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

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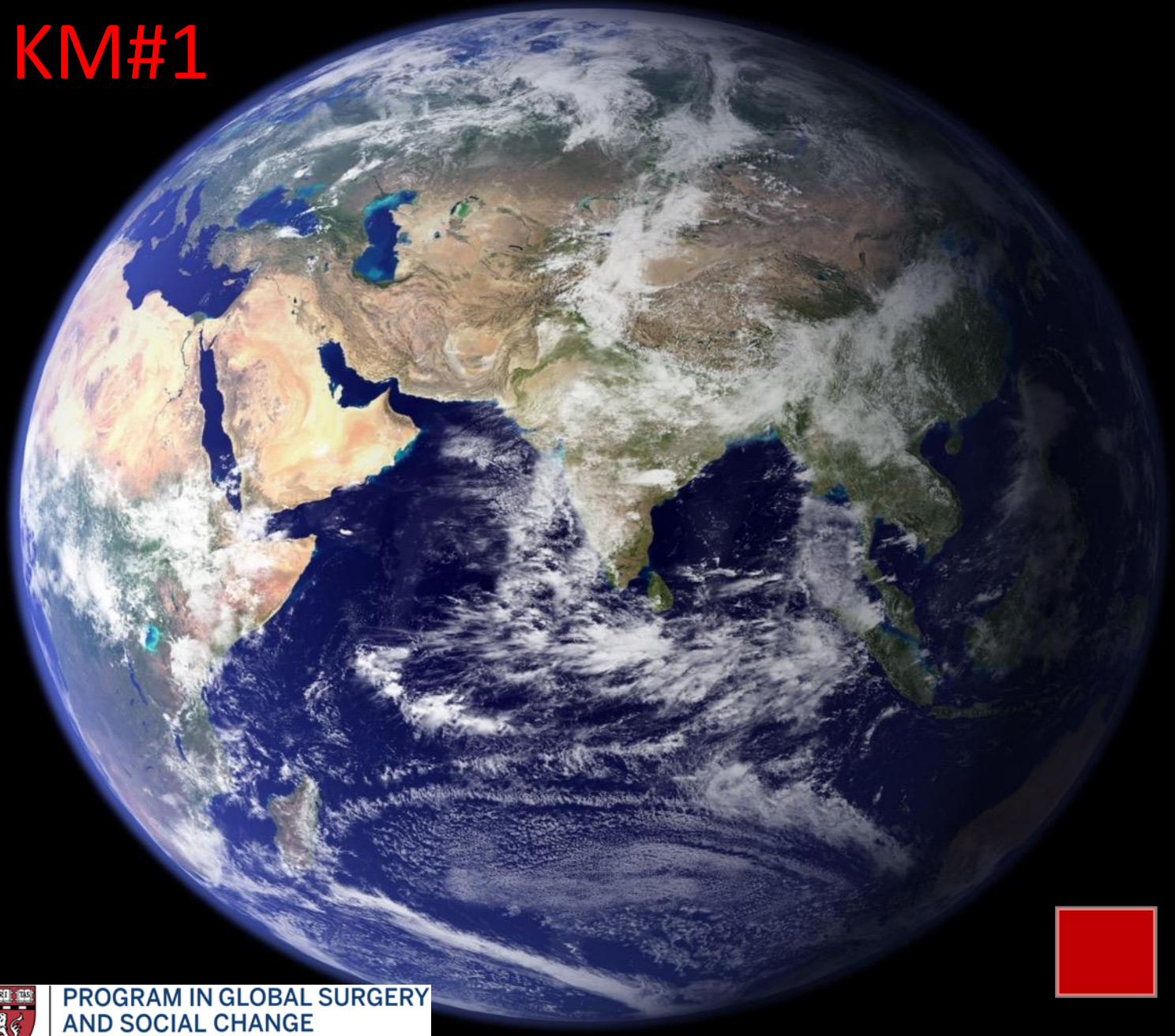
CONTEXT: LANCET COMMISSION ON GLOBAL SURGERY

- The Lancet Commission on Global Surgery
  - 110 collaborating countries
  - 5 Key messages
  - 100 publications and abstracts
- Baseline information
- Recommendations for implementing change

KM#1



5 Billion

cannot access
safe surgery
when needed

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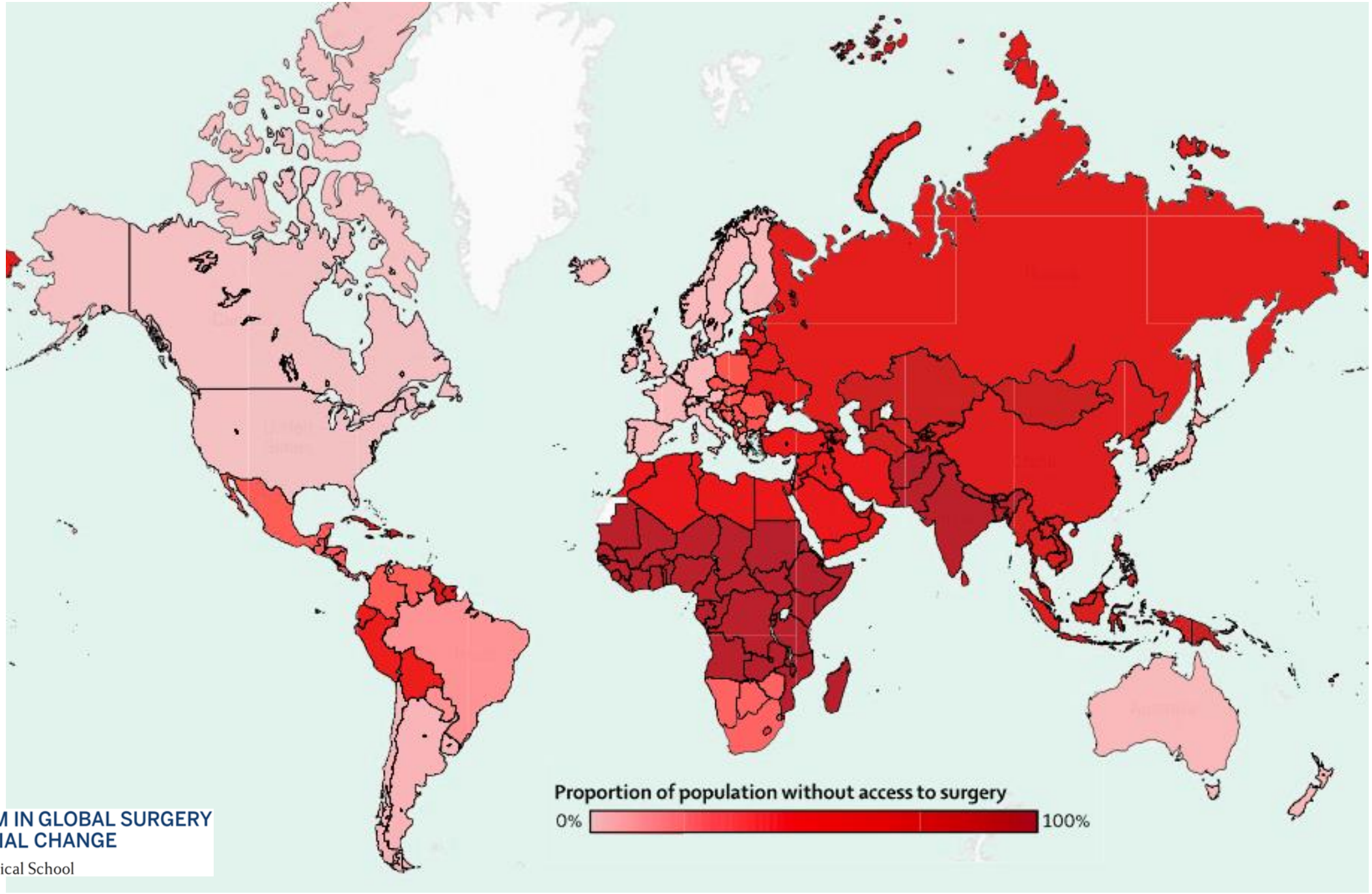

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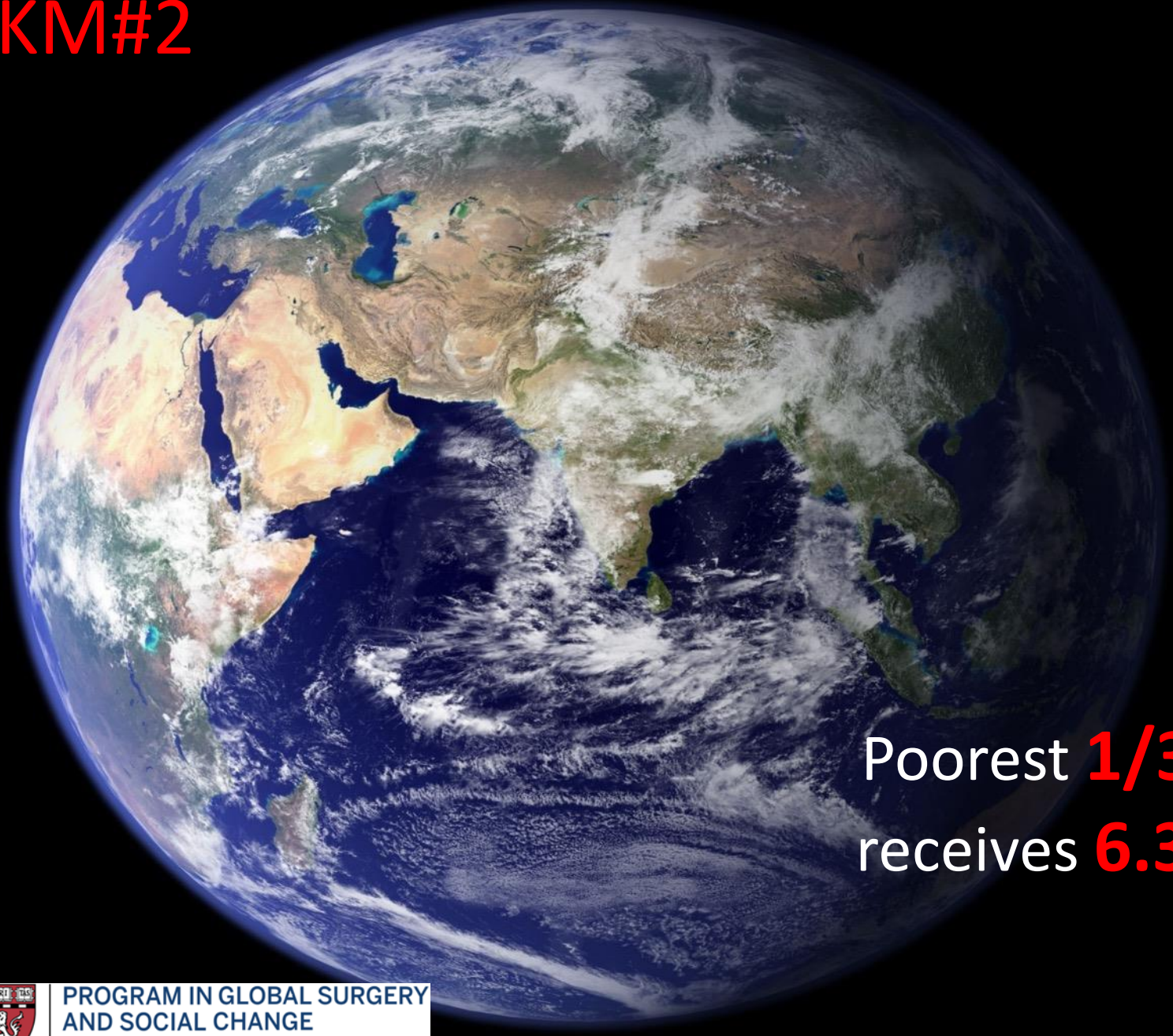
KM#2



143 million

more procedures needed annually at minimum

Poorest **1/3rd** of the world's population receives **6.3%** of worldwide procedures

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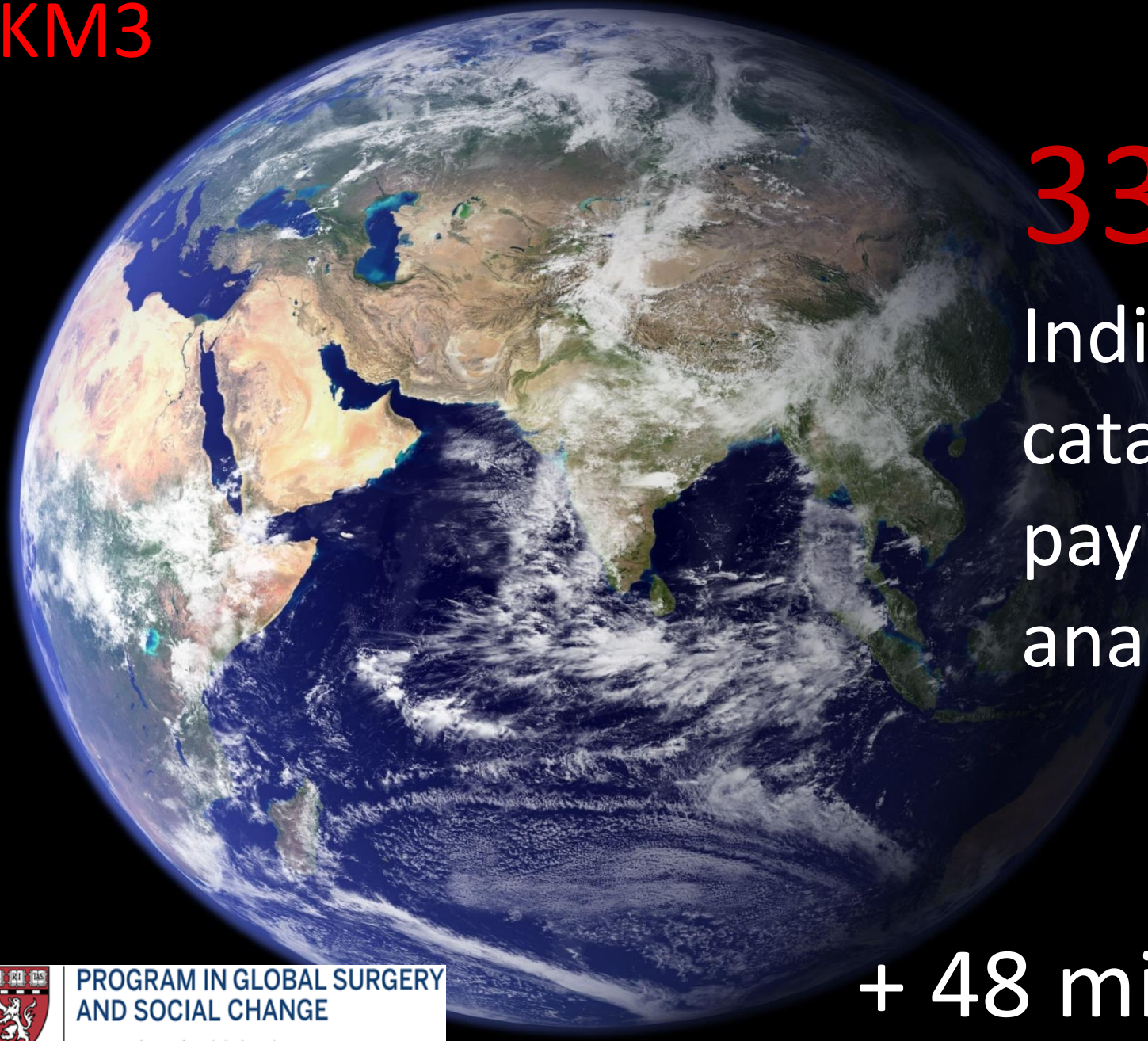
KM3



33 million

Individuals face catastrophic expenditures paying for surgery & anaesthesia annually

+ 48 million = 81 million

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KM#4

Investing in surgery

is affordable,
saves lives,
& promotes
economic growth

KM#5

Surgery

is an indivisible,
indispensable
part of health
care

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6 GLOBAL INDICATORS TO MEASURE THE STRENGTH OF A SURGICAL SYSTEM WITH TARGETS BY 2030

2H ACCESS
to Timely
Essential Surgery
80%

SURGICAL VOLUME
5,000/100,000
Room per
100,000

IMPOVERISHING EXPENDITURE
100% PROTECTED

SAO/100,000
Specialist
20/100,000
Density

POMR
RECORDED WITH BASIC RISK ADJUSTMENT

CATASTROPHIC EXPENDITURE
100% PROTECTED

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Surgical Workforce & Health Outcomes
(SAO providers/100,000)

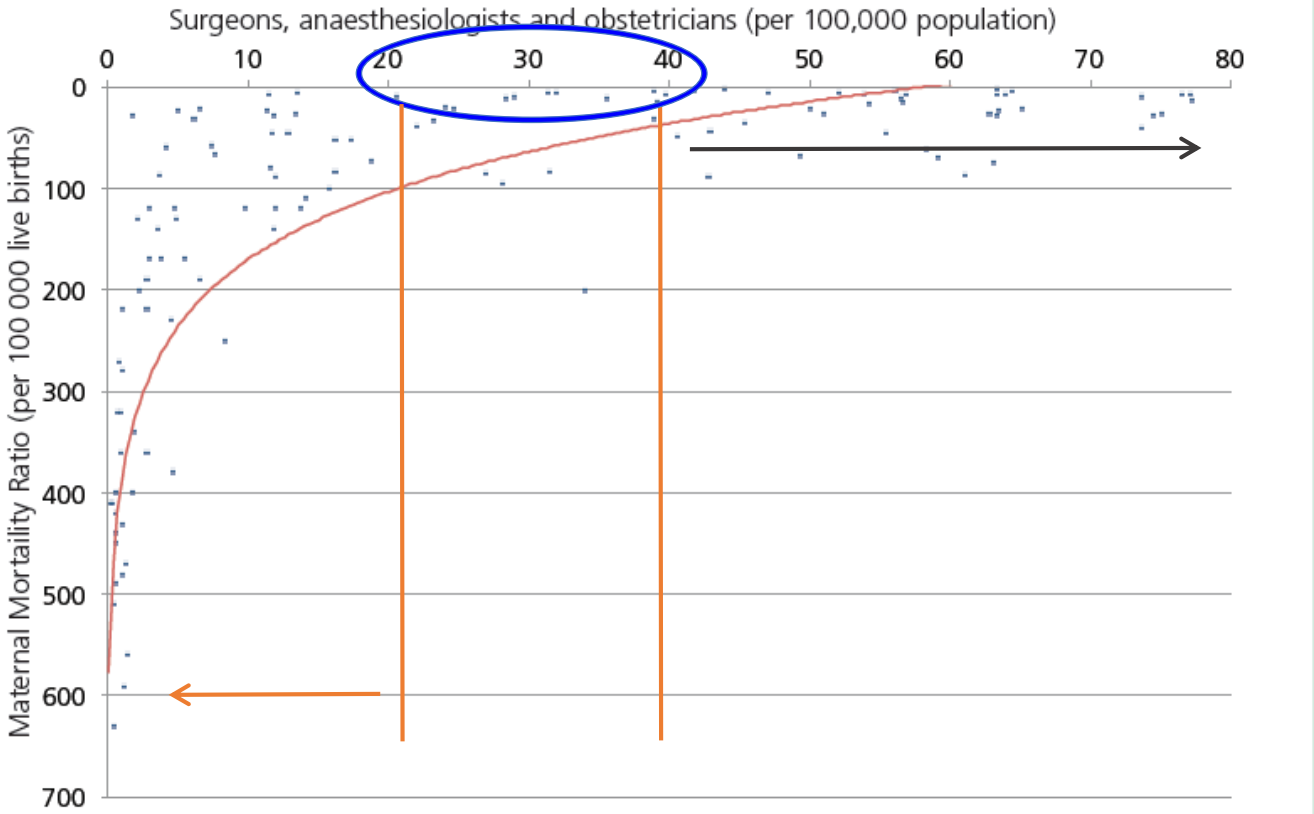

FIGURE 1. The relation between MMR and density of surgical providers in 143 countries with available data. Logarithmic trendline used to show the gradient of improvement in MMR as providers increase.

Surgical Workforce Shortage

44% of people in the world live in countries with SAO density < *20/100,000*

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

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

+**2.28 million** providers needed by 2030 to reach *40/100,000*

Human Resources for Cesarean Section: Requirements vs. Reality

Specific requirements for CS

- Obstetricians/Surgeons
- Anesthesiologists
- SBA/midwifes
  - Management of labor
  - Timely referral for CS
- Operating theater nurses

Reality of SAO workforce

- Gaps between **urban vs rural** and **public vs private**
- Current strategies are not meeting workforce density needs
- No evidence based **standards** and **guidelines** for **credentialing**

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→ decreased infection control practices

Case Study: MMSH Kano, NW Nigeria

- Nigeria Workforce density
  - 5.9-96.5/100,000 Midwifes
  - 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

Human Resources for Cesarean Section:
Task Shifting

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

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
2. National Statistical Office Malawi, 2017. Demographic and Health Survey 2015-2016, Zomba, Malawi

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