Panel I: The Global Burden of Surgical Disease

John L. Tarpley, MD
General Surgery

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Questions to be Answered

1. What are my current positions in providing Med-Surg Care globally?

2. How did I obtain this position?
   Prior experiences in Global Health Care.

3. What does ‘Global Burden of Surgical Disease’ mean to me, my specialty?

4. How are my organizations addressing this demand?

5. How can centers be structured to maximize global impact?
Questions to be Answered ii

6. Does education of surgical trainees impact the efficacy of such centers?

7. Dual educational role: US trainees vs. local Surgeons: How can education goals be meshed?

8. What have your learned through your position?

9. Do you have advice for learners interested in Global Surgery?

10. What are some of the challenges to education of national surgical trainees in the developing world?
Six Major “Surgical” Challenges

Safe airway and anesthesia management

Trauma³

Women’s health issues;
  Ante-natal and peri-natal care

Cancer

Pediatric Surgery—Neonates and Infants

Analgesia—peri-operative pain management;
  Palliative care
Challenge #1: Safe Anesthesia & Airway Management
Perioperative patient outcomes in the African Surgical Outcomes Study: a 7-day prospective observational cohort study

“...patients in Africa were twice as likely to die after surgery when compared with the global average for postoperative deaths.”

Bruce M Biccard et al. on behalf of the African Surgical Outcomes Study (ASOS) Investigators. 
6000 Kenyan Children: POMR* = 1/100 anesthetics
In HICs: POMR = 0.6-1.0/10,000 anesthetics

Children in Africa have a 100-160 X greater risk of dying during operation compared to child in USA.

*POMR = Perioperative Mortality Rate

Courtesy of Mark Newton.
Kijabe Hospital and Vanderbilt
Challenge #2: Trauma

~ A third more deaths/year from Injuries than from HIV, TB, & Malaria combined.

Injuries and Violence: 
<www.who.int>

Courtesy: Charles Mock, 
Univ Washington Seattle
Challenge #3: Women’s health issues; Ante-natal and peri-natal care
Maternal Mortality

Lifetime risk of maternal death:

- in HIC is 1:3,300
- in Africa 1:41

Every day 830 mothers die:

- 550 in Africa
- 180 in SE Asia
- 5 in high-resource countries

Courtesy of Mark Newton, Kijabe Hospital, Kenya and Vanderbilt
#4 Cancer
Pediatric Surgery—Neonates and Infants
Analgesia

Postoperative Pain

Palliation
Medical Narcotics
The United States and a few other wealthy countries consume most of the world’s medical narcotics, including morphine and other opium derivatives.

Source: International Narcotics Control Board

Circles are scaled in proportion to the number of standard daily doses per 10,000 people.

Paul Farmer’s 4 S’s

Staff  = WORKFORCE
Space
Stuff
Systems
<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
<th>Surgeons</th>
<th>Ratio</th>
<th>Surgeon/100 k</th>
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</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>10,395,931</td>
<td>19</td>
<td>547,154</td>
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<tr>
<td>Ethiopia</td>
<td>96,633,458</td>
<td>315</td>
<td>306,773</td>
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<td>Kenya</td>
<td>45,010,056</td>
<td>515</td>
<td>87,398</td>
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<td>Malawi</td>
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<td>543,046</td>
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<td>Mozambique</td>
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<td>411,536</td>
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<td>Rwanda</td>
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<td>57</td>
<td>216,441</td>
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<td>Tanzania</td>
<td>49,639,138</td>
<td>165</td>
<td>300,843</td>
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<td>Uganda</td>
<td>35,918,915</td>
<td>235</td>
<td>152,846</td>
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<td>Zambia</td>
<td>14,638,505</td>
<td>75</td>
<td>195,180</td>
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<td>Zimbabwe</td>
<td>13,771,721</td>
<td>131</td>
<td>105,128</td>
<td>0.95</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>320,414,474</strong></td>
<td><strong>1604</strong></td>
<td><strong>87,935</strong></td>
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</tr>
</tbody>
</table>

**ECS Africa**: 1 Surgeon per 199,760 = 0.5 Surgeon per 100,000 Population

**USA**: 55 Surgeons per 100,000 Population

Sources: COSECSA and World Bank;
Plastic Surgeons in COSECSA*

~ 60 Plastic Surgeons in Eleven Countries

Botswana
Burundi
Ethiopia
Kenya
Malawi
Zimbabwe

Mozambique
Rwanda
Tanzania
Uganda
Zambia

~ 350 Million = 1 PS/5.8 Million

*College of Surgeons of East, Central and Southern Africa
Courtesy of Eric O’Flynn, Royal College of Surgeons of Ireland
Plastic Surgeons in Nigeria: 2020

Peter B. Olaitan, MBBS, FWACS
Professor of Plastic Surgery
LAUTECH School of Medicine:
140 plastic surgeons practising in Nigeria currently.

2020 population estimated to be 206 million, ranking 7th in the world. Thus 1 plastic surgeon per 1.5 million.

NAPRAS: Nigerian Association of Plastic, Reconstructive, and Aesthetic Surgeons
Feel Free to Contact Me

john.tarpley@vanderbilt.edu
John.Tarpley@UB.AC.BW

615-478-0867