



# RLI Power Hour

## Ultrasound Education and Task Shifting to Overcome Health Disparities: How Imaging the World is Addressing the Gaps

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# No Disclosure



# Core Mission of Imaging the World

- **Mission:** To improve people's lives by increasing access to medical imaging in the world's most rural and resource-limited areas
- **Vision:** Impact 15 million lives by 2030
- Organized in Vermont, USA in 2008, 501c3 charitable organization
- ITW Africa is registered NGO in 2 countries:
  - 14 years in Uganda
  - 5 years in Malawi
  - Kenya, Ghana, Nepal pending
- Funding: Foundations, Industry, Grants, Private Donors, Research



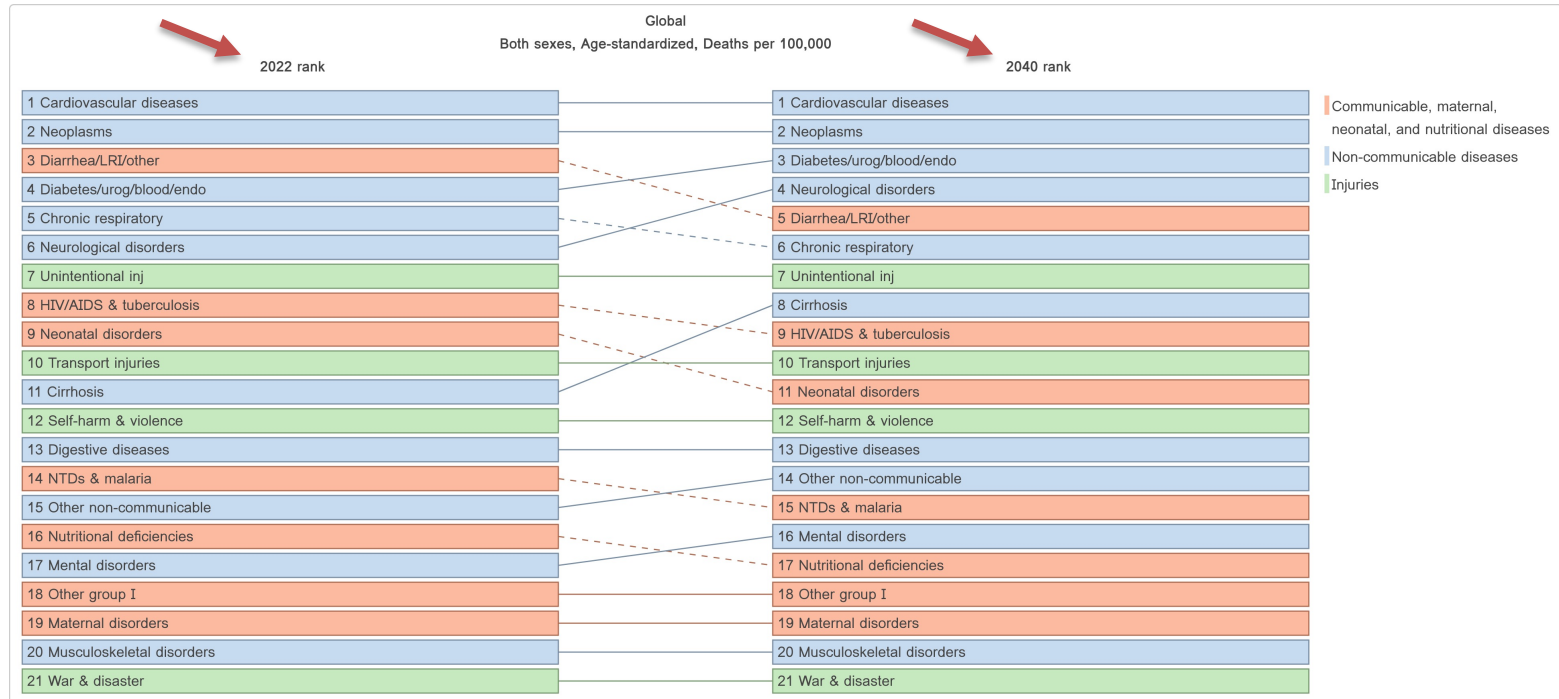


# Most Common Causes of Deaths Worldwide

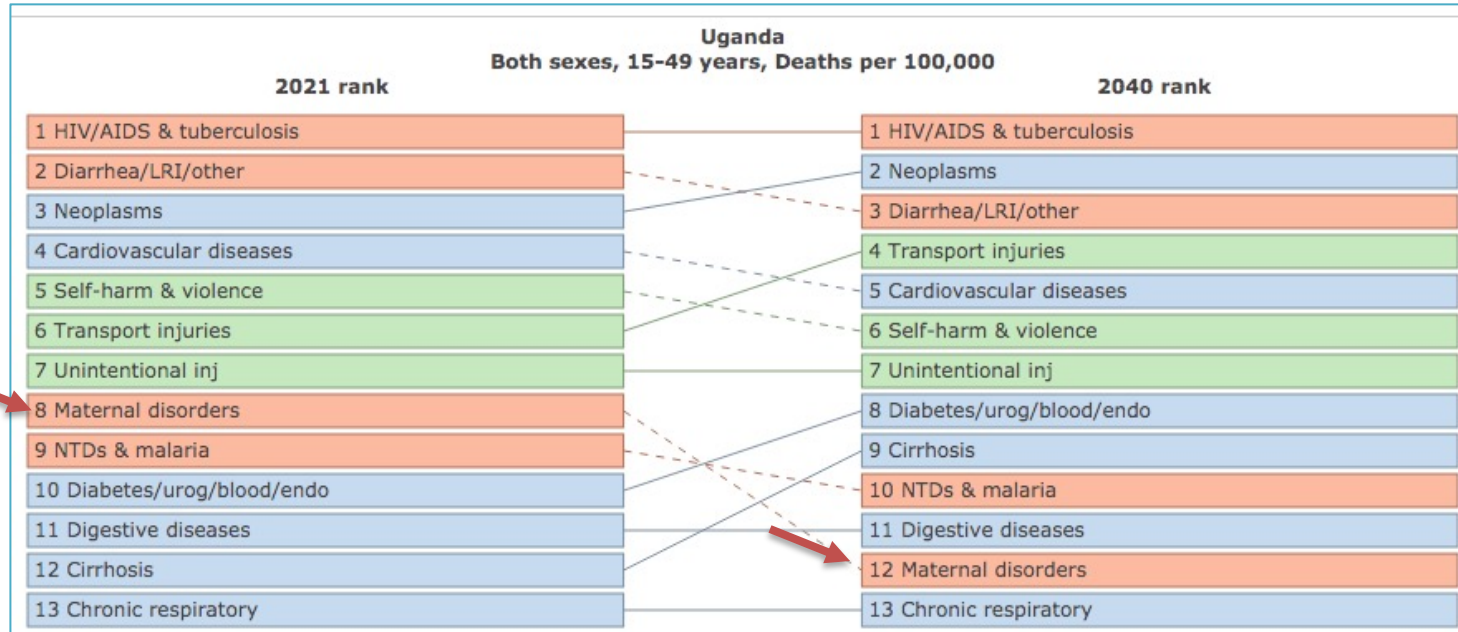




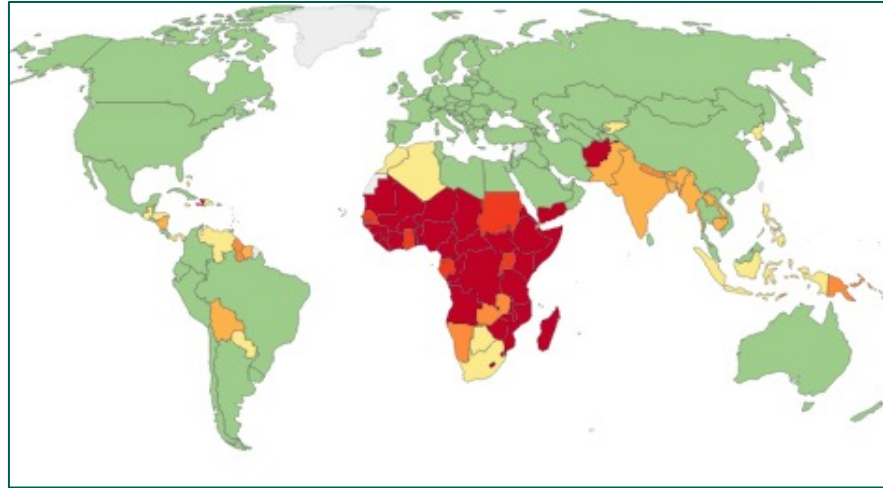
# Most Common Causes of Deaths Worldwide



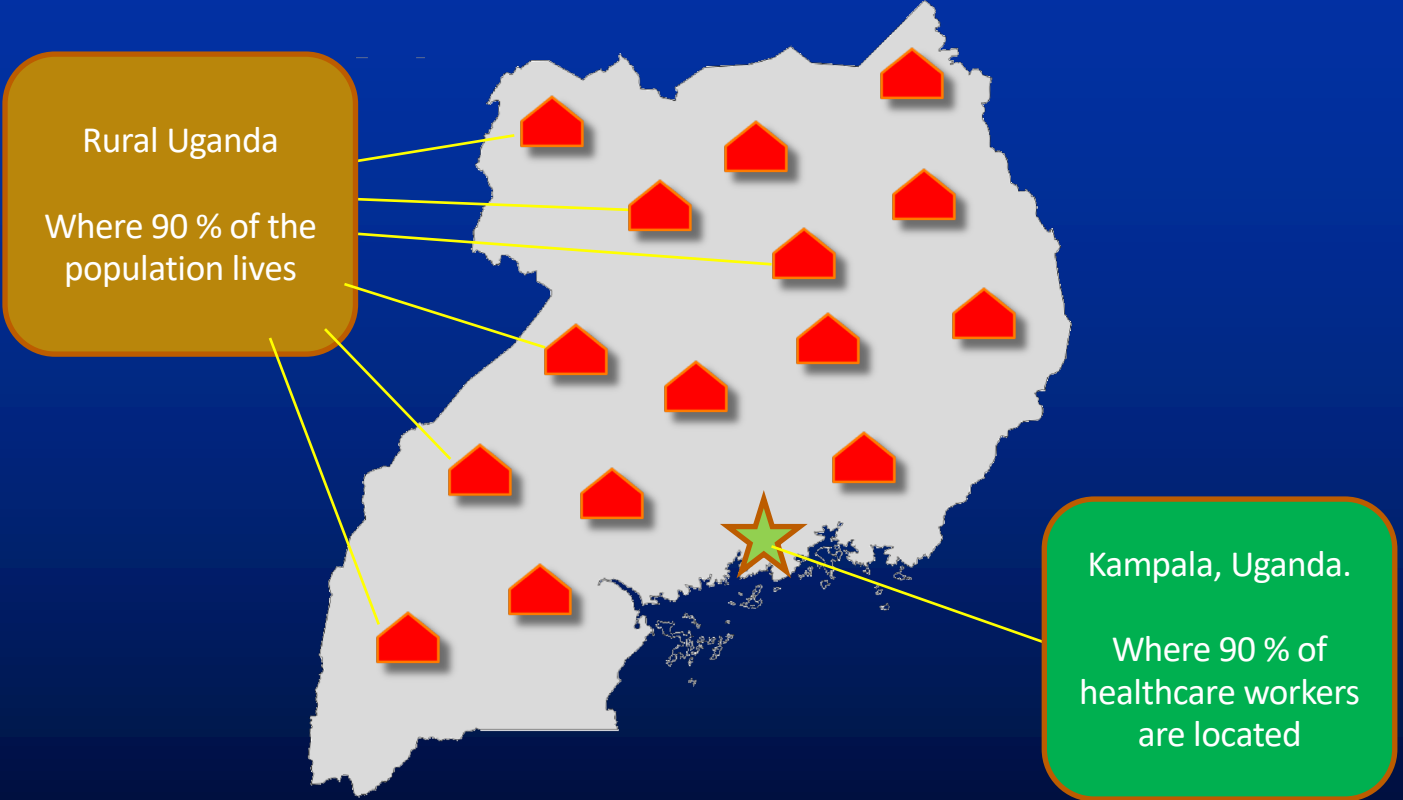
# The Problem



# Maternal and Child Health







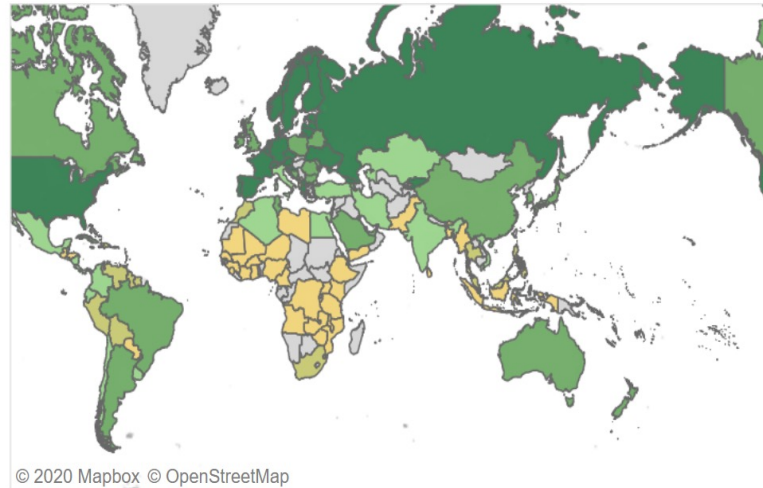
Rural Uganda  
Where 90 % of the  
population lives

Kampala, Uganda.  
Where 90 % of  
healthcare workers  
are located

# Insufficiencies Leading to Gaps in Access to Care

- **Workforce**
- **Technology**
- **Infrastructure**
- **Quality Management**

**Radiologists (per 1 mil)**



# Radiologists per Population in Selected African Countries

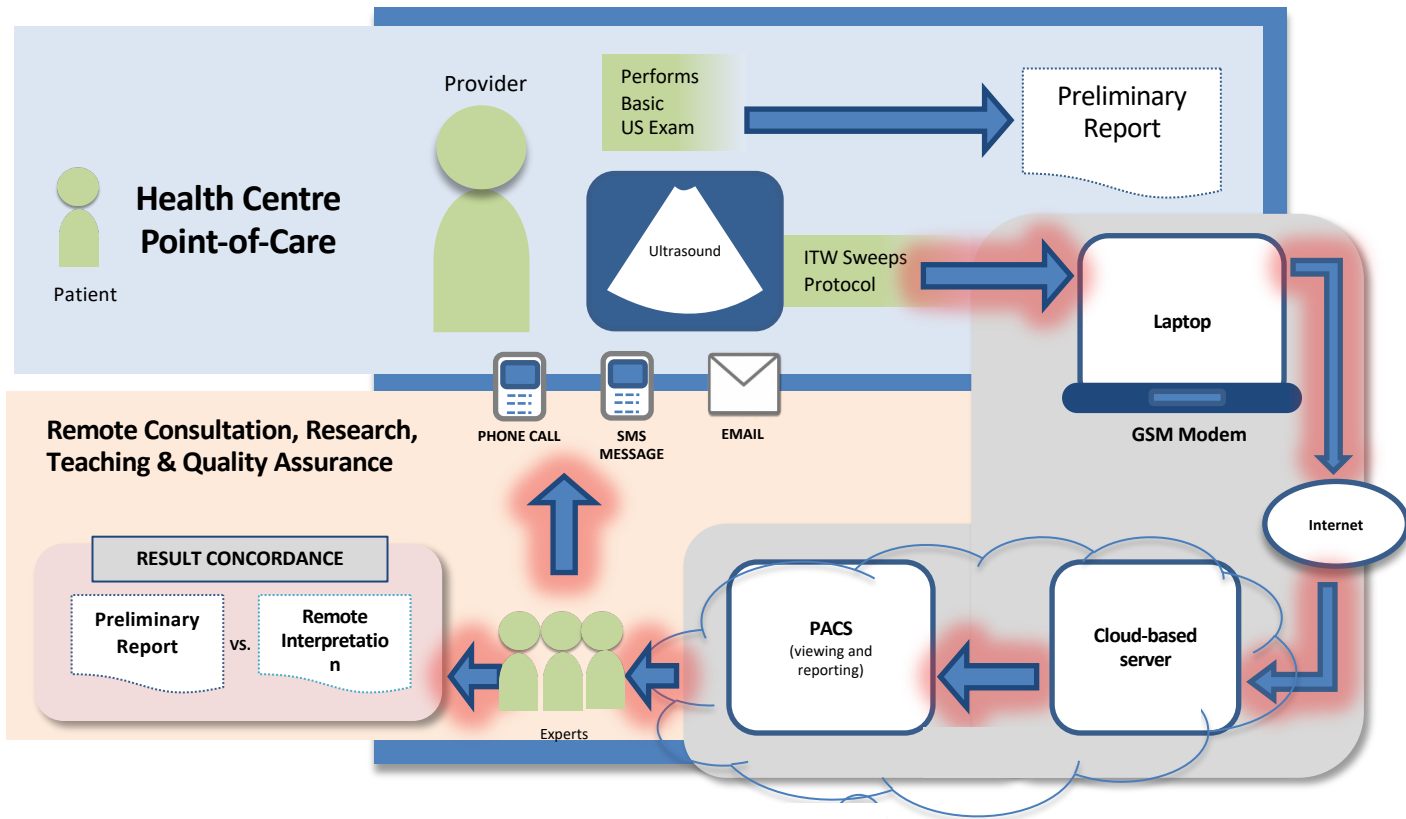
- Tunisia 1:23,000
- Kenya 1:27,000
- South Africa 1:46,000
- Egypt 1:67,000
- Sao Tome 1:95,000
- Cape Verde 1:180,000
- Nigeria 1:510,000
- Angola 1:636,000
- Uganda 1:734,000
- Guinea-Bissau 1:846,000
- Tanzania 1:1.3M
- Ethiopia 1:1.6M
- DR Congo 1:1.8M
- Mozambique 1:4.9M
- **Malawi 1:8.8M**



# Imaging the World Solution

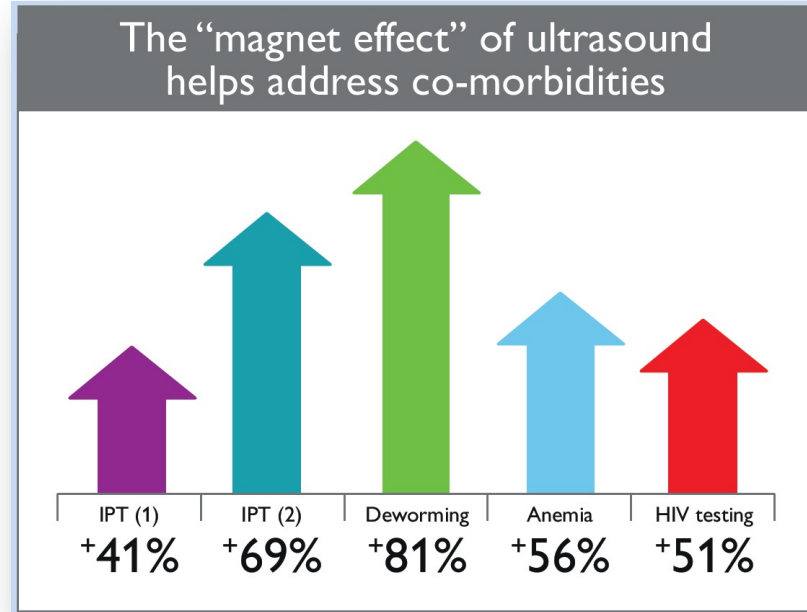
- Equip rural health care facilities with ultrasound:
  - Technology
  - Infrastructure
  - Training and Supervision
  - Quality management
  - Sustainable Business Model





# Imaging the World: Metrics of Success

- Catchment population 22K to 3.2 M
- Magnify reach with the same staff and devices
- Intercept problems early before they become acute, end-stage or fatal (30% for obstetrical ultrasound)
- 70% increase in returns for prenatal visits
- Magnet effect at the health centers
- Financial sustainability
- Inquiry leading to dissemination of knowledge





# Ultrasound is Suitable in Low-resource Settings

- Portable, rugged, solar-powered, easy to disinfect, low cost, no radiation
- Diagnosis and management of a wide range of common conditions and diseases, including trauma and infectious diseases

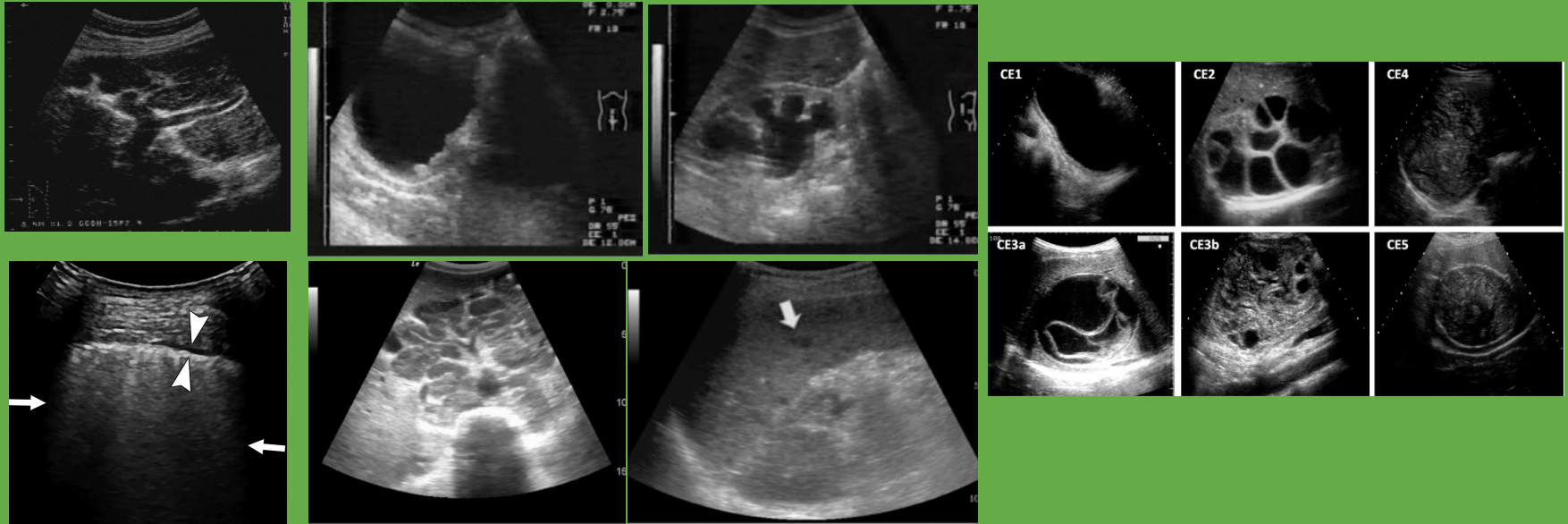


# Imaging the World: Specific Added-Value

- Core knowledge of obstetric ultrasound and imaging
- Other areas: Echocardiography, Lung, Liver, Genitourinary, Breast, Pediatric, Trauma
- History of service –learning projects with undergraduate students, medical students, and residents
- Pipeline for faculty and other professionals to engage in clinical, teaching, and/or research projects



# Ultrasound Imaging of Infectious Diseases





# ITW Infrastructure in Uganda and Malawi

- ITW Africa Administrative offices and teams in Kampala, Uganda and Blantyre, Malawi
- ITW Centre for Health Education Research and Innovation (CHERI) in Kampala, Uganda
- A Radiology Division of Health Services Research at UVM already conducting research in Uganda and Malawi
- Work with transdisciplinary teams, including local academic researchers (23 peer-reviewed publications and 56 presentations at scientific meetings, recent collaborative NIH proposal)



# Imaging the World: Key Relationships

- Ministries, OPM, local academic institutions, health providers, UCI, local community health workers
- Cross-sector partnerships
- Other academic, industry and funding partners



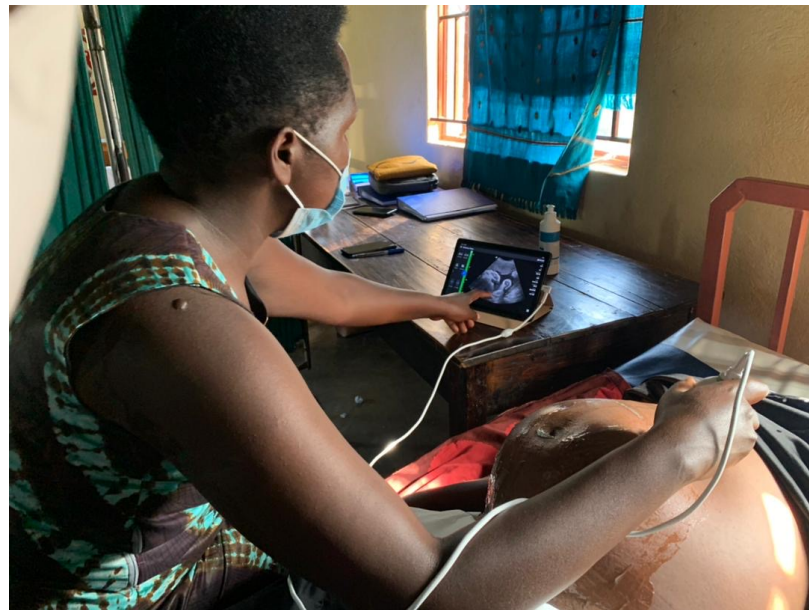
# Imaging the World: On-the-Ground Know-How

- IRB's/UNCST/NGO/CONGOMA processes
- Country rules and regulations
- Supply chain and procurement
- Implementation
- Monitoring and Evaluation
- Cultural context





Where can we have the greatest impact?



# ITW Center for Health Education, Research and Innovation





# New Expansion



# Volunteer Opportunities

- Clinical service, teaching, research, quality management, development
- Resident Training
- Site visits
- Insurance
- Licensing
- Safety





Thank You!



[www.imagingtheworld.org](http://www.imagingtheworld.org)