

## *Medical physics in support of cancer management*

### *The challenge...*

Medical physicists are health care professionals with specialized training in the medical application of physics. Their work often involves the use of X rays, ultrasound, magnetic and electric fields, infrared and ultraviolet light, heat and lasers in diagnosis and therapy. Medical physicists work in both the public and private sectors. While some are employed in academic institutions and industries, most work in the diagnostic imaging departments of hospitals, cancer treatment facilities, or hospital-based research establishments. However, Africa lacks a sufficient number of qualified medical physicists, as well as lacking suitable and sustainable education and training programmes. In addition, medical physics as a clinical profession is not well recognized in in most AFRA States Parties.

### *The project...*

Phase II of the project, running from 2012–2017, will focus on sustaining the capabilities established during phase I, particularly in terms of education and training of medical physicists. Support will also be provided for dosimetry systems, especially during acceptance testing and commissioning to ensure their correct use for treatments. Regional expertise, including advisory assistance and training through the AFRA's regional designated centres (RDCs), will be used to help AFRA States Parties to improve their national dosimetry schemes, establish training capabilities in medical physics and improve their quality control programmes. For cancer in particular, long term capacity building, short term focus on problem solving and the utilization of regional expertise and existing infrastructure will support self-reliance and sustainability of treatment and health care



### *The impact...*

During phase I of the project, more than 250 radiotherapists, medical physicists, nurses and radiographers were trained on improved radiotherapy protocols, medical physics and the management of radiotherapy departments. Member State capabilities in the diagnosis and treatment of coronary artery disease, refractory arthritis, thyroid diseases, liver cancer, metastasis bone pain and lymphoma has been enhanced. The educational/training curricula developed under AFRA have been utilized by at least six African countries with education programmes in the field.