Surgical, Obstetrics and Anaesthesia Capacity in Tanzania: a Systematic Review

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Key messages:

1. **5 BILLION** PEOPLE LACK ACCESS TO SAFE, AFFORDABLE SURGICAL AND ANESTHESIA CARE WHEN NEEDED

2. **143 MILLION** ADDITIONAL PROCEDURES ARE NEEDED YEARLY TO FILL UNMET NEED

3. **33 MILLION** FACE CATASTROPHIC EXPENSE AFTER SURGICAL CARE YEARLY

4. **INVESTMENT** IN SURGICAL AND ANESTHESIA CARE SAVES LIVES, IS AFFORDABLE, AND PROMOTES ECONOMIC GROWTH

5. **SURGERY IS AN INDIVISIBLE, INDISPENSABLE PART OF HEALTH CARE**
Burden of Surgical Diseases in Tanzania

**Deaths attributable to surgical causes in Tanzania**

- 19.3% of deaths in Tanzania are attributable to disease that can be addressed by surgical and obstetric care

**Surgical burden of disease Tanzania (DALYs)**

- 17% of the burden of disease in Tanzania is amenable to surgical treatment

**International LMIC estimates of post C-section deaths attributable to anaesthesia**

- 3.96% of all maternal mortality in Tanzania is anaesthesia related
Systematic Review: Methods

• Performed a systematic Literature review of:
  • Published Scientific Literature
  • Grey Literature
  • Policies and Policy Guidelines in Tanzania
  • Data from MOHCDGEC

• Databases searched: PubMed, Embase, African Index Medicus, Google
Service Delivery: Surgery, Obstetrics and Anaesthesia

• 79% of hospitals provide basic surgical care

• 51% of district, regional and Zonal hospitals are ready to perform surgery (SARA, 2012)

• The Primary Health Services Development Program (MMAM 2007-2017) noted ”inappropriate” referrals due to deficiencies at lower level facilities

• In 2010, 70% of patients seen at Muhimbili were self-referred, 67% of these required surgical treatment. (Luboga et al., 2010)
Human Resource

- Tanzania has **177 specialist surgeons** (0.36 per 100,000 population)
- **<22 Anaesthesiologists** (0.05 per 100,000 population)
- 85% of surgeons practice in major cities
  - 64% in Dar es Salaam
  - Many not practicing/employed (NGO/MOH)
- A significant proportion of surgical procedures are performed by non-physician clinical providers
  - **85% of C-sections by AMOs** in Mwanza and Kigoma Regions
  - Most anaesthesia is provided by AMOs, Nurses and COs
  - **0.15 Anaesthesia Providers** of any cadre per 100,000 population

**LANCET COMMISSION TARGET**

- Total Surgeon, Anesthesiologists, Obstetrician /100,000
  - 0.31

- **Workforce performing non-obstetric surgical procedures**
  - Surgical Specialists: 29%
  - Medical Officers: 15%
  - Non-physician clinicians: 56%

Source: (SARA, 2012)
Infrastructure

% of facilities performing surgery with minimum level-appropriate equipment

Services provided at facilities that perform major surgery

Number of facilities

Service Present | Service Absent

119 km
Information Management

• National Information Management
  o HMIS and HFR collect limited number of surgical indicators

• Facility Information Management
  o Most hospital records are paper-based
  o Data on post-operative mortality and morbidity is often not collected
  o Collected data is often not analyzed and used

Surgical Volume
- 484/100,000 pop
  Target: 5,000/100,000

SOA Specialists
- 0.31/100,000 pop
  Target: 20/100,000

2-Hour Access to Bellwether Procedures
- Unknown
  Target: 80%

At risk Catastrophic Expenditure
- 65.8% of Pop
  Target: 0%

At risk Impoverishing Expenditure
- 85.5% of Pop
  Target: 0%

Peri-Operative Mortality Rate
- Unknown
  Target: Track

Source: World Development Indicators; World Bank, 2016
Finance

• **11.3% of National Budget** allocated to Health annually (Lee et al., 2015)
• **35%** health funding from foreign aid
• Allocation to surgical care currently unknown
• **67%** of population at risk of catastrophic expenditure (World Bank, 2015)
• **86%** of population at risk of impoverishing expenditure (World Bank, 2015)
• **15%** of population has NHIF and about **7%** has CHF (Rambau et al., 2013; Macha et al., 2014)
Key recommendations for National Surgical Planning

1. Reviewing staffing guidelines to include SOA clinicians
2. Increasing access to SOA training programs including sponsorship for internships and residencies
3. Defining and regulating the role of non-physician surgical care providers
4. Developing retention plan to ensure equitable distribution of SOA services in rural areas
5. Working with each region to develop a referral plan including transfer criteria, referral logistics and community education
6. Defining and procure appropriate equipment and consumables for SOA services at each level
7. Collecting and integrating surgical indicators into current reporting mechanisms like DHIS2
8. Tracking proportion of budget allocated to surgery
9. Tracking systematic and direct costs for providing surgical care
References


Thank you for listening.

Questions or Comments