

IAEA  
International Atomic Energy Agency  
Atoms for Peace and Development



World  
Cancer Day  
4 February

International Atomic Energy Agency

**World Cancer Day**

# ***The Effectiveness of Medical Physics Education and Training in Asia and the Pacific***

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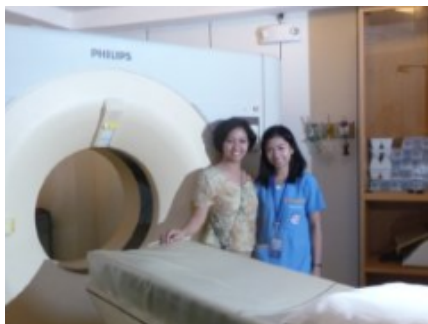
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## Medical Physics is critical to Radiation Medicine

- Effective diagnosis for cancer detection
- Implementation of High tech equipment for cancer diagnosis and treatment
- Education and Research in Radiation Medicine
- Radiation safety including prevention of radiotherapy accidents



**IAEA HUMAN HEALTH SERIES**

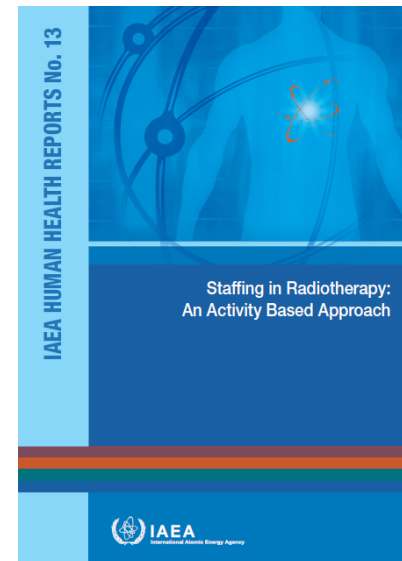
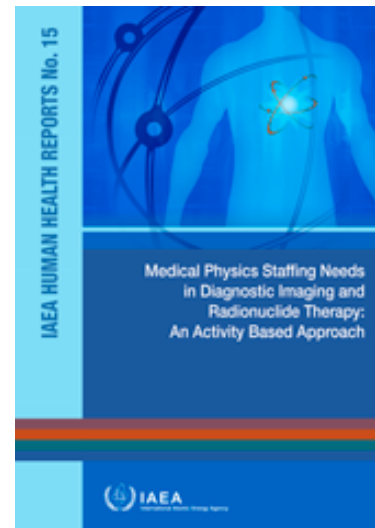
**No. 25**

**Roles and Responsibilities,  
and Education and Training  
Requirements for Clinically  
Qualified Medical Physicists**



## There is a critical shortage of Medical Physicists

- Cancer treatment cannot meet demand
- Not enough medical physicists for current cancer treatment
- Diagnostic radiation medicine is expanding
- **Radiation Medicine is expanding faster than medical physicist training**







## Clinical training guides for medical physics

- Modular, competency based learning
- Handbook for clinical supervision
- Initial pilots completed for
  - Radiotherapy in 4 countries
  - Diagnostic Radiology in 3 countries
  - Nuclear Medicine in 3 countries
- Extensive clinical training now found in region
- 70 to 80 additional qualified medical physicists trained in IAEA pilots
- Still well below requirements for standard cancer diagnosis and treatment





## E-learning platform for clinical training

- E-learning allows
  - Centralized electronic record of training and assessment
  - Downloadable learning resources linked to each sub-module
  - Rapid communication with remote locations
- Currently over 100 residents enrolled in AMPLE with ~70% in cancer treatment



Plan for AMPLE website development:  
Administration  
Resources  
Communication



Advanced Medical Physics Learning Environment



## Reaching out to help developing countries

- Medical physicists are needed for effective cancer treatment
- IAEA projects stimulate and coordinate efforts to address Medical Physics capability including the use of AMPLE
- Physicists in developing countries are isolated and need mentors and supervisors
- Sustainable centralised training centres need to be developed
- Engagement with commercial stakeholders

