The Changing Landscape of Global Ophthalmology

Dr Ciku Mathenge MD, MSc, PhD
Co-Founder and Director of Training
Rwanda International Institute of Ophthalmology (RIIO)
Professor of Ophthalmology, University of Rwanda
Medical Advisor Africa, OI
What I will cover

• Definition, facts and models of Global ophthalmology
• Lessons learnt
• Opportunities to use Global Ophthalmology as a tool for education
• The Global Ophthalmology of the Future
GLOBAL OPHTHALMOLOGY
Practice
GLOBAL EYE HEALTH
Strategy
GLOBAL EYE HEALTH INDICATORS
1. Eye health facility density and distribution
2. Eye health worker density and distribution
3. Coverage of national health finance pooling mechanisms that include eye care services
4. Out-of-pocket (OOP) payments for cataract surgery
5. Effective cataract surgical coverage
6. Effective refractive error coverage
7. Prevalence of Vision Impairment

GLOBAL OPHTHALMOLOGY INDICATORS
1. No of surgical outreaches conducted
2. No of wet labs set up
3. Outcome of surgery
4. No of training sessions conducted
5. No of ophthalmic equipment donated
6. No of faculty exchanges completed
1. **World Report on Vision** - The purpose of the report is to generate greater awareness of the extent of vision impairment and blindness and increase political will and investment to strengthen eye care around the world.

2. **The Lancet Global Health Commission on Global Eye Health** - reviews new and existing research in eye health and argues that addressing avoidable vision loss with highly cost-effective treatments has numerous benefits for Society.

3. **WHA Global Eye Health Targets** – endorsed on the 27th May 2021 by the World Health Assembly endorsed global eye health targets asking for –
   a. A 40-percentage point increase in effective coverage of refractive error by 2030;
   b. A 30-percentage point increase in effective coverage of cataract surgery by 2030.

   These targets will play a key role in increasing global eye care coverage in the future while delivering quality services.
My Global Ophthalmology Definition

I like to think of Global Ophthalmology as making the practice of ophthalmology universal, equitable and comprehensive by dealing with all the determinants of eye disease and eye health.

- For Every one
- From Every where
- At any time
- For Every thing

WHAT MODELS OF GLOBAL OPHTHALMOLOGY ARE MORE LIKELY TO MAKE THIS OVER-AMBITIONOUS INTENTION POSSIBLE?
FACT ABOUT GLOBAL OPHTHALMOLOGY TODAY

- Global ophthalmology is often thought of as ophthalmology elsewhere - outside where you call home
  - As you think about elsewhere do not ignore the inequities in eye health in your own location
  - Problems in eye care elsewhere are often characterised by a complex interactions between ophthalmology and other biological and social influences

WHO UNDERSTANDS BEST WHY CATARACT SURGERY A BLINDNESS REVERSING OPERATION IN AFRICA INSTEAD OF BEING A BLINDNESS PREVENTION SURGERY?
Eye Care Stats

- Asia has the largest burden in terms of numbers
- Africa has proportionately 73% more blind and visually impaired people than any other region (relative to population).
- 80% of these are due to causes that are either preventable or curable
- Approximately half the blindness in Asia and Africa is due to cataract-
- Blinding trachoma and onchocerciasis are almost eliminated

FACT ABOUT GLOBAL OPHTHALMOLOGY TODAY

• Global ophthalmology in itself implicitly assumes an **expertise gradient** with flows from those who “know” and “have” to those in need
  • Partial knowledge held by outsiders cannot be more effective than the vital expertise of the local teams.
  • Success of interventions is also **shaped by local culture, social histories and politics** and these experiences are best known by those who live them.

GLOBAL OPHTHALMOLOGY WILL HAVE TO KEEP ADJUSTING WITH THE TIMES
First Encounter with “Global Ophthalmology”
Numerous Positive Outcomes

• Creation of the largest residency program in East Africa
• Introduction of specialised care in cornea, retina etc including donations of equipment
• Facilitation in faculty development- VR, public health, paediatrics, orthoptists, imaging

THIS WAS A MODEL GROUNDED ON A LONG TERM VISION AND IT WORKED
A department of Ophthalmology that was accessible to all qualifying doctors and to all patients from anywhere. The department offered comprehensive services (even orthoptist). Training of local faculty made it sustainable.

I like to think of Global Ophthalmology as making the practice of ophthalmology universal, equitable and comprehensive by dealing with all the determinants of eye disease and eye health.
Does Cool still cooperate with [redacted]? Do they send lectureres like Kathleen, etc?

Cooperate: Yes
Send Lecturers: No need now.
We’re good😊
1. LONG TERM GOALS ARE IMPORTANT IN GLOBAL OPHTHALMOLOGY
Another Example of “Global Ophthalmology”

2003

- Every one? Only those who could reach the hospital- everyone knew someone who didn’t make it
- Every where ? Patients from one district only
- Any time? Once we left, the local doctor was back to square 1
- Every thing? Only cataract

Almost 20 years later we still struggle to deliver eye care in Rwanda and the major reason is lack of ophthalmologists
2. SPORADIC SURGICAL VOLUNTEERISM IS NOT EQUIVALENT TO GLOBAL OPHTHALMOLOGY.
POSITIVE AND NEGATIVE CONSEQUENCES OF SPORADIC SURGICAL VOLUNTEERISM

• Large numbers of blind patients helped in one go
• Consumables left behind may help stock up the local team
• Can raise awareness around eye care issues if good publicity is done

• Undermine local health financing systems- e.g. Rwanda’s Mutuel de Sante, Kenya’s NHIF
• Undermine what people think of the local ophthalmologist
• Lead to neglect of non-cataract conditions
**Same activity - Different approach - Better outcome**

IT IS THE PREVIOUS TRAINING THAT I HAD RECEIVED FROM THE VISITING TEAM (MSICS) THAT MADE IT POSSIBLE TO BE A VISITING SURGEON ON THAT TRIP TRAIN SOMEONE ELSE IN MSICS.
3. GENUINE SKILLS TRANSFER PROVIDES LONG LASTING IMPACT AND SHOULD BE INCLUDED AS A MAJOR COMPONENT OF GLOBAL OPHTHALMOLOGY
SOME OPTIONS THAT GLOBAL OPHTHALMOLOGY OFFERS AS AN AVENUE FOR SKILLS AND KNOWLEDGE TRANSFER
ACCESS TO APPROPRIATE E-LEARNING TECHNOLOGIES TO BRIDGE THE GAP IN LACK OF FACULTY NOs OR SKILLS

“The most fundamental point to come out of all of the case studies is that the appropriate use of technology is leading to significant improvements in learning and teaching across the sector and this is translating into improved satisfaction, retention and achievement. E-learning is facilitating the expansion of the sector without necessitating corresponding increases in the footprint of the physical estate and it is allowing broadly the same numbers of staff to educate a larger and more diverse student body. The kind of high quality, diverse, accessible, expanding higher education system desired by government and funders is no longer possible without e-learning.”

Remote Grand Round

• An opportunity to learn and compare for both faculty and trainees

• This is a simple expense free component of our Global Ophthalmology Relationship
TELEMENTORING

• Always difficult when mentors and mentees do not know each other
• Can be as simple as a WhatsApp group
BI DIRECTIONAL PHYSICAL VISITS BY BOTH EXPERIENCED AND BEGINNING LECTURES.

- CONFERENCE ATTENDANCE
- EXTERNAL EXAMINERS
- SABBATICAL EXPERIENCES
- RARE SUBSPECIALTIES: TROPICAL MEDICINE, OCULAR ONCOLOGY

GENUINE FACULTY VISITING EXPERIENCES SHOULD BE BI-DIRECTIONAL. IF YOUR PARTNER CAN DO MSICS BETTER THAN YOU, INVITE THEM TO TEACH THAT COURSE.
INTRODUCE NEW TECHNOLOGY AND TEACH HOW TO USE IT

FIRST DIABETIC LASER IN BURUNDI

FIRST EVER CORNEA INTACS DONE IN RWANDA

FIRST EVER KHD DONE IN RWANDA
Do not underestimate the ability of poor countries to uptake Technology

Ophthalmology is by nature a technology-driven field that favours individuals from privileged economies but technology in ophthalmology can be also become a “great equalizer”
TECHNOLOGY IN WET LABS

• Invite residents in partner programs to use your simulators
• NGOs concerned about poor surgical outcomes in programs they support ..... Replace one scholarship with a donation of a simulator to the nations training institution.
EMERGING TECHNOLOGIES AND GLOBAL OPHTHALMOLOGY

• Global Ophthalmology must embrace the latest but be sceptical when newer technologies like medical AI systems are developed from narrow training datasets.
• Create opportunities to get more representative data.
Advocate for equal partnership in research- no one wants to be merely a data collector or to be “stuck in the middle” in publications.
THE FUTURE OF GLOBAL OPHTHALMOLOGY-ACCOUNTABILITY

1. Transparency with all information available and accessible for public scrutiny;
2. Answerability or Justification meaning we will be required to provide clear reasoning for our actions and decisions
3. Compliance, with monitoring and evaluation of procedures and outcomes and how we report them
4. Enforcement or Sanctions for negative consequences
1. We are all in the same race against blindness but we are all in different lanes.

2. Every one has a fairer chance to finish the race if we strive for equity, mutual trust & respect and in solidarity through our Global Ophthalmology practices.