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

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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.

The Need for Radiotherapy
But how can I help?

Medical Physicists can help

- Clinical Service
- Research
- Teaching/Mentoring
- Administration

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

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Global Health Funding

Funding Mechanisms

Funding Sources for LMIC Med Phys Training Programs

- NIH P20
- NIH R25
- Non-NIH Global Health Awards
  - Fogarty International Center
  - www.fic.nih.gov
  - Funding for students, faculty, health professionals and institutions
Learning is a 2-way Street

LMIC → High Income

Syed et al. 2012

Benefits of LMIC – High Income Partnerships

Connections → Learning → Actors → Policy Change

Syed et al. 2012

Example of LMIC Helping High Income Partnerships

View of Alabama

High no-show rate for HIV pts
Example of LMIC Helping High Income Partnerships

Syed et al. Developed - developing country partnerships: benefits to developed countries? Globalization and Health 2012, 8:17.

Psdgraphics.com

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Psdgraphics.com
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
- Local product manufacturing
- Health financing
- Low technology simulation training
- Social entrepreneurship
- Health financing

Pills being purchased in open air market in Ghana

Ghanaian Entrepreneur Bright Simons

Ghanaian Entrepreneur Bright Simons - MPedigree

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

<table>
<thead>
<tr>
<th>Classification of Medical Physicists in Ghana</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Clinical</td>
<td>9</td>
</tr>
<tr>
<td>Research</td>
<td>6</td>
</tr>
<tr>
<td>Academia</td>
<td>13</td>
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<tr>
<td>Total</td>
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Kyere et al. 2014
Medical Physicist Training Programs for LMICs: Model for Success in Ghana

Qualified Medical Physicist Skills

Technical  Problem Solving  Managerial
Financial  Industry Connections  Teaching/Mentorship
Communication  Service-Oriented
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
- Syed et al. Developed-developing country partnerships: benefits to developed countries? Globalization and Health 2012, 8:17.