United States Radiotherapy Devices Market Assessment, By Product [External Beam Radiation Therapy Device, Internal Beam Radiation Therapy Device, Others], By Application [Lung Cancer, Breast Cancer, Prostate Cancer, Head and Neck Cancer, Others] By End-user [Hospitals, Ambulatory Surgical Centers, Cancer Care Centers], By Region, Opportunities and Forecast, 2017-2031F

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Report description:

United States radiotherapy devices market is projected to witness a CAGR of 8.70% during the forecast period 2024-2031, growing from USD 2.56 billion in 2023 to USD 4.99 billion in 2031. The market growth is supported by increasing funding in research and development, technological advancements in radiotherapy, rising incidences of cancer in the country, growing awareness related to cancer therapies, and rising innovations in cancer treatments.

The United States radiotherapy devices market is growing as there has been an increase in healthcare expenditure that fuels the expansion of medical facilities and the widespread inclusion of advanced medical technologies. In January 2024, a researcher at Wright State University received a federal grant of around USD 3.0 million from the National Institute of Health (NIH) for head and neck cancer research, demonstrating the increased investment in the field of cancer research in the region. Innovative radiotherapy technologies are increasingly used in hospitals, surgical, and cancer treatment centers. These technologies, especially intraoperative radiation therapy, are being incorporated by surgical centers. Intraoperative radiation therapy is the approach that delivers higher radiation doses during surgery and helps in targeting localized tumors with minimal damage to healthy tissues surrounding them. This advancement has greatly improved treatment options and catapulted growth in the United States radiotherapy market. For instance, in January 2024, Providence Swedish Radiosurgery Center in Seattle enhanced its capabilities by acquiring a second-generation advanced radiation delivery device, CyberKnife S7 System, from Accuray Incorporated. The system provides maximum precision in the treatment of neurological conditions. This new technology will improve the stereotactic radiosurgery (SRS) and stereotactic body radiation therapy (SBRT) capabilities of the hospital.

Furthermore, market players are working towards developing advanced technology and setting up training centers for enhanced skill-building in new treatment techniques. For instance, in September 2023, Accuray Incorporated launched the Accuray Center for Education in Madison, Wisconsin. The facility features several Accuray radiation therapy systems throughout the center, where all educational services are delivered. The center offers diverse training formats that equip health professionals with significant knowledge, contributing to expanding the market for radiotherapy devices in the United States.

Increasing Fundings Support Market Expansion

Increased funding in the United States further aids the radiotherapy devices market, mainly through increased innovation and enhanced treatment capabilities. The funds provided by the government as well as private investments in such philanthropic contributions are put into research and development for emerging advanced radiotherapeutic technologies. For example, high funding in cancer research allows institutions to develop more effective and accurate treatment apparatuses. This financial input promotes increased collaboration between universities and industries, thus hastening the acceptance of new technologies into clinical practice. An increased investment in research fuels the growth of the market. In May 2024, the University of Pennsylvania was awarded a USD 12.3 million NIH grant to study proton FLASH in radiation oncology based on previous preclinical work. Early research in rodents shows FLASH radiation can significantly decrease some side effects, improve survival, and improve the effectiveness of treatments. Such technologies may lead to significant growth in the radiotherapy devices market in the United States through new therapies.

Technological Advancements Boost Market Growth

Technological advancements drive the growth of the US radiotherapy devices market, fostering the development of more precise, impactful treatment options. Advanced imaging techniques, robotic-assisted delivery systems, and personalized treatment planning help clinicians precisely locate the tumors at the lowest doses possible while conserving adjacent healthy tissues within and around the tumor. Moreover, artificial intelligence tools could assist in treating a patient and optimizing treatment. Besides, new radiotherapy devices such as proton therapy and stereotactic radiosurgery systems have been introduced to provide quality patient care. Medical facilities are upgrading with the latest technologies to improve their patient care. Given that these latest technologies are being implemented in hospitals, the aggregate use of radiotherapy devices in the United States is growing. For instance, in September 2024, at the American Society for Radiation Oncology conference, GE HealthCare Technologies Inc. displayed Intelligent Radiation Therapy (iRT) and Revolution RT systems, MIM Maestro and Contour ProtegeAI+ software, and RT StarGuide, which can be used to enhance precision in treatment with good results on patient outcomes in the field of radiation oncology.

External Beam Radiation Therapy Device Hold Major Market Share

External Beam Radiation Therapy Device (EBRT) currently has the largest market share in the radiotherapy market, estimated in 2024. In this modality, it is possible to utilize the most advanced technologies available today, such as linear accelerators and proton therapy devices, to deliver highly precise yet noninvasive radiation treatment that causes virtually minimal damage to adjacent tissues. Hospitals and clinics in the United States are increasingly adopting Linear accelerators because of their flexibility and reliability. Leading companies strive to make the external beam radiation therapy system more affordable by reducing the price, making it easier to use by improving its flexibility, and dissipating less power. These developments help clinicians minimize the time spent in patient repositioning to decrease the overall treatment time and chances of movement of patients during the process. The current trend is supported by increasing cancer incidence cases in the United States and by growing regulatory approvals of new, innovative devices for radiotherapy.

For instance, in September 2024, LinaTech, Inc. at the American Society of Radiological Oncology showcased its latest FDA-approved VenusX Linear Accelerator. The VenusX is designed for speed, completing many cases in under 5 minutes and complex cases in under 8 minutes, representing the ability to treat 120-160 patients in one day. It represents a leap ahead of current capabilities for an orthogonal multi-leaf collimator, which represents the precision for specialized treatments targeting cancer patients. Additionally, the growing awareness among the general population about zoonotic diseases also supports the segment's growth.

Hospitals Account for Significant Market Share

Hospitals hold a significant market share in the United States radiotherapy devices market. This dominance is attributed to their comprehensive cancer care capabilities, advanced treatment options, and multidisciplinary collaboration among healthcare

professionals. Various cancer treatments, such as external beam radiation therapy and brachytherapy, are enhanced by hospitals due to the central setting provided for the patient. For instance, in August 2024, Halifax Health Care Systems, Inc. (Halifax Health) in Florida became the first medical facility in the United States to apply the Accuray Radixact Radiation Delivery System with VitalHold technology for cancer patients. One such example is the mix of high-tech imaging and adaptive delivery technologies that Halifax Health offers, yet how hospitals always embrace modern solutions to further cement their position as the best choices for effective treatment plans against the disease.

Future Market Scenario (2024-2031F)

The key market trends in the United States are expected to drive the growth of radiotherapy during the forecast period. The rising trend for personalized medicine is also influencing an increase in the demand for advanced tailored radiotherapy according to the patient's specific needs. Innovation in IGRT and adaptive radiotherapy is enhancing precision, and through its development into treatment planning, AI can smooth the effects. In addition, advancements in real-time tumor tracking and automation of workflows are being increasingly incorporated to enhance efficiency, which, in turn, would drive crucial market expansion during the period under consideration.

The advancement in radiotherapy devices in the United States will come from the increased use of proton therapy. Proton therapy has targeted treatment without causing bad side effects compared with other types of treatments. Many cancer centers are increasingly adopting proton therapy in the United States. For instance, in July 2022, McLaren Proton Therapy Center at the Karmanos Cancer Institute in Michigan was the first to introduce Leo Cancer Care's upright treatment technology to patients. Under the landmark agreement, two units of innovative upright technology have been installed at the center. Similarly, in October 2023, Ion Beam Applications S.A. signed a total system restoration on its proton therapy installation with Mass General Cancer Center. This will aid Mass General Cancer Center deliver advanced cancer treatment to cancer patients.

Key Players Landscape and Outlook

Collaborations and partnerships among market players drive innovation and enhance product availability in the United States radiotherapy devices market. Many such collaborations have taken the form of joint ventures for technology exchange, mergers and acquisitions to improve capabilities, and several other research collaborations to develop advanced therapies. All of these establish innovation and yield competitive advantages while driving growth for the overall market.

In June 2024, Accuray Incorporated partnered with TrueNorth Medical Physics LLC to further improve third-party support for radiation oncology departments. With this partnership, care teams have more flexibility in acquiring the necessary resources to enhance the treatment of cancer patients. Accuray Incorporated again takes the lead in the United States radiotherapy devices market through this partnership.

In April 2022, Elekta AB (Elekta), and GE HealthCare Technologies Inc. (GE) entered a global commercial partnership in radiation oncology. As a result of this partnership, the complete system of integrated imaging and treatment options for cancer patients in hospitals will be available. Both companies can face increasing demand for radiotherapy across several markets using flexible and compatible technologies from Elekta and GE.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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