Safe Surgery: An Emerging Global Movement

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2015: A Global Surgery Paradigm Shift

THE LANCET COMMISSION ON GLOBAL SURGERY

ESSENTIAL SURGERY INCLUDED IN DISEASE CONTROL PRIORITIES (DCP-3)

-WHA RESOLUTION 68.15 - EMERGENCY AND ESSENTIAL SURGICAL CARE AND ANAESTHESIA ADOPTED AS PART OF UNIVERSAL HEALTH COVERAGE
• 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 1/3rd of the world’s population receives 6.3% of worldwide procedures
33 million Individuals face catastrophic expenditures paying for surgery & anesthesia annually

+ 48 million = 81 million
Why do patients face catastrophic expenditure?

- More than 3 billion people live on less than $2.50 per day.
- Much basic surgical care is emergent and therefore cannot be financially planned for.
- More robust risk pooling is required to avoid catastrophic financial consequences of surgical care or prevention from seeking care at all.

Time-critical and life- or limb-threatening

Unpredictable, cannot plan or save for financial consequences

User fees are often high and can be catastrophic
Investing in surgery is affordable, saves lives, & promotes economic growth.
Cost of Surgical Expansion (2015-2030)

$350,000,000,000,000

Total GDP Losses (2015-2030)

$12,300,000,000,000,000
Surgery is an indivisible, indispensable part of health care.
28-32% of the global burden of disease is from surgical conditions

More than malaria, TB, and HIV combined
6 GLOBAL INDICATORS TO MEASURE THE STRENGTH OF A SURGICAL SYSTEM

- 2H ACCESS to Timely Essential Surgery
- SURGICAL VOLUME: Procedures Done in an Operating Room per 100,000
- IMPOVERISHING EXPENDITURE: Protection Against it
- SAO/100,000: Specialist Surgical Workforce Density
- POMR: All Cause Death Prior to Discharge
- CATASTROPHIC EXPENDITURE: Protection Against it.
TARGETS FOR EACH INDICATOR BY 2030

- **2H ACCESS TO EMERGENCY ESSENTIAL SURGICAL CARE**: 80%
- **IMPOVERISHING EXPENDITURE**: 100% PROTECTED
- **SURGINAL VOLUME**: 5,000/100,000
- **POMR**: RECORDED WITH BASIC RISK ADJUSTMENT
- **SURGEON+ ANAESTHESIA+ OBSTETRIC PROVIDER DENSITY**: 20/100,000
- **CATASTROPHIC EXPENDITURE**: 100% PROTECTED
THE THREE DELAYS IN ACCESSING CARE

The 1st Delay
Delay in Seeking Care

The 2nd Delay
Delay in Reaching Care

The 3rd Delay
Delay in Receiving Care
Perioperative mortality rate

**POMR**

**SURGICAL VOLUME**

Headcount ratio of catastrophic health expenditure

**CATASTROPHIC EXPENDITURE**

Headcount ratio of impoverishing health expenditure

**IMPOVERISHING EXPENDITURE**

Health Service Access

**2HR ACCESS**

Health Worker Density and Distribution

**SAO DENSITY**
**DCP-3 key findings**

- 44 essential surgery procedures
- Cost-effective, especially first level hospitals
- Task sharing increases access
- Disparities in safety of surgery in LMICs
- Universal coverage of essential surgery should be financed early in the path to UHC

*PROGRAM IN GLOBAL SURGERY AND SOCIAL CHANGE*

*Harvard Medical School*
## 44 Essential Surgery Procedures

### Platform for delivery of procedure

<table>
<thead>
<tr>
<th>Community facility and primary health centres</th>
<th>First-level hospitals</th>
<th>Referral and specialised hospitals</th>
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<tbody>
<tr>
<td><strong>Dental procedures</strong></td>
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<td>Extraction</td>
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<td>Drainage of dental abscess</td>
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<td>Treatment failure</td>
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<td><strong>Obstetric, gynaecological, and family planning</strong></td>
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<td>Normal delivery?</td>
<td>Caesarean birth</td>
<td>Repair obstetric fistula</td>
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<td>Vacuum extraction or forceps delivery</td>
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<td>Ecstotic pregnancy</td>
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<td>Manual vacuum aspiration and dilatation and curettage</td>
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<td>Tubal ligation</td>
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<td>Vasectomy</td>
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<td>Hysterectomy for uterine rupture or intractable post-partum haemorrhage</td>
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<td>Visual inspection with acetic acid and cryotherapy for recurrent cesarean scars</td>
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<td><strong>General surgical</strong></td>
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<td>Drainage of superficial abscess</td>
<td>Repair of perforations (perforated peptic ulcer, typhoid ileal perforation, etc.)</td>
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<td>Major circumcision</td>
<td>Appendectomy</td>
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<td>Bottle obstruction</td>
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<td>Cecostomy</td>
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<td>Gallbladder disease (including emergency surgery for acute cholecystitis)</td>
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<td>Hernia (including incisional)</td>
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<td>Hydrocelectomy</td>
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<td>Relief of urinary obstructions, catheterisation or suprapubic cystotomy (tube into bladder through skin)</td>
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<td><strong>Injury</strong></td>
<td>Resuscitation with basic life support measures</td>
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<td>Soft tissue laceration</td>
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<td>Management of non-displaced fractures</td>
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<td>Resuscitation with advanced life support measures, including surgical airway</td>
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<td>Tube thoracostomy (chest drain)</td>
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<td>Trauma laparotomy</td>
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<td>Fracture reduction</td>
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<td>Irrigation and debridement of open fractures</td>
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<td>Placement of external fixator; use of traction</td>
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<td>Escharotomy or fasciotomy (cutting of constricting tissue to relieve pressure from swelling)</td>
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<td>Trauma-related amputations</td>
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<td>Skin grafting</td>
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<td>Burr hole</td>
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<td><strong>Congenital</strong></td>
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<td><strong>Visual impairment</strong></td>
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<td><strong>Non-trauma orthopaedic</strong></td>
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Figure 2: Cost-effectiveness of surgical interventions

Figure summarises the cost-effectiveness of surgical interventions in low-income and middle-income countries according to available evidence. The data are presented in cost per DALY averted, in 2012 USD$. Orthopaedic surgery trip refers to a mission or outside group visiting a location and undertaking a set of surgical procedures. DALY=disability-adjusted life-year.
Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage
PROGRESS REPORT  WHA 2017

4 page report on countries achievements

NSOAPs
- Completed in Ethiopia and Zambia
- Undergoing in Rwanda and Tanzania
- Processes in another 12 countries

Data collection
- 6 Indicators
GOING FORWARD...
GLOBAL INDICATOR INITIATIVE

- World Bank
- Collection of 6 surgical indicators
- Culture of data collection
SINGLE COUNTRY STUDIES ALLOW ANALYSIS OF REGIONAL VARIATION, BUILD LOCAL COLLABORATIONS AND COMPARE OFFICIAL AND ON THE GROUND ESTIMATES OF SURGICAL CAPACITY

• Supply Side Studies
• Demand Side Studies
• Subnational Variation
• Local Context
NATIONAL SURGICAL PLANNING ALLOWS COUNTRIES TO SYSTEMATICALLY IDENTIFY CHALLENGES AND SOLUTIONS IN THE SURGICAL SYSTEMS

- Local Champions
- Diverse Partners
- Strategic Solutions
BUILDING RESEARCH CAPACITY AND SUSTAINABILITY ALLOWS US TO BUILD A COMPREHENSIVE GLOBAL SURGERY WORKFORCE

- Promote student involvement
- Exchange partnerships
- Ensure recognition and sustainability through global surgery programs
BUILDING CLINICAL SKILLS AND MENTORING NETWORKS IMPROVES THE CAPACITY AND QUALITY OF SURGICAL SUPPLY

BUILD CLINICAL CAPACITY

• National Missions
• Telementoring
• Leveraging worldwide expertise
COLLABORATION BETWEEN SECTORS LEADS TO COMPREHENSIVE, INNOVATIVE SOLUTIONS

CROSS SECTORAL DIVIDES

• Collaboration with public health professionals
• Public-Private mentoring
• Leveraging worldwide expertise
Regional collaborations can strengthen the surgical community, allowing comparison and sharing of appropriate best practice.

INTERNATIONAL ADVOCACY

- Regional Benchmarking
- Regional Advocacy
- International Advocacy