

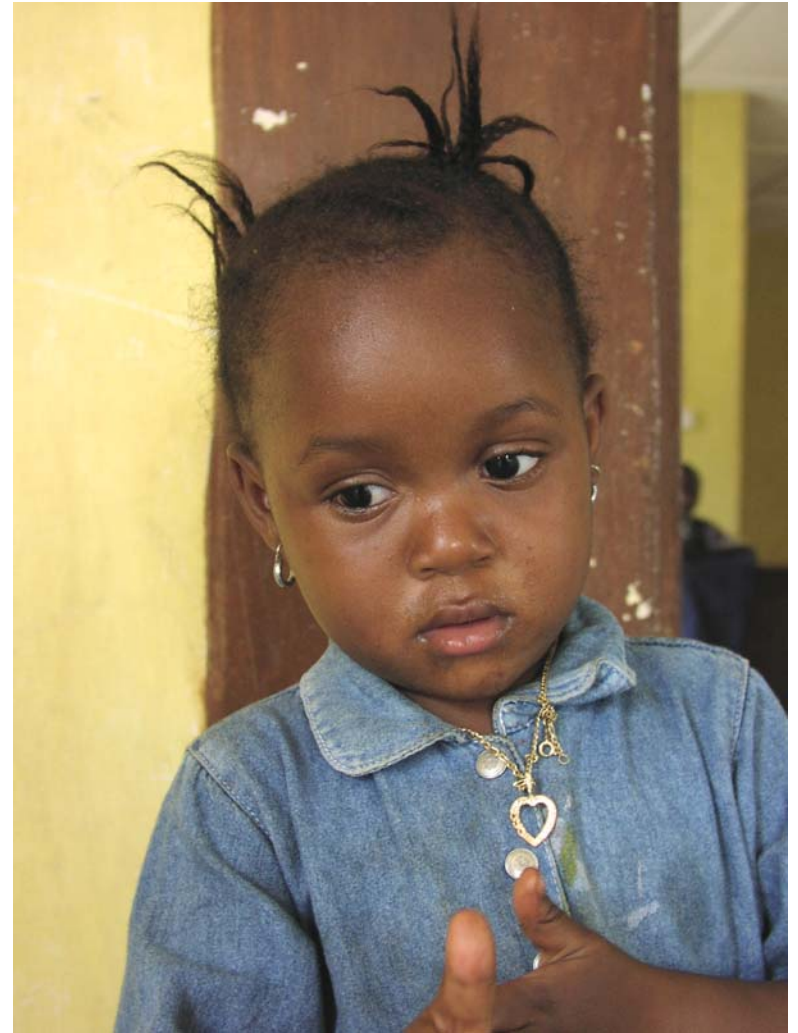
Duke -
Engineering
World Health

Sierra Leone

Our Arrival at Kissy Eye Clinic



Later that night:
Little girl, waiting for her
grandmother at Kissy Hospital

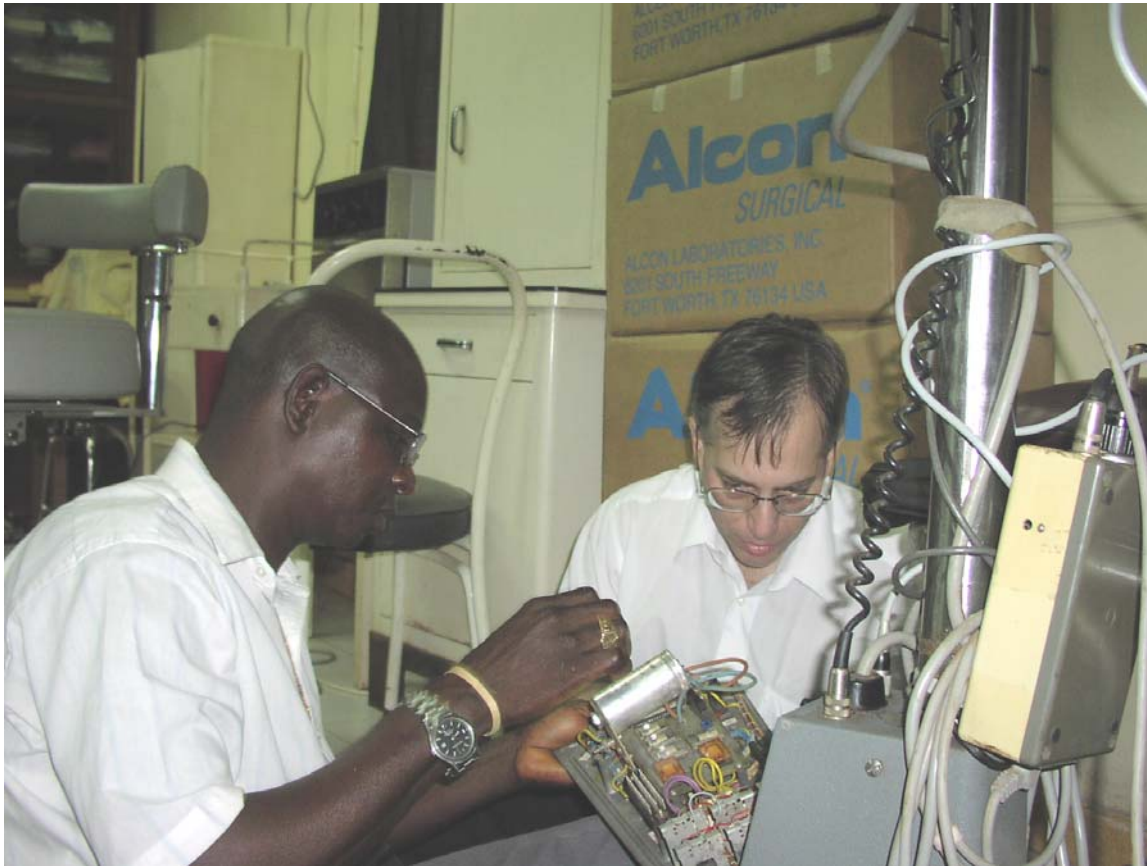


Something Was Wrong

- It was late at night
- Cataract patients still in waiting room
- Pheco and XYZ = 20 minutes



Got to Work



- In 30 minutes
- Fixed the XY
- All Patients Treated

Training Paul to work on XY

Sierra Leone



Ingrid



BB

- Life Expectancy - 38 years

- Safe Drinking Water - 54%

- Infant Mortality - 170/1000

- Under Five Mortality - 286/1000



Cindy



Adolfo

Repairing Equipment, Restoring Lives



Engineering
World
Health





Duke-EWH Summer Institute



Starts with 1 Month in Costa Rica/Tanzania

- Daily classes in Spanish/Swahili and Instrumentation/Repair
- Social, ICU tour etc.

Then 1 Month in Nicaragua, El Salvador. Honduras, Tanzania

- Host Family Life
- Daily hospital work: repairs, spare parts, inventory, calibration



Month 1 Training: Intense Study



- Daily Language
 - 4 hours of class
 - 2-3 hours of homework
 - All levels
- Daily Lecture
 - 1 Hour
 - Weekly Quiz
- Daily Lab
 - 3 Hours
 - Occasional HW

Formal Medical Equipment and Language Training

Additional Training

Mutual Support



Training Trainers

Month Training 1: Intense

- Volcanoes
- Rafting
- Mt Kilimanjaro
- Cloud Forest
- Beaches
- Serengeti



Costa Rica: More than Training





Duke-EWH
Summer Institute



Then The Trip Starts!

Repairing Equipment



Preventative Maintenance

Training

Inventory



Identifying Needs



Special Programs

- 2-week trips for Alumni
- 1-Year Experiences
 - Engineering Volunteer,
 - One-Year Internship
 - Duke-EWH CUREs Fellows
 - Duke-EWH MS Fellowship
 - Family Program





Trip Profile: Stephanie Patnode
University of Southern California
“I’d go back tomorrow. I ... for once, felt like an engineer.”



Trip Profile Jody Riskowski University of Wyoming

When we arrived, a nurse produced three 'broken' ECG machines. This was in a ward where not one patient was being monitored. We quickly discovered that the machines worked, but hadn't been set-up correctly. We set them up and before we left, we saw patients being properly monitored for the first time in years.

"The summer was an amazing experience, and one I will never forget. I grew and changed. It was the best time of my life."

Impact: Aid

- 2006: 137 pieces of medical equipment repaired by students
 - Street value of \$390,000



Impact: Research

Why does most donated equipment never treat patients?

Why does working equipment fail?

Are ISO standards killing people?

Why are WHO needs not matching MD's needs?

- Over 300 in-depth interviews
 - Now in senior design projects everywhere
- About 1000 short interviews + debrief
- 10 inventories & 974 broken analysis



Some Duke-EWH SI Details

- Credits:
 - No Duke U credits
 - Almost no Engineer wants them!
 - Those that do, want their U
- Fee
 - About \$4900
 - Cheaper than vacation!
 - Offer financial aid
- Competition
 - About 2 x more apps than spots
 - 50 spots open for 2007
- Offer financial aid



Engineering World Health



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You Can Help Them Help Themselves!