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Efforts to Support Cervical Cancer Treatment During the COVID-19 Pandemic

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Radiation therapy is a mainstay of treatment in cervical cancer, with both external-beam radiation therapy and brachytherapy required for curative intent treatment in all but the earliest stages of the disease.¹ With appropriate treatment, cure can be achieved even in patients with locally advanced disease. Including brachytherapy is essential for cure and significantly increases survival.¹ Detriments in survival, however, are seen if treatment is extended beyond an overall treatment time of 8 weeks.² Therefore, decreased access to treatment, including during the COVID-19 pandemic, has a recognized significant impact. While the International Atomic Energy Agency (IAEA) has been active in supporting cervical cancer management, the COVID-19 pandemic resulted in additional challenges that had to be addressed.

In 2020, cervical cancer estimates revealed 600,000 new cases and 340,000 deaths, with a disproportionate burden in low- and middle-income countries (LMICs).³ In response to this public health crisis, the United Nations Joint Global Programme on Cervical Cancer Prevention and Control (Joint Programme) was launched in 2017, which involves 7 United Nations agencies including the IAEA, and provides global leadership and technical assistance to governments and their partners to build national comprehensive cervical cancer control programs.⁴ Subsequently, a World Health Assembly resolution was passed in 2020 with the global strategy to accelerate the elimination of cervical cancer adopted at that time, demonstrating a continued commitment to tackling cervical cancer, even in the face of a global pandemic.⁵

The global strategy calls for specific targets by 2030; the 90-70-90 targets indicate goals for vaccination, screening, and treatment of both pre-invasive and invasive cervical disease.⁵ While immunization and screening

are of critical importance, especially in the long-term for the millions of women who will continue to be diagnosed with cervical cancer, access to treatment will more immediately impact individual patient survival. The combined strategy will be effective since it allows the treatment of current cervical cancer patients, while preventing cervical cancer in decades to come.

The significant role that the IAEA plays in the Joint Programme focuses on initiatives related to radiation therapy, nuclear medicine, and diagnostic radiology. Joint missions were conducted by the United Nations agencies and partners in 6 initial countries and resulted in work plans to address gaps in cervical cancer control. The IAEA has been supporting these countries through its programs.^{6,7} Further IAEA actions through the Joint Programme include providing training on radiation therapy for cervical cancer, the most recent of which were initially planned to be held on site in Tanzania and Morocco. The multiday training was designed to focus on practical aspects of delivering high-quality radiation therapy for cervical cancer, including both external beam and brachytherapy techniques. With travel put on hold, the IAEA converted the training to virtual sessions. While these were not meant to replace the in-person training that will come later, it allowed the continuation of support to experts on the ground during a time with limited options. The multiday sessions were conducted in December 2020 and March 2021. Tanzania had more than 40 participants, and Morocco had over 70 participants from 5 different sites in the country. The sessions included relevant lectures, review and critique of treatment plans, and interactive hands-on tumor and normal tissue contouring activities.

Another way in which the IAEA has continued to support countries during the pandemic

is through a series of COVID-19 webinars in multiple UN languages. These webinars have convened professional societies in radiation therapy and nuclear medicine to guide centers on the ground to continue safe delivery of these essential services to patients (<https://www.iaea.org/topics/health/infectious-diseases/covid-19/webinars>). In addition, virtual tumor boards with Africa (AFRONET) and Asia (ASPRONET) allow for case discussions and educational lectures among oncology team members regionally.

In addition to education and training, the IAEA plays a role in many other aspects of ensuring continued access to radiation therapy and particularly brachytherapy for cervical cancer, including through mapping resources for radiation therapy and radiology in the Directory of Radiotherapy Centres (DIRAC) (<https://dirac.iaea.org>) and Medical imaging and Nuclear medicine (IMAGINE) (<https://humanhealth.iaea.org/HHW/DBStatistics/IMAGINE.html>) databases. Safety and quality are important and can be enhanced through comprehensive quality assurance audits implemented through the Quality Assurance Team for Radiation Oncology (QUATRO).⁸ Dosimetry laboratory calibration services for radiation therapy sources used in high-dose-rate and low-dose-rate brachytherapy are provided as another method of quality control.⁹ Research efforts through the IAEA's coordinated research activities represent another way to promote cervical cancer treatment for patients. These include clinical trials, cost-effectiveness studies, dosimetric studies, and implementation studies, among others. Examples of these coordinated research efforts include a study examining brachytherapy fractionation and radiobiology and an implementation study for image-guided brachytherapy for cervical cancer.¹⁰ In addition, the IAEA provides support to set up radiation therapy and nuclear medicine centers worldwide.⁶

Now, nearly 2 years into the pandemic, it remains more important than ever to continue efforts to increase access to life-saving radiation therapy for patients diagnosed with cervical cancer. IAEA efforts and the recently launched global initiatives illustrate that the collective momentum is unprecedented. Such measures to increase access to cancer treatment are essential to achieve our goals.

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