



IAEA

Atoms for Peace: The First Half Century

1957–2007

Improving cancer care in the Dominican Republic

The challenge...

Until the early 1990s, the medical centres of the Dominican Republic had no medical physics services nor regular calibration programmes for their cancer therapy machines. Ongoing clinical dosimetry and assistance in radiological protection for these care centres were non-existent. Treatment was limited to the use of earlier generation cobalt machines and the dosimetry applied for treatment did not take account of individual patients' characteristics. For applications in brachytherapy, sources of radium-226 were still used.

The projects...

In the framework of IAEA technical cooperation, basic equipment was provided to the Instituto de Oncología Dr. Heriberto Pieter for quality assurance in dosimetry for the cobalt machines. A computerized system for treatment planning and clinical dosimetry was also supplied, along with training for medical personnel. A service for low dose brachytherapy was established, which allowed the use of sources of caesium-137 instead of sources of radium-226. Further IAEA efforts led to the provision of the first nuclear medicine centre to the Oncological Institute of the Cibao Region, the first of its kind in the Dominican Republic.

The impact...

- 3300 implants performed on patients with gynaecological cancer since 1997.
- Care for 700 patients per year who have been diagnosed with cervical cancer.
- Availability of medical physics services.
- Updated cobalt-60 teletherapy machines.
- Regular quality controls on the basis of protocols.
- Computerized or manual treatment planning for every patient.
- Clinical dosimetry in brachytherapy, tailored to each patient.
- Radiological protection services at regular intervals.
- Availability of nuclear medicine services.
- Availability of trained cancer therapy technicians.



DOM/6/002: Establishment of Brachytherapy Services, DOM/6/003: Improved Quality of Radiotherapy Services, DOM/6/004: National Nuclear Medicine Service