, rehabilitation progress, and creating records for follow-up, which further improves surgical outcomes among the patients. Due to this, key market players frequently launch innovative orthopedic software to fulfil the increasing demand in orthopedic surgery.

For instance, in July 2023, Stryker, which is a global leader in medical technology, announced the launch of an advanced surgical planning and guidance software "Ortho Q Guidance system", for various orthopedic surgeries such as hip and knee surgical procedures. This guiding system uses a smart, streamlined workflow to assist in planning and providing intraoperative guidance, further enhancing knee and hip surgical procedures' speed and efficiency.

North America Dominates the Orthopedic Software Market

North America holds the maximum share in the global orthopedic software market due to its well-developed healthcare infrastructure and the availability of technologically advanced software systems. Increased prevalence of musculoskeletal disorders like arthritis in the United States have facilitated the demand for orthopedic treatment, further enhancing the application of orthopedic software within healthcare facilities. Due to these factors, there is an increased investment by leading players in this region. For instance, in July 2023, Thoma Bravo, which is a leading software investment firm and a provider of cloud-based healthcare technology solutions, such as electronic health record (EHR) and practice management (PM) solution, announced its collaboration with American Podiatric Medical Association (APMA). This collaboration will enhance the use of EHR and PM software in APMA in orthopedic care. These frequent partnership activities within the region is leading to the growth of orthopedic software market in North America.

Future Market Scenario (2024 ☐ 2031F)

The demand for orthopedic software in the orthopedic industry is expected to rise in the future due to several factors. One of the primary factors include a rising aging population and the increasing prevalence of musculoskeletal conditions like osteoarthritis, rheumatoid arthritis, fractures, and joint inflammation. The market growth is further supported by technological breakthroughs, such as the incorporation of artificial intelligence (AI) into orthopedic software, to improve the workflow system for orthopedic treatment. Increased adoption rate of orthopedic software in healthcare settings, ongoing product releases by industry leaders, and frequent collaboration activities, including mergers and acquisitions and partnership agreements, are other factors accelerating growth in the global orthopedic software market.

Key Players Landscape and Outlook

Leading players in the global orthopedic software market actively engage in mergers and acquisitions. These strategic collaborations focus on consolidating market presence, enhancing technological advancements and providing innovation in product launches. Mergers allow firms to leverage synergies and resources to develop and introduce cutting-edge solutions. Acquisitions provide entry into new markets, fostering competitive edges. Such actions further lead to the flourishing growth of the market. For instance, in January 2024, Orthofix Medical Inc., which is a leading company dealing with spine health and orthopedics, announced that it had signed an agreement with MRI guidance, a Dutch medical imaging software company, to distribute its BoneMRI imaging software in the U.S market. BoneMRI is a completely radiation-free preoperative imaging and spinal navigation system that provides faster, safer, and more efficient spinal procedures. This partnership will further enhance Orthofix medical's product portfolio of orthopedic solutions and expand its reach in the United States market.

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