

Advancing Sustainable Health Care Development with Radiotherapy Innovations

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Non-communicable diseases are a global epidemic. Each year, NCDs cause the death of 16 million people under the age of 70,¹ and cancers are at the core of this crisis.

In 2012, health professionals diagnosed 14 million new cases and recorded 8.2 million cancer-related deaths.² With annual cancer cases expected to explode to 22 million over the next two decades,³ innovations in medical technologies, such as radiotherapy, must be allowed to contribute to the reduction of these preventable deaths. The very idea of sustainable health systems relies on the reduction of the morbidity and mortality caused by preventable and treatable diseases.

A cancer diagnosis no longer necessitates surgery or chemotherapy. Around 40% of cancer patients are now treated with radiotherapy, either as an isolated treatment option or in conjunction with other methods.⁴ Treating with radiotherapy has long been established as an effective method of eliminating cancerous cells, however, innovations in radiotherapy now provide patients with treatment options that can drastically reduce side effects and toxicity, preserving quality of life.

Leading Edge Technologies

No two patients or cancers are identical, and treatments must reflect this reality. Treatments customized for each patient allow for faster planning and better outcomes with each treatment. By precisely targeting tumors, systems can deliver a maximum dose of radiation directly to the tumor while minimizing radiation to nearby healthy organs and tissues.

Compared to alternative treatments that can consist of 40-45 sessions of radiation therapy, precise treatments can be effectively completed in 1 to 5 sessions, with little to no side effects, and no hospitalization. Furthermore, the reduced number of required treatments also results in cost effectiveness, with specialized treatments, such as the Accuray CyberKnife® System, reducing medical costs by an average of 34 percent per patient when compared to surgery⁵.

The benefits of these treatment technologies are stressed



Nataša Hacin McDowell of Slovenia, was diagnosed with brain meningioma and treated with radiotherapy to avoid invasive brain surgery.

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by 67 years old Nataša Hacin McDowell of Slovenia, who was diagnosed with brain meningioma. Seeing her friend dealing with partial paralysis in the face and other difficulties after a tumor operation made Nataša very skeptical of invasive treatments. “I just couldn’t do that, you know, I mean at the moment I am healthy. I need to be healthy and well to look after my dogs and to look after myself, because I have nobody, I live by myself. And that kind of operational surgery just wouldn’t do for me” she explained, adding “I mean my brain is who I am and it is a very private thing, you can’t just let anything go in.” “Many patients share Nataša’s feelings, which reflects the growing need for the medical community to prioritize patients’ wishes when it comes to adopting innovative technologies and personalized treatment plans that work for the individual.”

Rapid Growth and Adoption

As the news media sensationally covered incidents involving overexposures in radiation therapy in articles such as the New York Times’ “Radiation Boom-As Technology Surges Radiation Safeguards Lag”⁶, the public and health care professionals alike were initially wary of the technology.

In a technical manual titled *Radiotherapy Risk Profile*, WHO acknowledged that radiotherapy is not without its risks, however stated “Radiotherapy is widely known to be one of the safest areas of modern medicine...” and highlighted its benefits and pitfalls.⁷ This endorsement of the radiation therapy in 2008 contributed to its rapid growth and adoption around the world.

For instance, approximately 175,000 patients in France undergo radiation therapy each year, a treatment option that is used in 60 percent of cancer treatment programs.⁸ The strong presence of radiation oncology companies in France enables an increasing number of patients undergoing radiotherapy to be treated with evidence-based solutions. The establishment of these companies in France provides a successful model for the launch of other innovative technologies in the oncology sector globally.

The global adoption of innovative tumor treatment options relies on cooperation and partnership between health authorities, clinicians and treatment manufacturers, who all believe in working towards a common cancer plan and the accumulation of key data for continued learning and innovation. By investing in these technologies, France continues to support and improve national health care development, an objective that can be replicated around the world to ensure that the 50 percent of cancer patients who are eligible for radiotherapy treatment are afforded the best in medical technologies.

INVESTING IN HEALTH AND COMMUNITY

Accuray, a leading radiotherapy company, is having ongoing success in growing its network in France as a direct

result of a peer-to-peer exchange program. By promoting the importance of community interaction through AERO, the Accuray Exchange in Radiation Oncology, clinicians worldwide can share and learn about clinical experiences, technical tips and operational best practices, with regard to the Accuray TomoTherapy® and CyberKnife® Systems. Although companies are often thought of as solely manufactures, new devices and other technologies often provide an opportunity to connect doctors, health professionals and patients. By establishing and supporting a global oncology community, Accuray is committing to the success of innovative radiotherapy technologies, simultaneously working towards sustainable health development by improving patient access to these treatment options

Better Treatment for All

New innovations in medical technologies, such as radiotherapy, can provide a critical element for sustainable health systems through the reduction of the morbidity and mortality caused by preventable and treatable diseases. Global acceptance of innovative and cost-effective technologies in treating cancer are being stimulated by the effectiveness of radiotherapy and the benefits it presents for patients, such as minimizing side effects and toxicity to preserve quality of life. By increasing the best available treatment options, we can effectively reach more patients, and in the process, prevent cancer-related deaths and work towards sustainable health development. **GHD**

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