



Summary

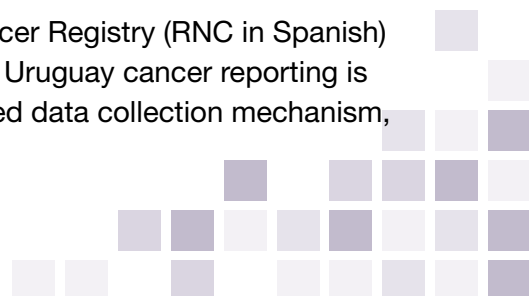
Following a request received from the Ministry of Health (MoH) of Eastern Republic of Uruguay in June 2021, an **imPACT Review** was conducted from July 2021 to September 2022 by the **Programme of Action for Cancer Therapy (PACT)** of the International Atomic Energy Agency (IAEA), the World Health Organization (WHO) and the International Agency for Research on Cancer (IARC).

The imPACT mission was organized within the framework of the **WHO-IAEA Joint Programme on Cancer Control** to assess Uruguay's comprehensive national cancer control capacities and needs in the areas of cancer control planning and governance, cancer registration, prevention, early detection, diagnosis, treatment and palliative care. Due to coronavirus-related travel restrictions, the Review was conducted partly in a virtual format.

A team of international experts, nominated by the IAEA, WHO and IARC, held technical discussions with key stakeholders in the broad areas of cancer control, and visited 15 of the principal cancer facilities in the country.

Main findings

- 1. Cancer Burden:** Cancer is the second leading cause of death after cardiovascular diseases in Uruguay, accounting for 24.2% of all deaths. According to the National Cancer Registry (RNC), which covers the whole country, more than 16,000 people are diagnosed with cancer on average for each year, with a mortality rate of 8,000 people per year. Accordingly, to these numbers, Uruguay is the country with the highest rates of cancer incidence and mortality in South America. The four most frequent types of cancer in Uruguay (except non-melanoma skin cancer) are colorectal, breast, lung and prostate cancers.
- 2. Planning and Governance:** Cancer control is part of the national strategy against Non-Communicable Diseases (NCDs) led by the Directorate General for Health (in Spanish DIGESA) of the Ministry of Public Health (MPS). In 2005, a National Cancer Control Programme (PRONACCAN) was created to coordinate the national strategy for cancer prevention and control. Uruguay has been developing a set of actions and interventions to ensure universal coverage and equitable access to health service.
- 3. Cancer Registry and Surveillance:** Uruguay's National Cancer Registry (RNC in Spanish) is a population-based system covering the whole country. In Uruguay cancer reporting is mandatory and data are obtained by the RNC through a mixed data collection mechanism,



with the strong predominance of an active approach. The most significant challenge is the ongoing transition to a more efficient electronic format for data collection and analysis.

- 4. Prevention:** Prevention activities for the cancers with the highest incidence in Uruguay are addressed within the NCD prevention strategy. The main risk factors considered are tobacco use, alcohol consumption, unhealthy diet, physical inactivity and overweight/obesity. As per the HPV immunization, in 2017 the vaccination schedule changed from three to two doses (0 and 6 months) for adolescents under 15. All children under 21 months are vaccinated against HBV according to the immunization schedule.
- 5. Early Detection:** Colorectal cancer is one of the most common cancers in Uruguay. National guidelines recommend screening using faecal immunochemical test (FIT) performed every two years for people aged 50-74. Breast cancer is the most common type of cancer among women. Mammography, available in most health facilities independently of the level of care, is offered opportunistically for people aged 50-69. Cervical cancer is the third most common cancer among Uruguayan women and national guidelines recommend annual cytology for women aged 21-69 years, and every 3 years after two negative ones. Paediatric cancer accounts for 7.9% of all deaths among children and adolescents. The network of primary care and specialized referral centres for childhood cancer allow to reduce the time of diagnosis for children with clinical signs of cancer.
- 6. Diagnosis:** Uruguay's health care system provides access to all diagnostic methods considered in the international guidelines for the clinical management of cancer patients. In general terms, Uruguay meets the minimum infrastructure requirements, considering the population's health needs. Equipment should be upgraded and replaced, although it is to be noted that, in hospitals with a large number of patients, such as the Children's Hospital and the Women's Hospital, a new state of the art MRI and a CT scanner were installed.
- 7. Treatment:** Uruguay is making progress in ensuring equal access to timely and quality care for the entire population. Nevertheless, the country would need to improve and update radiotherapy services. The current number of professional radiotherapists is not sufficient for the volume of patients requiring treatment. Considering the current applications of radiotherapy, it is essential to promote technological investments in radiotherapy and ensure preventive maintenance and servicing contracts to ensure uninterrupted quality provision of services. Uruguay is a pioneer in Latin America in high-cost financing through the National Resource Fund in an equitable and universal manner for the entire population.
- 8. Palliative Care:** Uruguay is the leading country in Latin America in terms of percentage of palliative care services per population. Uruguay launched the National Palliative Care Plan in 2013 to improve the training of physicians in palliative care, increase the number of people with access to palliative care. Palliative care providers reported that opioids are easily available, and any registered physician can prescribe opioids with no significant restriction.
- 9. Education and Training:** There are specialist degrees (48 months) in Medical Oncology, Radiation Oncology and Medical Physics. While oncology is included in the programmes related to oncological pathology such as general surgery, urology and gynaecology, there is no specialisation programme for surgical oncology or any other type of cancer-related surgery. Most medical and nursing degree



programmes deliver palliative care training, although it is not always mandatory. There are three advanced training programmes with a two-year duration for palliative care, which are not, however, recognised as medical specialisation courses.

10. Radiation Safety: The government has established and maintained an appropriate governmental, legal, and regulatory framework for safety. The safety principles to protect people, society, and the environment from radiation risks, both at present and in the future, are set out. Adequate dose limits for occupationally exposed workers and requirements on optimization for occupational exposure, have been properly adopted. However, there are deficiencies in the quality control of diagnostic and therapeutic equipment in some centres and insufficient availability of qualified medical physicists in diagnostic and interventional radiology as well as in nuclear medicine and radiotherapy. Indeed, the ARNR has insufficient staff to fully discharge all the statutory regulatory obligations.

11. Radioactive Material Security Considerations: ARNR is the main competent authority responsible for the security of radioactive material. The National Committee for Nuclear Security was officially established to advise the Government and to implement activities aimed at strengthening nuclear security in Uruguay. The Integrated Nuclear Security Support Plan (INSSP) of Uruguay was approved in January 2008, based on IAEA nuclear security guidance.

■ Key priority recommendations

Planning and Governance

- PRONACCAN to lead the development and coordination of a National Cancer Prevention and Control Plan to optimize efforts and foster transparency and accountability of cancer control strategies and activities.
- Strengthen the budget allocation to institutions that carry out awareness-raising and population education actions, communication campaigns, community health promotion actions through mechanisms such as “competitive funds”.
- Promote multi-purpose cancer referral centres in the public sector, or with public-private complementarity, ensuring that all services are available in one centre (or in a network of hospitals).

Registration and Surveillance

- Improve the legal and operational framework. Ministry of Public Health should issue specific regulations and administrative provisions to mandate reportable types of cancers.
- Develop a comprehensive and accountable system of data collection.
- Improve the quality control and data analysis.



Prevention

- Continue to promote public awareness and public education for tobacco control.
- Systematically assess interventions on physical activity and nutrition, and initiate design of campaigns/programmes to prevent overweight and obesity.
- Assess HPV vaccination coverage in both boys and girls to develop strategies to improve coverage.
- Assess HBV vaccination coverage in the target population in order to develop strategies to improve coverage.

Early Detection

- Update the national guidelines for the management of cervical precancerous lesions and cervical cancer screening and then bolster guidelines dissemination (together with the dissemination of the guidelines on diagnosis and treatment of breast cancer) across the health system. It is recommended to follow WHO recommendations for cervical cancer elimination.
- Prepare for technological upgrade related to molecular testing for HPV — ideally through typification of high-risk HPV serotypes and use of vaginal self-sampling for HPV testing in remote sites or under special circumstances.
- Establish “quantitative fit testing” as the standard testing methodology and develop specific guidelines for prostate cancer early diagnosis and colorectal cancer screening.

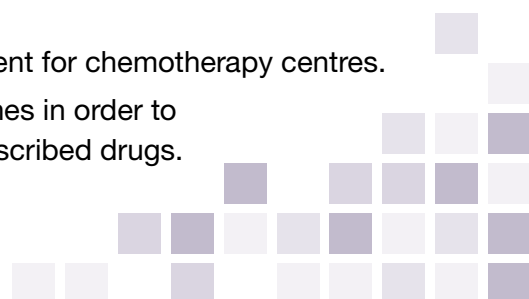
Diagnosis (Diagnostic Imaging and Nuclear Medicine)

- Ensure the upgrading and certification of diagnostic imaging equipment.
- Develop Quality Control regulation for Pathology and Cytology laboratories.
- Ensure process standardization and automation in clinical laboratories to minimize errors in high volume of workload situations.
- Ensure, when possible, the creation of hospital pathology units in the same health center in order to reduce slow deliver issues.
- Further develop and organize the telemedicine services, not only for breast cancer detection, but also for other applications, such as CT scan, MRI, and nuclear medicine, particularly with the goal of reducing interpretation time.
- Ensure commitment to radiation safety and request the IAEA to conduct “Quality Management Audits in Nuclear Medicine Practices (QUANUM)” and “Quality Improvement Quality Assurance Audit for Diagnostic Radiology Improvement and Learning (QUAADRIL)”.
- Develop the human and material resources that allow the implementation of a quality assurance protocol in radiodiagnosis and nuclear medicine.

Treatment

Oncology treatment – Day hospital

- Develop specific guidelines for the infrastructure requirement for chemotherapy centres.
- Review resource allocation for high-cost oncology medicines in order to ensure consistency with the most widely and regularly prescribed drugs.



Radiotherapy

- Allocate necessary resources to ensure operation of LINAC and brachytherapy equipment in public providers of the health system (ASSE, others) by purchasing the spare parts, and ensuring maintenance and servicing to provide uninterrupted services.
- Design a national radiation therapy development plan with short-, medium-, and long-term activities and milestones.

Paediatric cancer

- Optimize the availability, timely access, and quality of paediatric radiotherapy services.
- Implement training programmes in paediatric radiation oncology and paediatric surgical subspecialties (neurosurgery, among others).

Palliative care

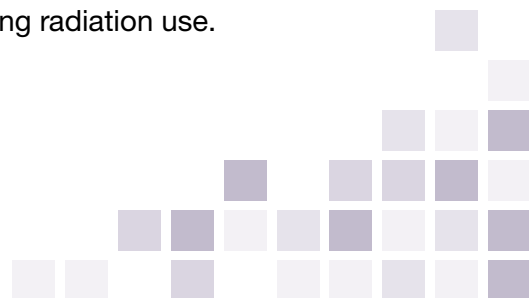
- Estimate the need for palliative care considering the growing number of NCDs and the ageing population.
- Develop requirements for team size and clinical services that need to be offered based on space and number of patients treated.
- Public and private palliative care services should work together to optimize resources and improve access to services.
- Research on cost savings associated with palliative care could promote palliative care expansion.
- Promote a more robust research culture and help improve palliative care quality.

Education and training

- Include oncology, particularly radiotherapy, in the undergraduate training for medical programmes.
- Ensure adequate training and placement for highly qualified professionals, including oncology surgeons, radiation oncologists, medical oncologists, medical physicists, and allied professionals.
- Organize surgical subspecialties such as breast surgeons, gynecologists-oncologists.
- Formally recognize palliative care as a medical subspecialty and develop a training programme on palliative care as subspecialty (not as undergraduate programme) based on an agreement among medical professionals.

Radiation Safety

- The Government should review the legal framework to ensure agreement with the current IAEA Safety Standards.
- The Government should ensure that the ARNR is adequately staffed and funded to perform all their statutory regulatory functions.
- The ARNR should develop inspection manuals and checklists to ascertain regulatory control in diagnosis and treatment services involving ionizing radiation use.



- The ARNR must consider the proposal of national professional organizations (radiologists, interventional physicians, nuclear physicians) and the results of optimization studies carried out in countries of the region to establish diagnosis reference levels for medical exposure, with emphasis on interventional procedures.
- ARNR should verify compliance with the requirement to ensure the availability of qualified medical physicists at cancer facilities.

To read more about the in-country mission to the Eastern Republic of Uruguay, click here: [Uruguay to Reverse High Cancer Incidence, Mortality Rates | IAEA](#)

■ The WHO–IAEA–IARC Joint Activities on Cancer Control

In March 2009, WHO and IAEA signed arrangements at the Director-General level to implement a [Joint Programme on Cancer Control](#). The main purpose of this arrangement is to coordinate activities and resources to provide evidence-based and sustainable support to comprehensive cancer control programmes, particularly in low- and middle-income countries.

In response to a government request, an imPACT Review is carried out as a comprehensive assessment of national cancer control capacities and needs. It is a partnership effort between the International Atomic Energy Agency (IAEA), the International Agency for Research on Cancer (IARC) and the World Health Organization (WHO). Where relevant, other partners are involved, such as the Union for International Cancer Control (UICC) and the United Nations Office on Drugs and Crime (UNODC). The IAEA Division of [Programme of Action for Cancer Therapy \(PACT\)](#) is responsible for coordinating the [imPACT Reviews](#) and for mobilizing the resources for their implementation.



For any questions or additional information, please contact

✉ PACT@iaea.org
and/or

✉ info@who.int

Follow us on Twitter

🐦 [@iaeapact](https://twitter.com/iaeapact)

[#CancerCare4All](https://twitter.com/CancerCare4All)

Visit us

🏠 cancer.iaea.org

🏠 www.who.int/health-topics/cancer

🏠 www.iarc.who.int

