AGaRT
The Advisory Group on increasing access to Radiotherapy Technology in low and middle income countries

Together against Cancer
The Advisory Group on Increasing Access to Radiotherapy

To address the shortfall of radiotherapy services in low and middle income (LMI) countries, the International Atomic Energy Agency (IAEA) established the Advisory Group on increasing access to Radiotherapy Technology in low and middle income countries (AGaRT) in 2009 under the Programme of Action for Cancer Therapy (PACT), with the technical support of the Division of Human Health and the Division of Radiation, Transport and Waste Safety.

AGaRT acts as a neutral facilitator to bring together radiotherapy users in LMICs and major radiotherapy equipment suppliers, to encourage dialogue that will ensure that the unique radiotherapy service requirements of LMI countries are met by the technology available. AGaRT provides an unprecedented platform to:

- Review and recommend minimum requirements for operating radiotherapy equipment in terms of working conditions, infrastructure etc.;
- Review and recommend affordable, appropriate and suitable radiotherapy equipment packages and radiotherapy turn-key solutions.
- Develop and recommend guidelines for sale and service contracts to ensure affordable radiotherapy solutions with guaranteed long-term functionality for LMI countries in the future.
- Develop and recommend guidelines for facility design, operation and maintenance of radiotherapy equipment to guarantee the development and production of affordable, suitable and highly reliable radiotherapy solutions for LMI countries in the future.
- Review financial schemes (and recommend new ones when feasible) for the delivery of radiotherapy equipment packages including radiotherapy turn-key solutions.

By addressing issues of cost, quality, availability, sustainability and complexity, AGaRT will encourage the selection of radiotherapy equipment that is affordable, sustainable and suitable for LMI countries and, in so doing, increase access to radiotherapy.

The Advisory Group holds their third meeting at IAEA Headquarters in Vienna in 2012.
Affordability
To make radiotherapy equipment more accessible, AGaRT is working to develop equipment packages for LMI countries that can be sold and maintained at a lower cost, without sacrificing safety or quality.

Sustainability
AGaRT has recommended the development of provisions for ‘whole of life’ support packages from radiotherapy suppliers that will ensure affordable functionality for the entire life cycle of a unit, thus increasing the sustainability of radiotherapy technology in LMI countries.

Suitability
Equitable access to radiotherapy technology is hampered by mismatches between highly sophisticated technology and difficult environmental and resourcing conditions. Through AGaRT, manufacturers and radiotherapy experts are reviewing possible options for developing high throughput technology appropriate to staffing and environmental conditions.
Access to Radiotherapy

Radiotherapy programmes, including training courses offered by the IAEA, are essential for capacity building in cancer treatment.

There is an estimated shortfall of up to 5000 radiotherapy machines in LMICs. This will increase in the next decade unless adequately addressed.

PACT builds partnerships to fight the global cancer epidemic, relying on the IAEA’s extensive experience in delivering radiotherapy technology and know-how.
of people served by one radiotherapy unit

(IAEA-DIRAC database, 07/2013)

No data

No unit

No unit

Over 5 million

1–2 million

2–5 million

< 500 000

500 000–1 million

The depiction and use of boundaries, geographical names and related data shown on maps do not necessarily imply official endorsement or acceptance by the IAEA.
AGaRT is designed to foster a collaborative environment where participants from LMICs, the radiotherapy industry and regional radiotherapy experts can come together to produce guidelines on the sale and servicing of radiotherapy solutions. These guidelines will encourage users to properly balance medical, technical and economic aspects when selecting equipment for a radiotherapy unit, and challenge manufacturers to reduce the cost of machinery; to offer long term, cost-effective contracts; and to provide suitable training for equipment use. It is expected that the recommendations of AGaRT will help manufacturers to gradually adjust their technological developments, financial strategies and service policies to address the needs of emerging markets in LMICs, while at the same time enabling LMICs to develop realistic plans for investments in radiotherapy over the longer term, taking into account key issues such as equipment choices, contracting and human resource requirements.

Radiotherapy, diagnostic radiology, nuclear medicine and medical physics are essential for detecting, diagnosing and treating cancer. Radiotherapy can, in many instances, save lives. Even in cases where the disease is too advanced to be cured, radiotherapy can provide palliation that allows patients to live out their lives as comfortably as possible. In high income countries, between 50 and 60% of patients diagnosed with cancer will be administered radiotherapy at some point during their treatment. For many living in LMI countries, radiotherapy remains an unattainable treatment option, with only 25% of radiotherapy patients in LMI countries having access to radiotherapy treatment.

Although LMICs represent around 85% of the world’s population, they possess less than 40% of the world’s radiotherapy facilities.
Today, over 25 countries have no available radiotherapy units, leaving cancer patients living in those countries to spend enormous sums of money to be treated abroad, or, more commonly, to go without treatment. However, even when radiotherapy is available, it is often inadequately resourced for the number of cancer patients in need of care.

**Most high income countries have at least one radiotherapy unit available for every 250,000 people. In contrast, in nearly 20 LMI countries, only one unit is available for more than 5 million people, and in some cases for 20 million people or more.**

But more than just greater availability of equipment is required to address the issue of global access to radiotherapy. In some countries, even if radiotherapy services are available, economic or geographic barriers can prevent treatment. In others, inadequate staffing, the acquisition of unsuitable equipment or poor equipment maintenance can leave cancer patients without proper access to treatment.

**Until LMI countries can acquire the proper capacity for providing radiotherapy, millions of cancer patients throughout the world will continue to be deprived of an essential element of cancer treatment and palliation.**
“This is a tremendous opportunity for both users in low and middle income countries and equipment manufacturers to share their experience with the provision of radiotherapy. By matching requirements, improvements in access to safe and effective treatments can become available where it is needed most.”

Associate Professor Graeme Morgan, Director of Radiation Oncology, Royal North Shore Hospital, Sydney, Australia
Chair of the inaugural AGaRT Meeting, June 2010