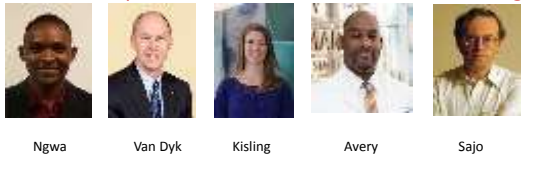




Medical Physicists and the Global Health Challenge





Emerging Models in Global Health for Medical Physicists and experiences in parts unknown

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Presentation is from portions of these books

Nothing to disclose:

All proceeds support Global Radiation Oncology



OUTLINE

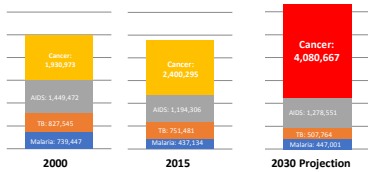
- Introduction and Background
- Emerging Models for Global Health
- Lessons from travelling to Parts Unknown



<https://www.nytimes.com/2017/03/07/health/africa-cancer-drugs.html>

INTRODUCTION: LMIC Cancer Burden Challenge

Low and Lower Middle Income Countries (LMIC) Mortality



Source: World Health Organization Global Health Observatory

- Over 14 million new cancer cases a year
- Over 8 million deaths per year

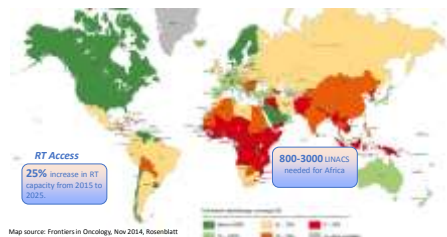
INTRODUCTION: The Cancer Divide



"Do US dogs have better access to radiotherapy than Nigerian people?"

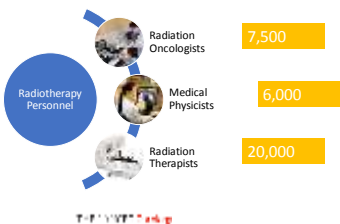
BBC October 11, 2017

LMIC Challenge: Need to Expand Radiotherapy Access especially in Africa and SE Asia



LMIC Challenge: Radiotherapy Human Resources Training of medical professionals in Radiotherapy

By 2025, LMICs will need an additional...



Barriers to Global Health for Medical Physicists who want to participate



- Major upsurge in global health interest: e.g. **survey showed nearly 90% of residents interested in global health**
- Barriers to Global Radiation Oncology:
 - **LMIC Healthcare systems:** cancer control plans, radiotherapy infrastructure, human capacity, financing/health insurance,
 - **Geographic or space-time barriers**
 - **Cultural barriers**
 - **Limited global health funding**
 - **Limited Career pathways**
 - **Working in Silos**



Emerging Models for collaboration to close the cancer divide



- Twinning partnerships: e.g. Harvard-Rwanda Ministry of Health, Fred-Hutch- Uganda
- On site e.g. Seed Global Health: train the trainer in Malawi, Tanzania etc
- Donating equipment: e.g. Radiating Hope
- Professional societies: e.g. ASTRO, AAPM, ARS?
- Funded research (see GO MAP)
- Volunteering
- Engaging the diaspora to turn brain drain to global health gain
- Closing the cancer divide using advanced information and communication technologies (ICTs)

Emerging Models for Global Radiation Oncology: ICTS

- **Education and Training APP:** in partnership with the African Organization for Research and Training in Cancer (AORTIC): www.aortic-edu.org and Harvard/UPENN
- **Telemedicine APP:** tumor boards: e-contouring, Chartounds.com, QARC with remote treatment planning/QA potential
- **Research APP:** e.g. multi-center clinical trials using QARC
- **Outreach APP:** to diaspora, industry, and government leaders: yearly summits sponsored by Harvard GHC



Comprehensive approach using 4 Apps to close the Cancer divide

ECANCER4ALL
Comprehensive Cancer Center in the Cloud:
www.ecancer4all.com



- CARE: Tele-health support solution: remote treatment planning and quality assurance support, second opinion, e-consultations
- EDUCATION: Online and F2F training
- RESEARCH: Multi-center clinical trials, Implementation Research
- OUTREACH: Advocacy, Ambassadors Corp

See Red Journal Publication on this approach Int J Radiat Oncol 99, Pages 956-962



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Global Health: Preparing for Parts Unknown:

1. Whether for global health, international collaborations, cross cultural educational purposes, medical missions, professional development, or NGO partnership developments, many first time and repeat travelers are embarking on exciting journeys to parts unknown.
2. The purpose of this work was to document the best, and worst moments of those who have had the global health experience, and provide recommendations for Medical Physicists and others interested in global health.

Parts Unknown:

Method: Survey and story

1. Where, why and when did you travel?
2. What was your best experience ?
3. What was your worst experience?
4. What was a funny experience you had?
5. Were your expectations the same as the reality? How similar or different?
6. What tips/advice/recommendations would you make for anyone planning to travel to the same place/country in Africa
7. Would you travel to an African country again? Also what would you recommend to make things better as a whole in that African country?

Parts Unknown:

Method: Survey and story over 20 people

1. Where, why and when did you travel?
2. What was your best experience ?
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4. What was a funny experience you had?
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7. Would you travel to an African country again? Also what would you recommend to make things better as a whole in that African country?

Results: Survey and story

1. Where, why and when did you travel?

Mostly to Africa but also Asia

Best Moments: Impact



Over 40 radiation oncologists,
and Medical physicists
trained by



Best Moments: Culture



Best Moments: Awards



Best Moments: Organic food



Worst Moments: illness



**Worst Moments:
transportation**



**Worst Moments: Crime and
corruption**



Worst Moments: Culture shock

"Sometimes I felt like a cow being milked constantly because people were always lacking money and often came to beg. Of course I realize we were rich in their eyes, but we were not able to help all the time and to everybody."

Funny Moments:

The "double handshake leads to twins" belief. Ivoirians believe that if two people reach out to share your hand at once, it means you will have twins. Once I learned this I purposefully forced my hand into other people's handshakes – this unnerved some people to my great amusement.

Funny Moments:

One day a girl said that, in Europe all the people still think that Africans are still living on trees, this was really funny.

Funny Moments:

While speaking in a village church, my 6 month old baby began to get fussy. Suddenly she grew quiet. When I looked for her, there was an 'old mama' putting Julie on her breast to nurse (doubt there had been any nourishment in them for years, but it worked). I wasn't quite sure how to respond to that!

Recommendations:

- RESPECT: Remember English proverb saying: "You can lead a horse to water, but you cannot make it drink."

Recommendations:

ADEQUATE PREPARATION:

- Try to get to know as much as you can about different tribes, people and languages before you get there. If you are able to learn a local language it will be much easier to have any contact with the people and to understand their thinking, customs and their way of life.

Recommendations:

ADEQUATE PREPARATION:

- Try to find out what can be bought and obtained there so that you are not bringing things from Europe or America you could buy there.

Recommendations:

BLEND IN:



Recommendations:



- Get all suggested vaccinations and take an antibiotic prescription with you in case you ingest some tainted food.



Recommendations:

- Get all suggested vaccinations and take an antibiotic prescription with you in case you ingest some tainted food.
- *Do not eat any raw food. Use bottled water for drinking brushing teeth, washing your face/hands, and shower with your mouth and eyes closed.*
- *If available, use mosquito netting over your bed at night while sleeping.*



Recommendations:

•Be flexible. Have low expectations, especially about schedules. Be there for the ride. Impact those around you. Random stuff happens, you can choose to worry or try to help. Rather than worry about time and schedules, learn about the culture of the people you are visiting and serving

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“You are not trying to fit their way of life into your service, you are trying to fit your service into their way of life” – Keaton Spillman.

Recommendations:

Be willing to be humble and learn –put aside your ways of doing things and listen to a new approach.

Recommendations:

Come with an open mind. Look past the dirt, dust and rubbish and you will see things that you may have lost in your own countries like real communities that care about each other, happiness and fresh fruit and vegetables that have flavour. Ask people to tell you their stories and you will hear things that inspire, make you laugh and cry and challenge the way you look at the world.

Summary?



- Urgent Need for more Global Health in Medical Physics, towards closing the cancer divide
- Barriers to global medical physics include: funding, space-time, culture, systemic barriers,
- Different models for global health include: twinning, volunteering, donations, professional societies initiatives, diaspora engagement, use of ICTs
- Number of ICTs-powered initiatives with major opportunities for collaboration: Tumor boards, Chartrounds, online global radiation oncology courses, co-mentored research and new tele-oncology platform building on the eCancer4all

Summary of parts unknown

This work provides an analysis of global health experiences that could prepare any medical physicist planning to embark on global health or international travel. Specific experiences in different countries are discussed



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- Industry
- Sports/celebrities



Thanks for your attention!

Let's Collaborate

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