Medical physics capacity building as part of cancer control programmes in developing countries – IOMP partnering with IAEA & WHO

Round Table: *Goals for Medical Radiation Protection in 2020*

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Setting the Scene for the next Decade

Cancer: Perspective 2020

- Low increase in HI-Countries
- Large increase in LMI-Countries (improved hygiene, life expectancy)

Annual Cancer Incidence (Mio)

<table>
<thead>
<tr>
<th>Year</th>
<th>HI-Countries</th>
<th>LMI-Countries</th>
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<tbody>
<tr>
<td>2010</td>
<td>5.7</td>
<td>7.5</td>
</tr>
<tr>
<td>2020</td>
<td>6.6</td>
<td>9.9</td>
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<tr>
<td>2030</td>
<td>7.4</td>
<td>12.9</td>
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(IAEA / GLOBOCAN (2008))
Radiotherapy is an effective, gentle and cheap treatment

- About 2/3 of all cancer patients are benefitting of radiotherapy
- Every second cancer patient cured received a radiation treatment
- LMI-countries 85% world´s population but only 1/3 of world´s RT-units

Access to high quality and safe radiotherapy is particularly essential for LMI countries
Particular Challenges in LMI-Countries

• Appropriate Equipment & Instrumentation
  – Radiology, Nuclear Medicine, Radiotherapy
  – Dosimetry, Monitoring, QA

• Qualified Staff

• Functional System of Protection & Safety
Medical Physicists are the gate keeper in high quality and safe radiotherapy

- IOMP: Policy Statements
  - The Medical Physicist: Role and Responsibilities
  - Basic Requirements for Education and Training of Medical Physicists
- ILO/ISCO-88: Recognition of the Profession
- IAEA/WHO-BSS:
  - Responsibilities, Requirements, System of Protection & Safety
- IRPA-IOMP: Statement of Collaboration
The IOMP Education & Training Scheme

• Basic Education
  – Validation and Accreditation of MSc Courses

• Professional Training (Residency) Program
  – Certification through a national or international body

• Continuing Professional Development
  – Re-Certification

How to adapt the Standard Scheme to the constraints in LMI countries?
Fast Track E&T Approach for LMI-Countries

Radiotherapy as an anchor for building cancer control capacity & infrastructure (WHO/IAEA Joint Programme PACT/AGaRT)

- At present shortfall of 5000 RT machines in LMI-countries: Mobilization of resources & training
- Regional Networks, Partnerships, Mentoring
- Equipment training as part of a local Fast Track E&T program
- Partnering with IAEA, WHO, IOMP: providing experts, keeping agreed standards in E&T,
- Sustainable capacity building

Preventing „brain drain“
Example: Fast Track E&T in RT Medical Physics

- Location: Customer´s Hospital (Reference site of the company)
- Academia: Link to a local University
- Faculty: Preferably local & few foreign Trainers
- Sustainability: repeated courses

Course: 2 modules
- Module 1: Fundamental MP, lectures & practicals
- Module 2: First line equipment maintenance, equipment specific QA

Course Materials
Selection of Experts
Accreditation
Thank you