

“The Opportunities and Benefits of Helping LMICs: How helping them can help you”

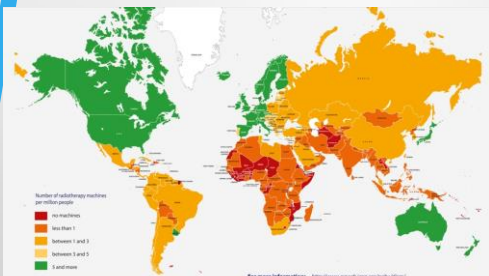
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AAPM 2016



Learning Objectives

1. Understand the need for radiotherapy and physicists in LMICs.
2. Understand how medical physicists can be used to help close the cancer divide.
3. Understand the potential research funding mechanisms that are available to establish academic collaborations with LMIC researchers/physicians.
4. Describe how medical physicists can create mutually beneficial partnerships with LMICs.






Source: ICRAC (Institute of Radiotherapy Centers), 2012-1624

For more information: <http://www.researchgate.net/publication/264049494>




But how can I help?



Medical Physicists can help

- Clinical Service
- Research
- Teaching/ Mentoring
- Administration


Based on Dr. Podgorsak's talk



The Need for Medical Physicists

- World Population: ~7.1 billion
- Number of Medical Physicists: ~18,500
- Mean concentration: ~2.7 physicists per million people
- Developed countries: (~15-20) per million
- Developing countries: (~1-5) per million
- Undeveloped countries: 0

Based on Dr. Podgorsak's talk



Learning is a 2-way Street

LMIC High Income


Syed et al. 2012



Benefits of LMIC – High Income Partnerships

Connections
Learning
Actions
Policy Changes

Syed et al. 2012



Example of LMIC Helping High Income Partnerships

Univ of Alabama
High no-show rate for HIV pts

Fudge@ptics.com



Example of LMIC Helping High Income Partnerships



Example of LMIC Helping High Income Partnerships



Example of LMIC Helping High Income Partnerships



Example of LMIC Helping High Income Partnerships

**Univ of Alabama
no-show rates**

31%
↓
18%

Syed et al. 2012



Benefits for High Income Countries in LMIC Partnerships

- Techniques for providing service to remote areas
- Skills substitution
- Decentralization of management
- Creative problem solving
- Education in communicable disease control
- Innovation in mobile phone use
- Low technology simulation training
- Local product manufacturing
- Health financing
- Social entrepreneurship

Syed et al. 2012



Pills being purchased in open air market in Ghana



<http://www.bloomberg.com/news/features/2015-07-31/the-african-startup-using-phones-to-spot-counterfeit-drugs>

Ghanaian Entrepreneur Bright Simons



<http://www.nytimes.com/news/features/2015-07-31/the-african-startup-using-phones-to-spot-counterfeit-drugs>

Ghanaian Entrepreneur Bright Simons- MPedigree



<http://www.nytimes.com/news/features/2015-07-31/the-african-startup-using-phones-to-spot-counterfeit-drugs>

Medical Physicist Training Programs for LMICs: Model for Success in Ghana

Classification of Medical Physicists in Ghana	Number
Clinical	9
Research	6
Academia	13
Total	28



Kyere et al. 2014

Medical Physicist Training Programs for LMICs: Model for Success in Ghana

V. ENROLMENT DATA
Table 1. MPhil and PhD enrolment statistics

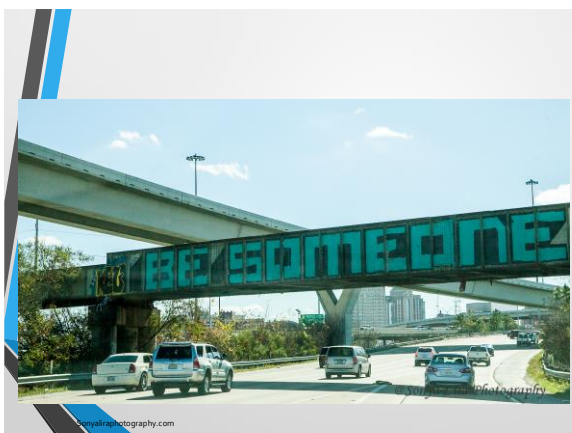
Year	No. of Students	M.Phil.			No. of Students	PhD	
		LOCAL STUDENTS	IAEA fellows	Other Nationals		Male	Females
2004	6	6	-	-	6	-	
2006	4	4	-	-	3	1	
2008	3	3	-	-	1	2	
2009	4	4	-	-	4	-	
2010	4	4	-	-	4	1	
2011	7	5	2	-	9	-	
2012	10	6	2	2	8	2	
2013	13	7	5	1	11	2	
2014	10	9	-	1	9	1	

Kyere et al. 2014



Qualified Medical Physicist Skills





kenyatraining.com

Resources

- Dr. Ervin Podgorsak's (McGill University) "Medical Physics: A Profession and Science," talk at December 2010 The World of Medical Physics Intensive Course and Workshop at Riyadh, Saudi Arabia
- Kyere et al. "10 Years of Medical Physics Training in Ghana: Successes, Challenges and the Way Forward." Med Phys Int (2)2:2014.
- Dunscombe et al. "Guidelines for Equipment and Staffing of radiotherapy facilities in the European countries: Final Results of the ESTRO-HERO survey." Radiother and Onc 112:165-177, 2014.
- <http://kff.org/global-health-policy/fact-sheet/u-s-funding-for-global-health-the-presidents-fy-2014-budget-request/>
- Syed et al. Developed-developing country partnerships: benefits to developed countries? Globalization and Health 2012, 8:17.
- www.bloomberg.com/news/features/2015-07-31/the-african-startup-using-phones-to-spot-counterfeit-drugs