

Improving health quality. Increasing global impact: Africa Perspective

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BRIGHAM HEALTH



BRIGHAM AND
WOMEN'S HOSPITAL

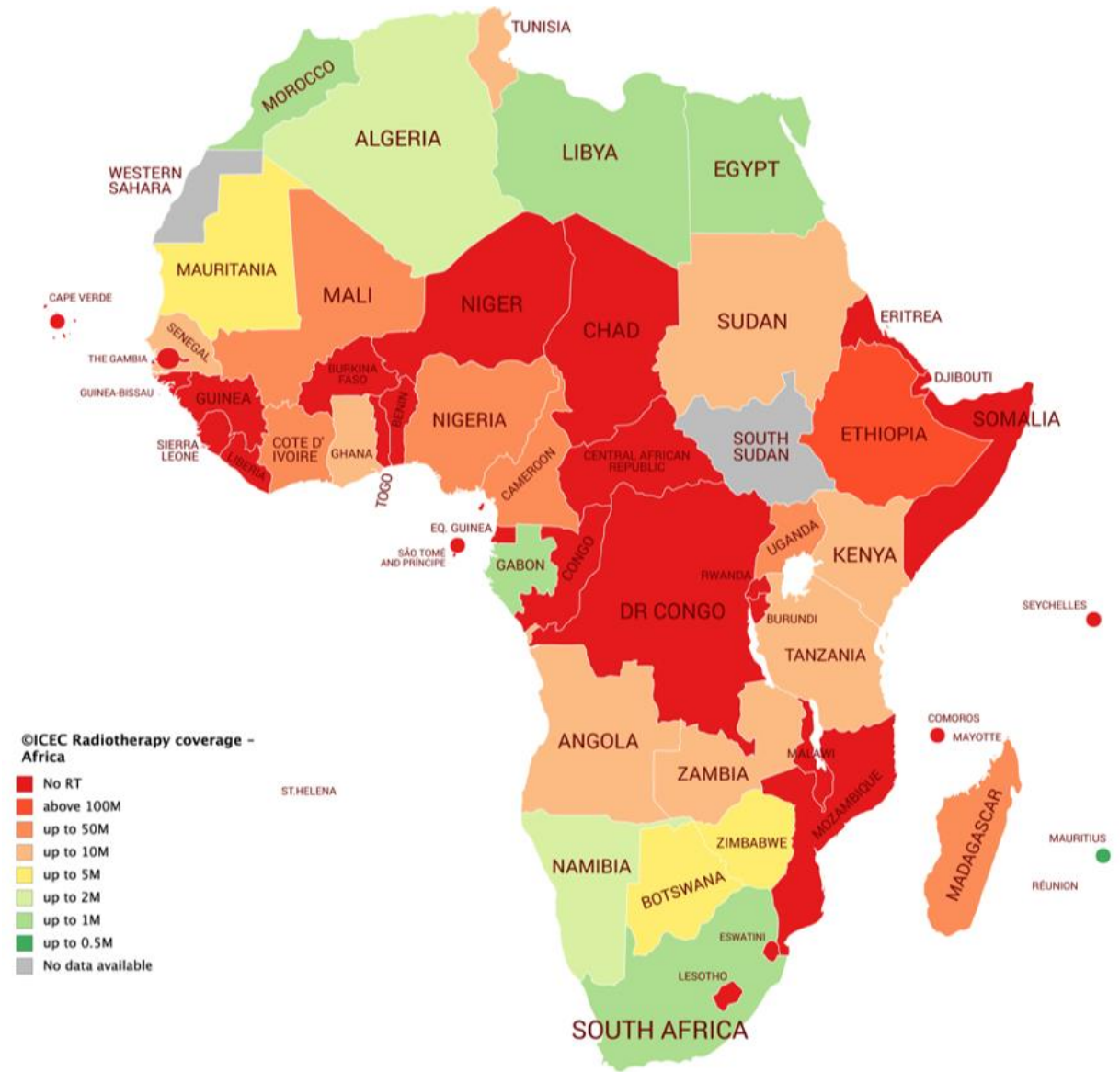


HARVARD MEDICAL SCHOOL
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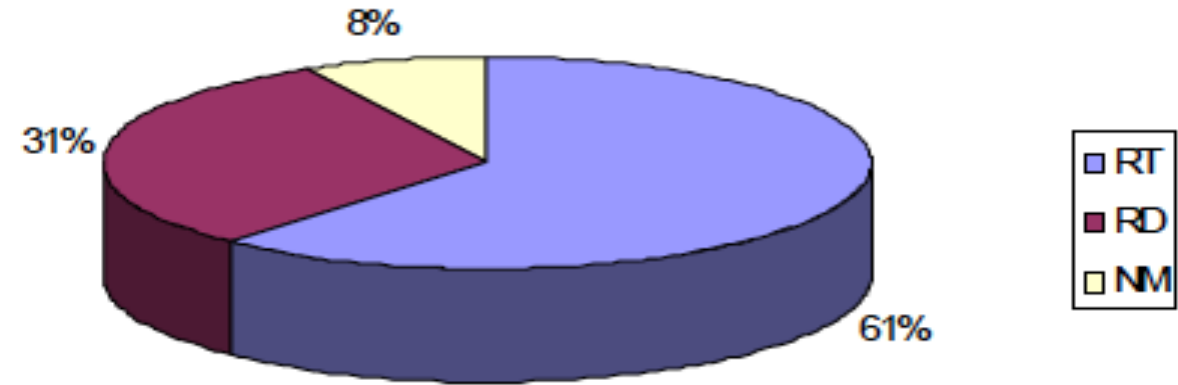
Some facts about Africa

- Second largest and second most populous continent in the world with 54 countries and population: ca. 1.2 billion
- Over 1 million new cancer cases and 7 hundred thousand deaths per year
- Up to 2000 languages; many languages do not have a word for cancer due to lack of awareness
- Major inequalities in access to care, including radiotherapy



Medical Physics in Africa

- Major shortage of Medical Physicists
- Medical physicists not recognized in many countries in Africa hence major safety concerns in growing use of radiation technologies
- Most Medical Physicists in Africa work in radiotherapy
- Federation for Africa Medical Physics Organizations (FAMPO) key professional society



RT = Radiotherapy

RD = Radiology

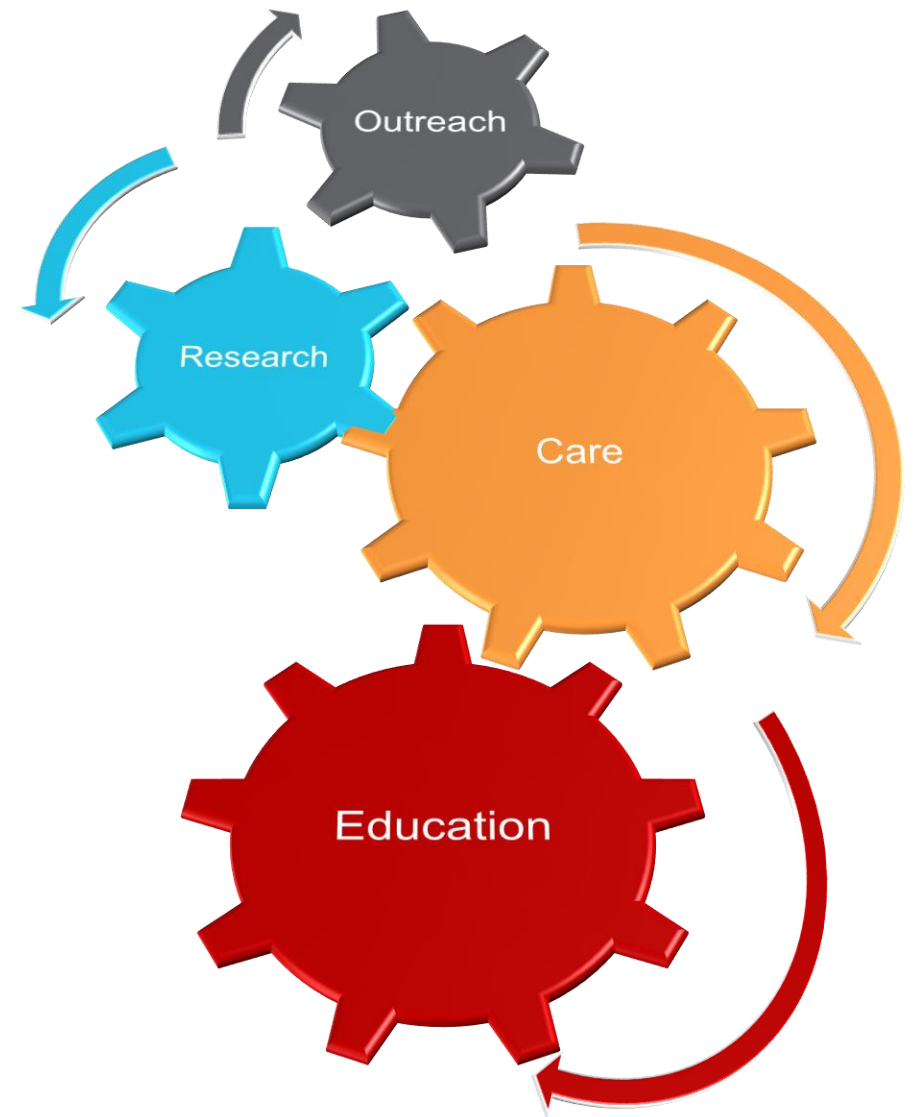
NM = Nuclear Medicine

(Source: Federation of African Medical Physicists Organizations)



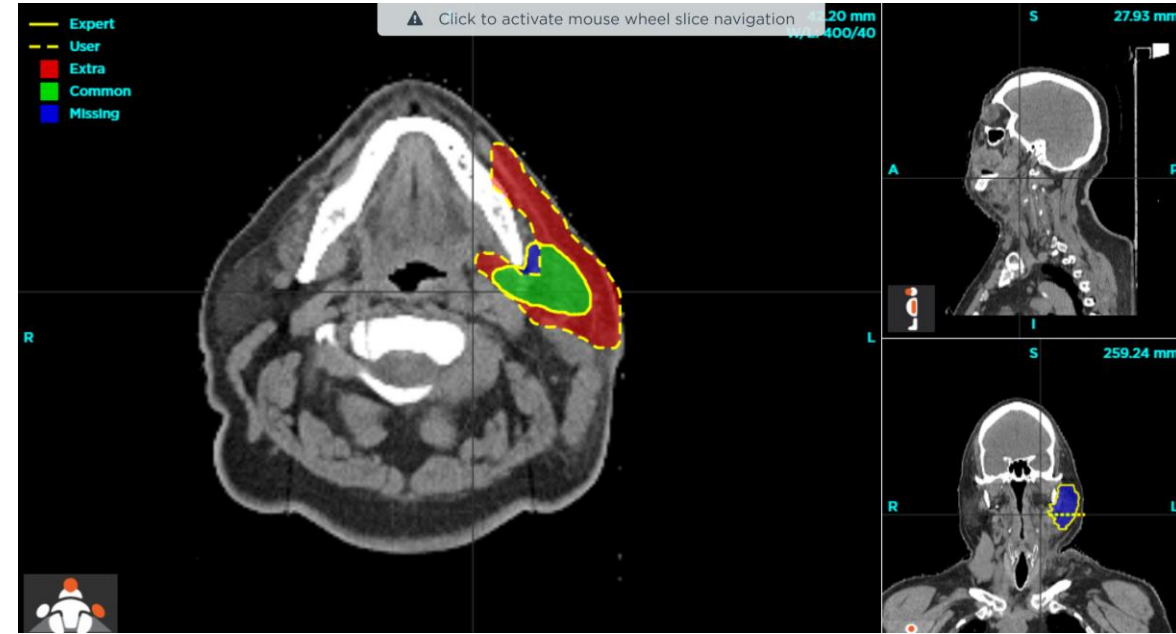
Key Challenges for Africa

- **Care**
 - Infrastructure
 - Weak healthcare systems
- **Education**
 - Limited education and training compounded by brain drain
 - Need for mentorship
- **Research**
 - Limited resources and capacity for research
- **Outreach:**
 - Limited awareness, policy, public private partnerships (PPP)



Opportunities: Africa

- Care
 - Ongoing initiatives involving Africa
 - Medical Physics for World Benefit
 - Radiating Hope
 - Medical Physicists of the Diaspora for Africa
 - Treat Safely
 - Leap-frogging opportunities using advanced information and communication technologies:
 - Comprehensive Cancer Center in the Cloud (C4): e-consultation, second opinion, e-contouring, remote treatment planning quality assurance support,



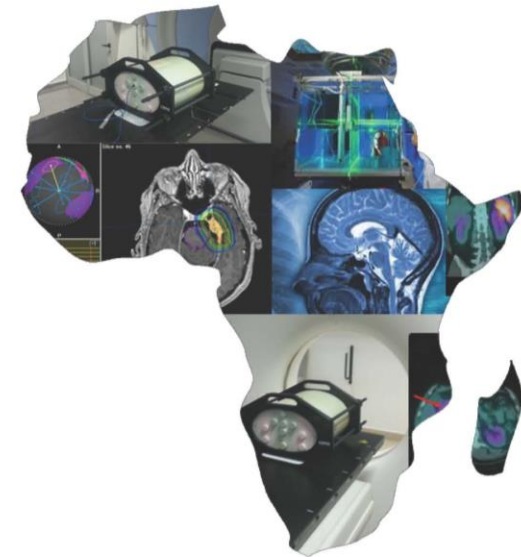
Opportunities: Africa

- Education
 - Twinning partnerships between USA or Canadian and African institutions
 - Global Oncology University
 - Workshops UPENN-Tanzania
 - Award-winning collaborative online education platform
 - Degree programs in plan
 - Training by AORTIC, UICC etc
 - International Organization for Medical Physics accredited courses
 - Africa Chartrounds



Opportunities: Africa

- Research
 - Multi-center clinical trials (e.g. in hypofractionated radiotherapy)
 - Co-mentored research collaborations
 - Artificial intelligence
 - Monte Carlo simulations
 - Implementation research
 - Abscopal Radiotherapy
 - FAMPO's Africa Journal of Medical Physics
 - Increasing funding opportunities for USA-Africa collaborations: e.g. with NCI center for global health

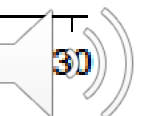
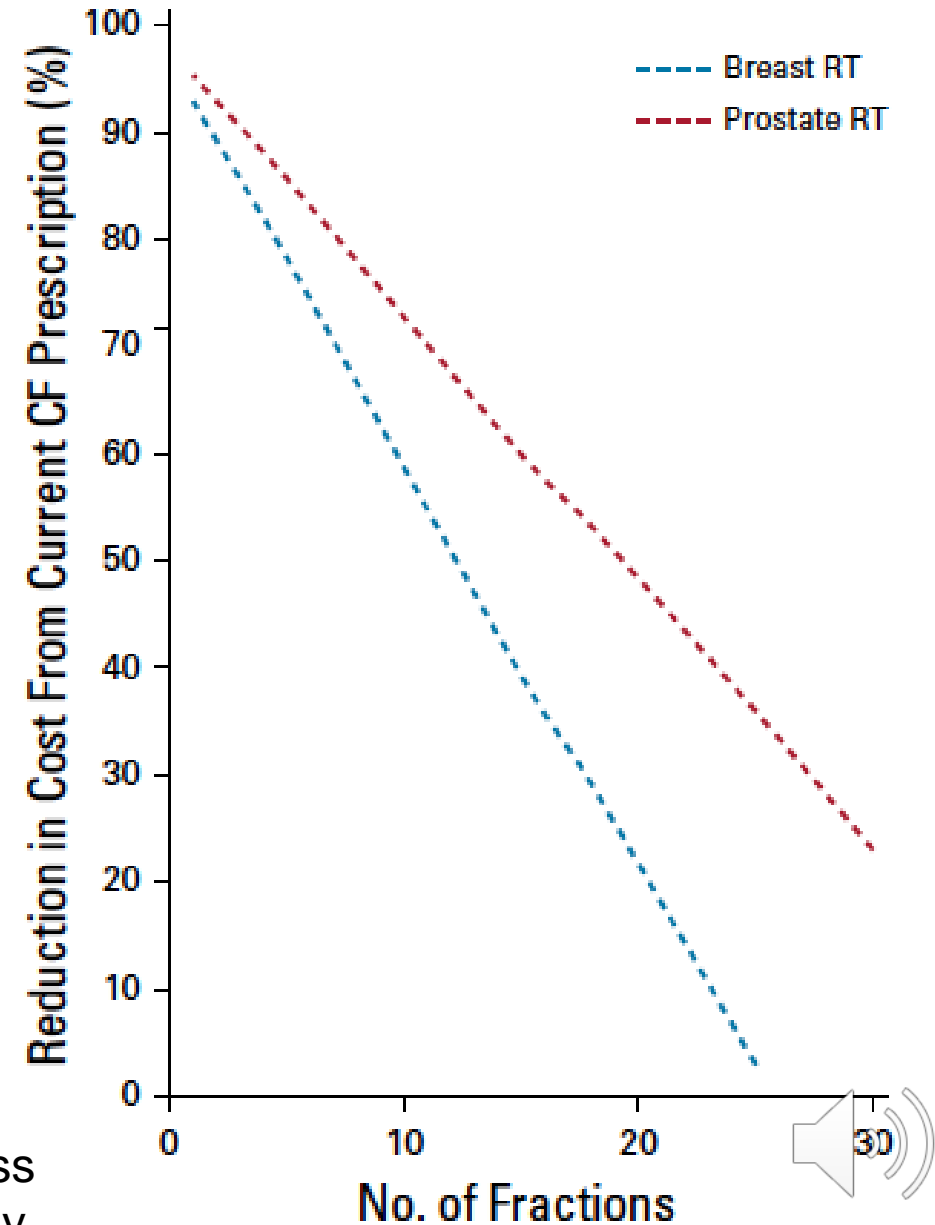


Opportunities: Africa

- Outreach

- Increased awareness e.g. on cancer
- Outreach to policy makers e.g. on increased adoption of hypofractionated radiotherapy in Africa increasing access and saving billions of dollars
- Outreach to Industry: e.g. PPP to establish cancer centers in Africa
- Outreach to Diaspora: e.g. turning brain drain to global health gain
- Outreach to professional societies: AAPM, ASTRO, ASCO

Hypofractionated RT increase in access
Ngwa et al. 2020 JCO Global Oncology



Quo Vadis?

- Collaborations are key for global health with Africa
- Future is technology-driven, digital



Courtesy Marvel Comics



“It always seems impossible until it is done”, Nelson Mandela



Thank you for your attention !

Let's work together to:
improve health quality
Increase global impact

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