Cesarean section safety and quality:
The surgical, anesthesia and obstetric (SAO) workforce

Lina Roa, MD
Paul Farmer Research Fellow in Global Surgery and Social Change (PGSSC), Harvard Medical School
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CONTEXT: LANCET COMMISSION ON GLOBAL SURGERY

- The Lancet Commission on Global Surgery
  - 110 collaborating countries
  - 5 Key messages
  - 100 publications and abstracts
- Baseline information
- Recommendations for implementing change
5 Billion cannot access safe surgery when needed
143 million more procedures needed annually at minimum. Poorest \( \frac{1}{3} \) of the world’s population receives 6.3% of worldwide procedures.
33 million Individuals face catastrophic expenditures paying for surgery & anaesthesia annually

+ 48 million = 81 million
KM#4

Investing in surgery is affordable, saves lives, & promotes economic growth.

KM#5

Surgery is an indivisible, indispensable part of health care.
6 GLOBAL INDICATORS TO MEASURE THE STRENGTH OF A SURGICAL SYSTEM WITH TARGETS BY 2030

- **2H ACCESS to Timely Essential Surgery**: 80%
- **SAO/100,000 Specialist Density**: 20/100,000
- **POMR Recorded with Basic Risk Adjustment**: 100% Protected
- **IMPOVERISHING EXPENDITURE Protection Against it**: 100% Protected
- **SURGICAL VOLUME Room per 100,000**: 5,000/100,000
- **CATASTROPHIC EXPENDITURE Protection Against it**: 100% Protected

**RECORDED WITH BASIC RISK ADJUSTMENT**
Surgical Workforce & Health Outcomes (SAO providers/100,000)

**FIGURE 1.** The relation between MMR and density of surgical providers in 143 countries with available data. Logarithmic trendline used to show the gradient of improvement in MMR as providers increase.
44% of people in the world live in countries with SAO density < 20/100,000

72% of people in the world live in countries with SAO density < 40/100,000

+1.27 million providers needed by 2030 to reach 20/100,000

+2.28 million providers needed by 2030 to reach 40/100,000
## Human Resources for Cesarean Section: Requirements vs. Reality

<table>
<thead>
<tr>
<th>Specific requirements for CS</th>
<th>Reality of SAO workforce</th>
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<tbody>
<tr>
<td>• Obstetricians/Surgeons</td>
<td>• Gaps between <strong>urban vs rural</strong> and <strong>public vs private</strong></td>
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<tr>
<td>• Anesthesiologists</td>
<td>• Current strategies are not meeting workforce density needs</td>
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<td>• SBA/midwives</td>
<td>• No evidence based <strong>standards</strong> and <strong>guidelines</strong> for <strong>credentialing</strong></td>
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<tr>
<td>• Management of labor</td>
<td></td>
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<td>• Timely referral for CS</td>
<td></td>
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<td>• Operating theater nurses</td>
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**Observations:**
- No evidence based standards and guidelines for credentialing
- Gaps between urban vs rural and public vs private
- Current strategies are not meeting workforce density needs
Human Resources for Cesarean Section: Requirements vs. Reality

**SAO Density**
- Goal: 20 SAO/100,000
- No guidelines on number of SBA
- Lack of quality data on who is providing care

**Effect on Surgical environment**
- Clinicians perform CS alone
  - Unable to focus on clinical decisions
- High volume $\rightarrow$ decreased infection control practices
Case Study: MMSH Kano, NW Nigeria

- **Nigeria Workforce density**
  - 5.9-96.5/100,000 Midwives
  - 0.25/100,000 Ob-Gyn
  - 15% of health care workers in primary health care centers are SBA Skilled Birth Attendants

- **MMSH Kano**
  - 20,400 deliveries/year
  - 10.3% CS rate = 2,100 C-sections/yr
  - Ob-Gyn=2
  - Anesthesia providers=2
  - Operating theater nurses: 2
  - 800 deliveries per SBA per year
  - Each Ob-Gyn will need to perform 1050 CS annually

Source: Hannatu Abdullahi, Jhpiego
Case Study: MMSH Kano, NW Nigeria

**Work force problems**
- Brain drain
- Maldistribution
  - Federal tertiary hospitals have more staff and less volume
- Gaps in planning-recruiting

**Shortage of Anesthesia staff**
- Delay of emergency C-section
- Anesthetic complications
- Post-op complications

**Free maternal care**
- Increased patient volume
- No expansion of infrastructure
- No increase of staff
  - Increased fatigue and attrition

**Long term implications**
- Fistulas
- Adhesions, complications in future C-sections
- Chronic pelvic pain

*Source: Hannatu Abdullahi, Jhpiego*
GOALS
• Increase access to C-sections
• Reduce maternal and neonatal mortality

REQUIREMENTS
• Adequate planning
• Monitoring and supervision
• Mentoring and continuous education
  • Surgical skills
  • Problem recognition
• Skills mix is critical: Surgery & Anesthesia
• Functional patient referral system

Human Resources for Cesarean Section: Task Shifting
**TASK SHIFTING: CASE STUDY—MALAWI**

- **Clinical Officer program** started in 1979
  - 4 year program-(1 clinical year)
  - District and central hospitals
- 90% of C-sections done by Clinical Officers
  - Basic gynecological surgery
- 3-5% C-section rate in Malawi
- Maternal and newborn mortality remains high
  - MMR: 497/100,000\(^1\)
  - NMR: 20/1000\(^2\)
- Gaps in training
- Lack of incentives for professional development
  - Diploma→Degree

*Source: Luis Gadama, Medical College of Malawi*

1. WHO, World Health Statistics
CONCLUSION

**SAO workforce issues for C-sections are staggering**

- Inadequate numbers
- Poor distribution
- Non-standardized, updated skills
- Lack of credentialing
- Lack of retention

**Need for a new, intentional and rational approach to recruiting, training, deployment, and retention**