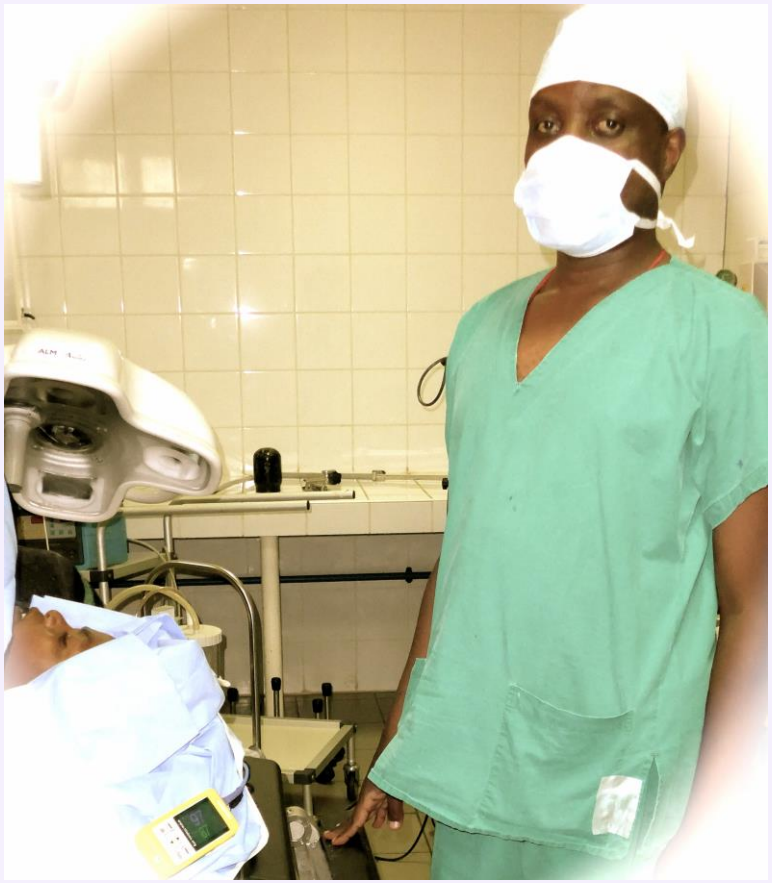
Global Health

Access to Essential Surgery and Anesthesia



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Objectives

- Define essential surgery and describe its role in Universal Health Coverage.
- Describe the current magnitude and maldistribution of essential and emergency surgical and anesthesia service.
- Analyze the conditions responsible for the current state of anesthesia delivery worldwide.
- Describe capacity strengthening for anesthesia services in Liberia.

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THE GLOBAL SURGERY LANDSCAPE

“UNSAFE SURGERY IS THE HEALTH CRISIS OF THIS DECADE.”

ATUL GAWANDE

"No country can achieve Universal Health Coverage unless its people have access to safe, timely, and affordable surgical services...It's therefore vital that countries invest in surgery.”

-Dr. Tedros, WHO Director-General

The Missing Piece in UHC

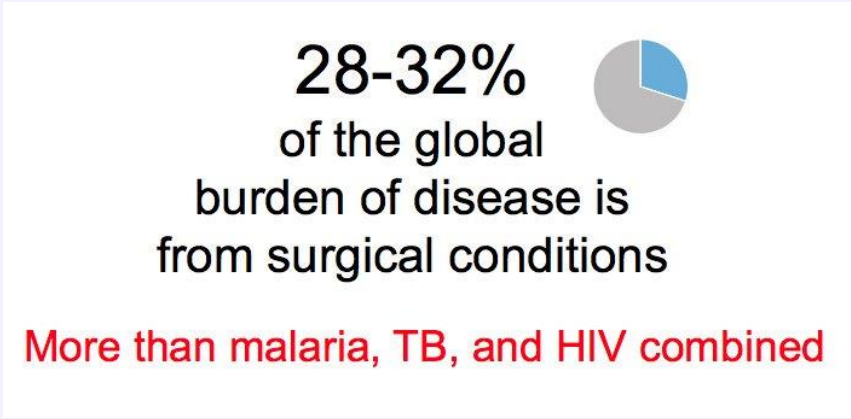
The data supports viewing surgery as an integral component of primary care and **Universal Health Coverage** (UHC) .

Large scope of Lack of access and quality are public health concerns.

Essential role of safe anesthesia often not recognized.

Surgical Data

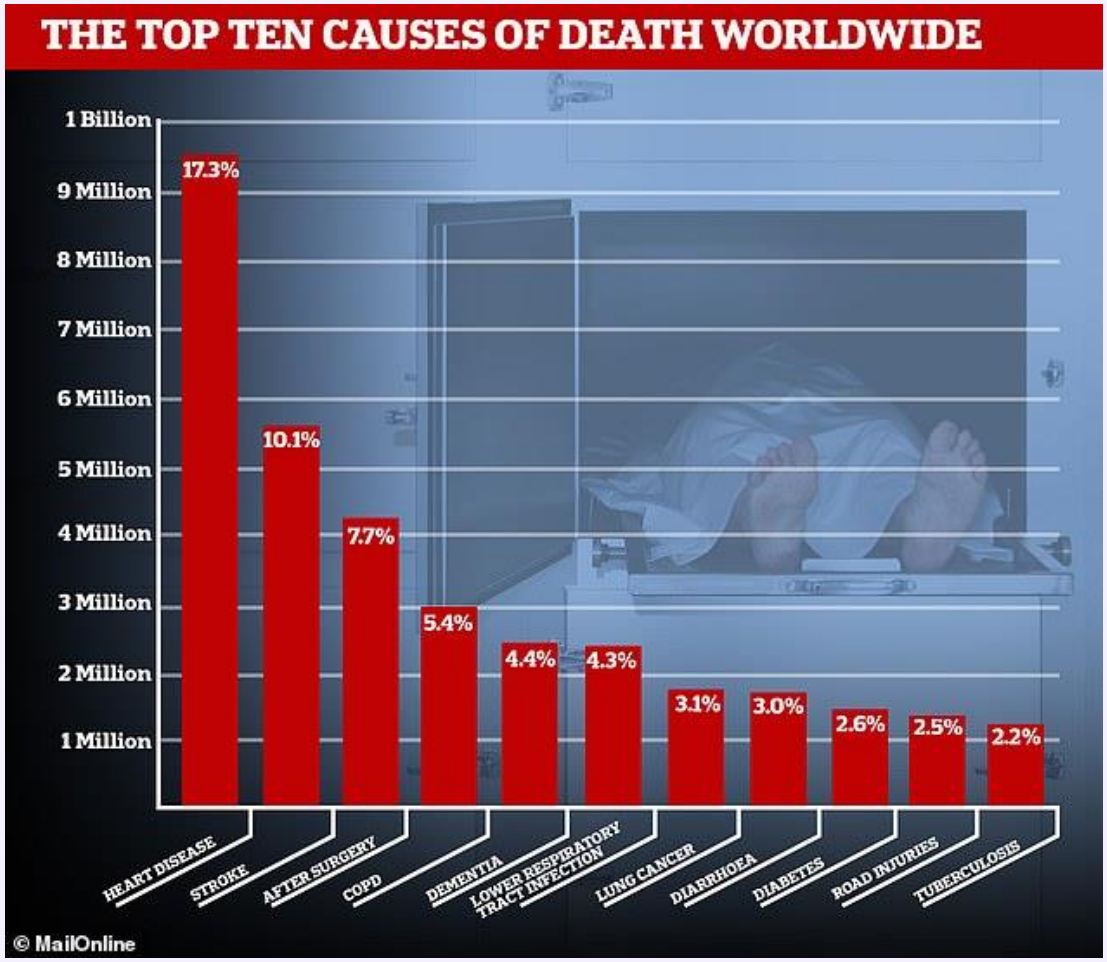
- Generally not well collected, especially in developing systems.
- 2008 Well conducted study reports that there are 234,000,000 surgical procedures world wide. (Weiser, Lancet, 2008)
- Estimate over 313,000,000 operations in 2020.
- **Vast number of operations makes safe surgery a public health issue.**
- **Complication rates make it a public health crisis.**
- UN recognized the lack of access to surgery in 1980



LSC estimates that number of surgeries Should increase by 143 million to reach benchmarks

5 billion people do not have access

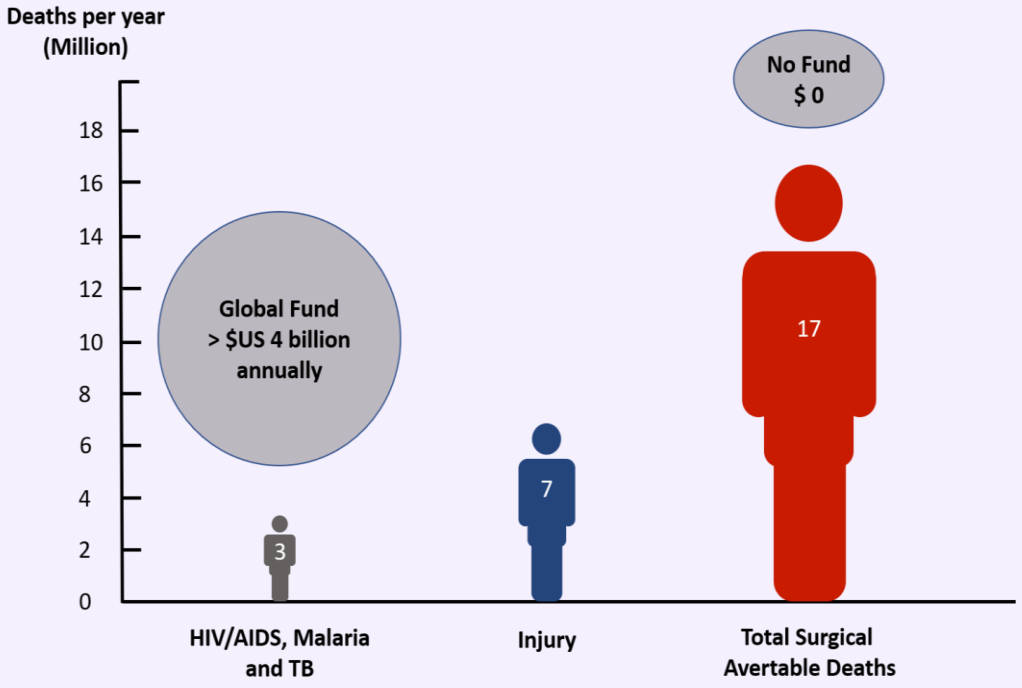
Surgery Contributes to Social Determinants of Health for a society



- Mortality
- Poverty
- Disability
- Well being
  - security
    - Trauma
    - Acute disease
- Gender equality

Peri op deaths are third leading cause behind only ischemic vascular diseases.
HIV/malaria do not make the top 10

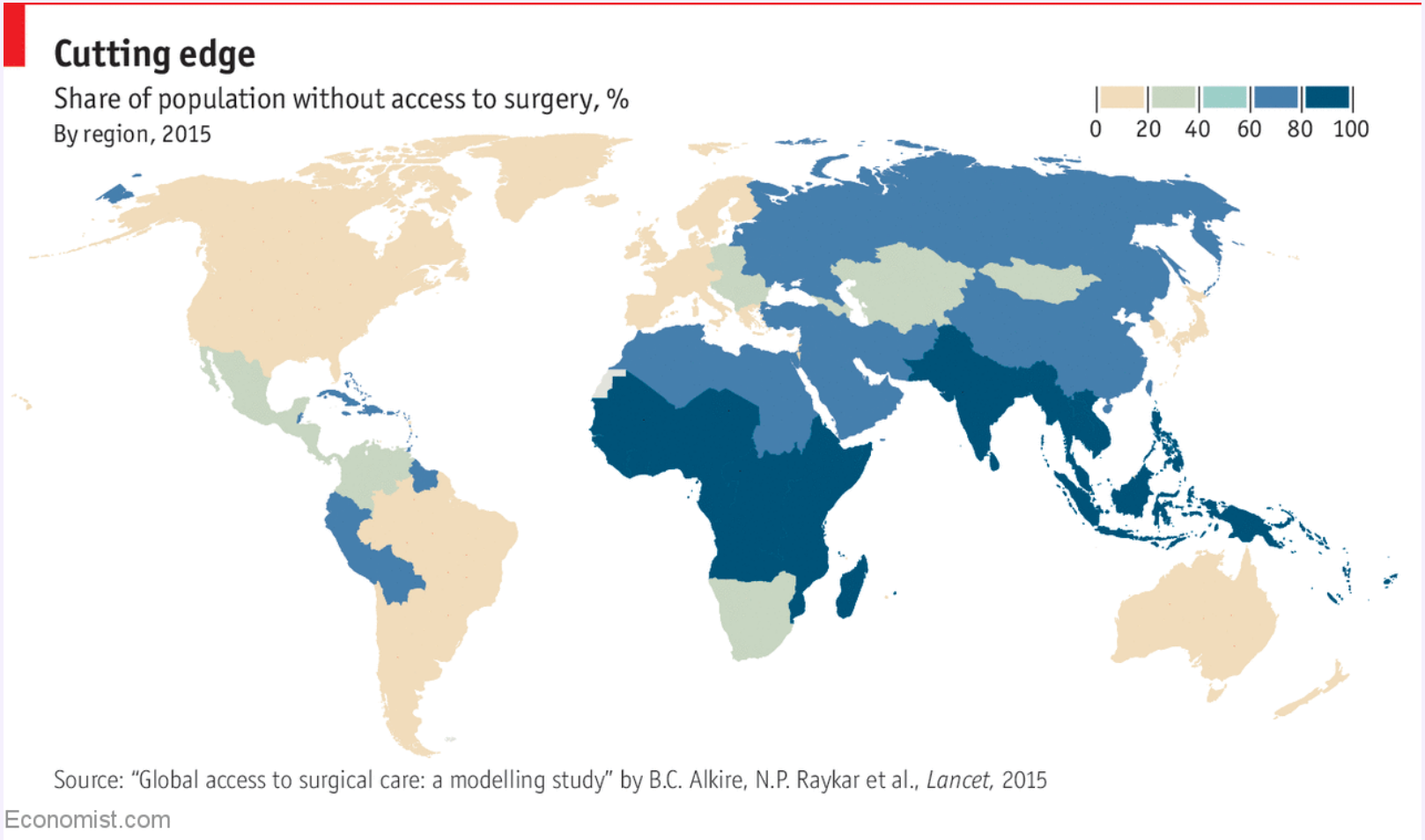
Severe Underfunding



- ~30% of the global burden of disease is caused by conditions that can be treated by surgery
- Total surgically avertable deaths alone are greater than total deaths from HIV, malaria and TB combined.

Recognized in The Economist

Access to essential surgery



Despite the Data

- https://www.youtube.com/watch?v=bRf8PbQgjGU. (Lancet 2020)
- No coordinated global strategy
- Surgery is not a discreet disease entity.
- It is a treatment modality needed for a range of health conditions.

- **Many easily treatable conditions become diseases with high fatality rates.**

The Disparity

- High income countries 15.6% of global population but record 59% of surgeries.
- Low income countries with 35% of the world's population record 3.5% of global surgeries.
- 1/3 of surgeries in low income countries (LIC) are caesarian section. Most others are trauma.
- In LIC most mortality and morbidity is under 45 age group.

Surgical care makes sense for a society

- Simply scaling up safe surgery could save 3.2% of deaths in developing countries.
- Investing in surgery makes development and economic sense.
- Estimated by 2030 without change = $20.7 trillion loss to global economy.

Rethinking the importance of anesthesia and surgery to Global Health

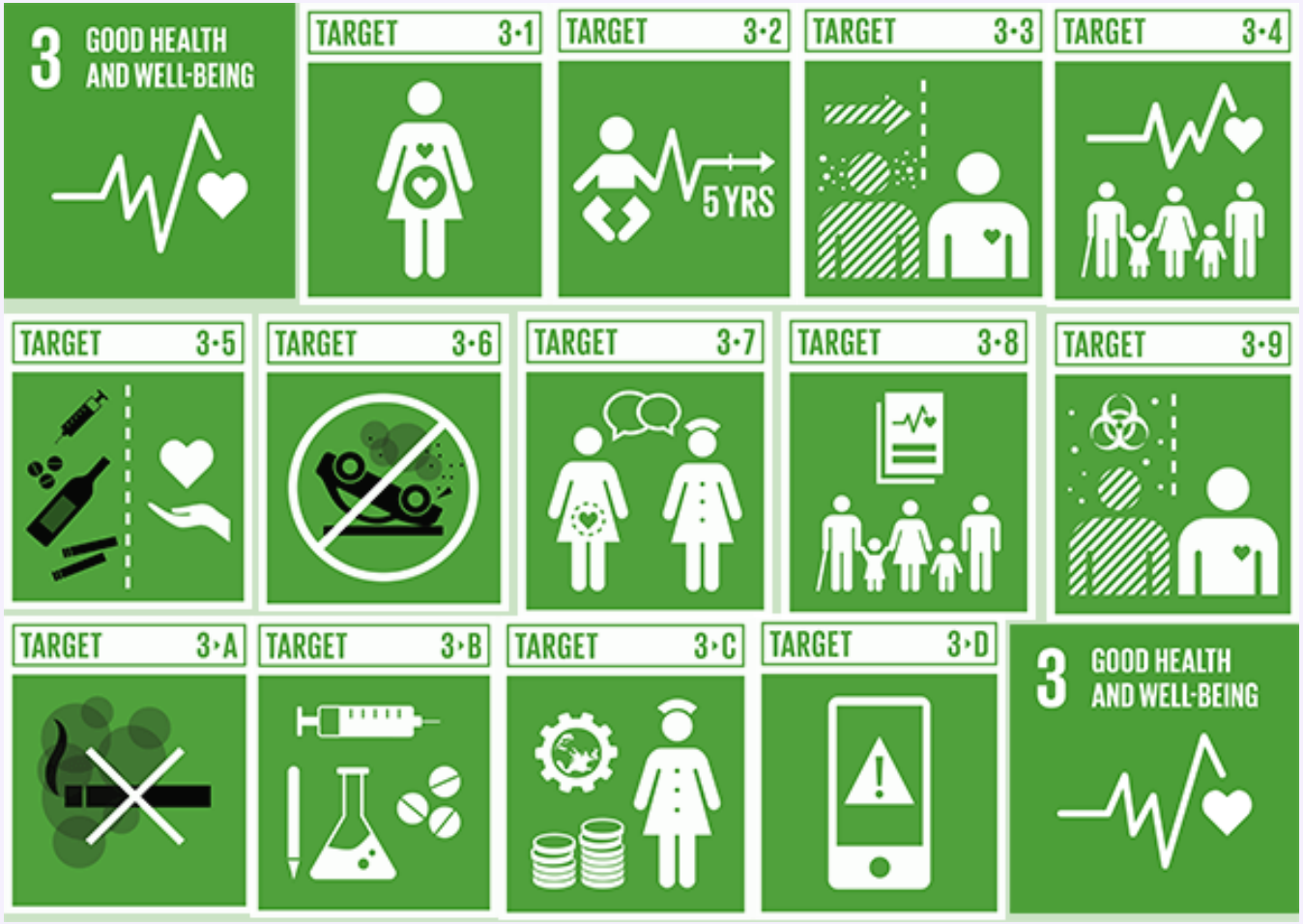
- Surgical Care is recognized as an important component of primary care and UHC

- Critical Problem (WB DCP 2015)
  - Identified 44 essential surgical procedures
  - Five billion people lack access
  - Anesthesia often access limiting factor.

- Strengthening health systems (UN 2015)
  - 17 sustainable development goals
    - ***Eradicate Poverty and Transform Economies through Sustainable Development***
    - ***Form Partnerships***
  - Recommendation for strengthening surgery and anesthesia
    - Affordable, effective, accessible
    - Lancet Commission goal 80% with access by 2030.

- **Staff , Stuff, System**

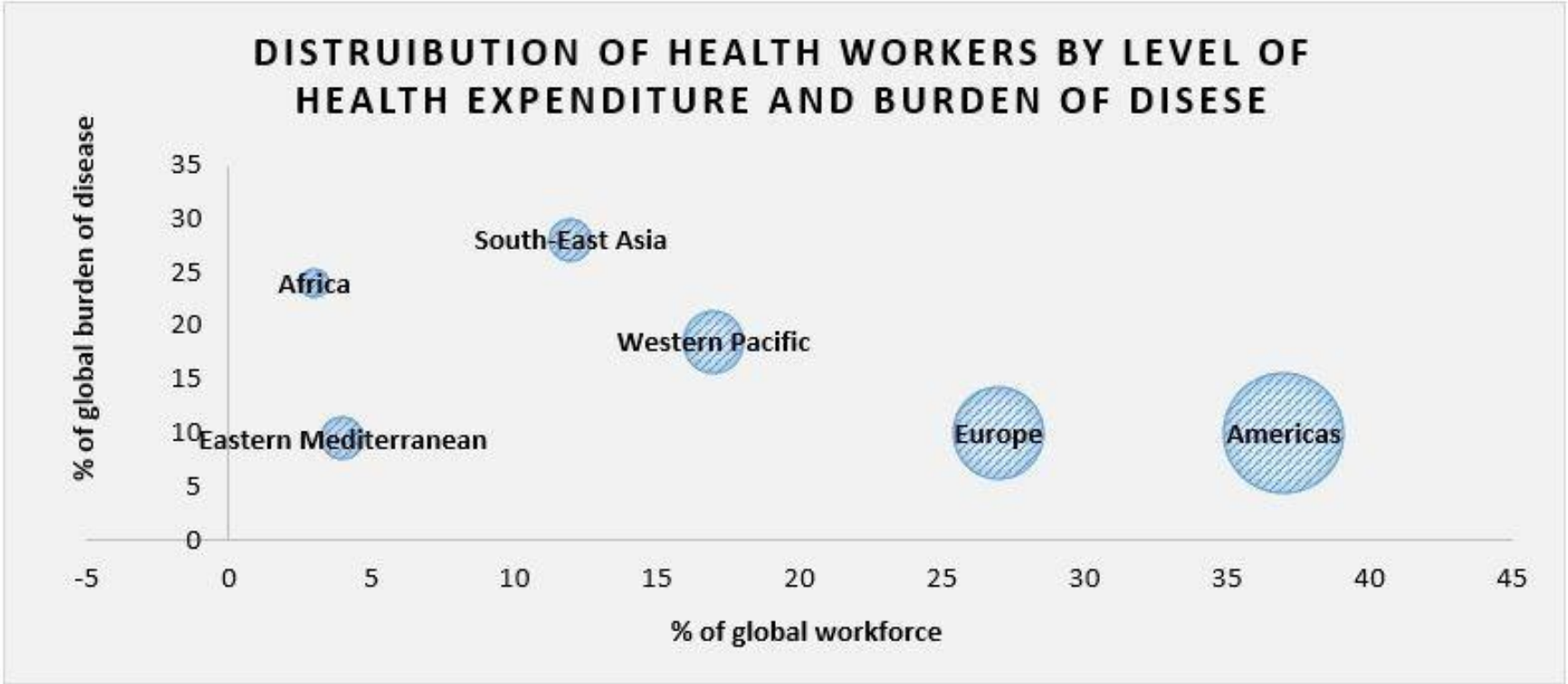
Sustainable Development Goal 3



Critical shortage of skilled health workers

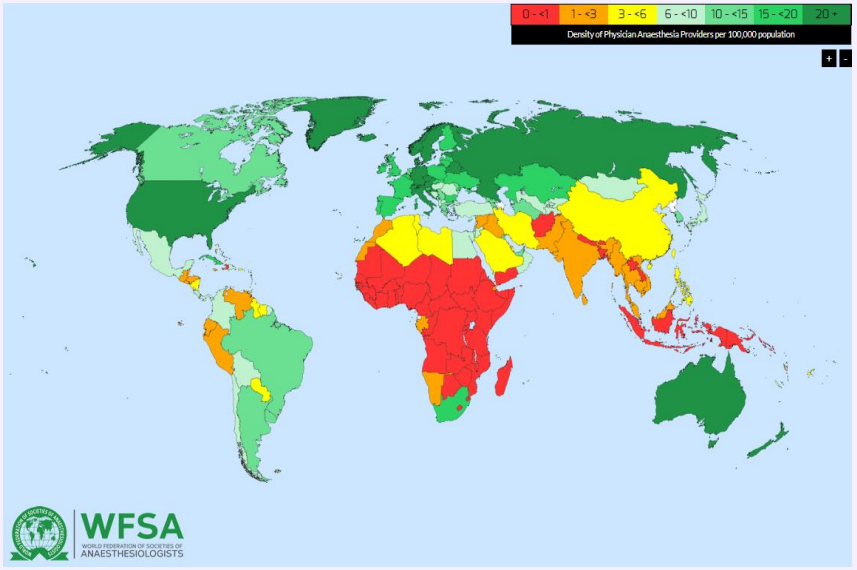
57 countries fail to meet the benchmark of 23 workers per 10,000

The global health workforce is unevenly and inequitably distributed



Impact of Access to Anesthesia

- Limiting factor in quality and complexity of surgical service.
- Anesthesia mortality: quality
  - 1:200,000 (HIC) v 1:1754 (Thailand) v 1: 133 Togo
    - **93%** judged preventable
- Anesthesia physician workforce is most deficient
- 70 countries show less that 5 skilled anesthetists per 100,000 population.
- In country distribution is also skewed.



Distribution of physician anesthesia workforce

44 Essential Surgeries: WB

- Global attention means a policy window of opportunity
- **WB Disease Control Priorities**
  - Experts
  - First Volume , 3rd Ed; ***Essential Surgery***

- Dental
- OB-GYN
  - OB fistula
  - C/S
- General Surgery
  - Appendix, bowel obstruction, perforations, cancer, hernia
- Trauma/emergencies
  - Burn skin grafts
  - Fractures
- Congenital
- Vision
  - Cataract, trachoma
- Non trauma orthopedics

WHO, Lancet Commission, CUGH, and G4 recognize surgery

Window of Opportunity …….

- World Health Assembly: Proclamation 68.15**. Strengthening emergency and surgical services.**
- Consortium for Universities for Global Health
  - Surgery and Anesthesia pre conference workshops.
- Lancet Commission on Global Surgery: Scholarship and research
  - Global Membership
  - Global data
  - Ambitious 2030 goal for 80%
- G4 Alliance: Advocacy; "**SAFE SURGICAL CARE FOR 80% OF THE WORLD BY 2030"**
- http://www.theg4alliance.org
  - IFNA International organization membership
  - WFSA
  - POST COVID :
    - Surgical and anesthesia professionals bore much of covid and critical care responsibility.

The Human Rights Argument

- The **right to health** is an economic, social and cultural right . . State obligation. It is universal. UNDHR 1948;
- It is more than a nice, humanitarian ideal. It is not a new idea. It is **international law** that demands access to primary care . ICSECR 1966.
- **Surgery is recognized as a core component of primary care, integral to realization of right to health.**
- ***"THE HIGHEST ATTAINABLE STANDARD OF HEALTH…"***
  - States and other actors hold obligation
  - Available, accessible, acceptable, adequate quality
  - Obliged to not discriminate or regress.
  - International Covenant of Economic, Social and Cultural Rights, General Comment 14

Surgery GAP: Impact Beyond Procedure

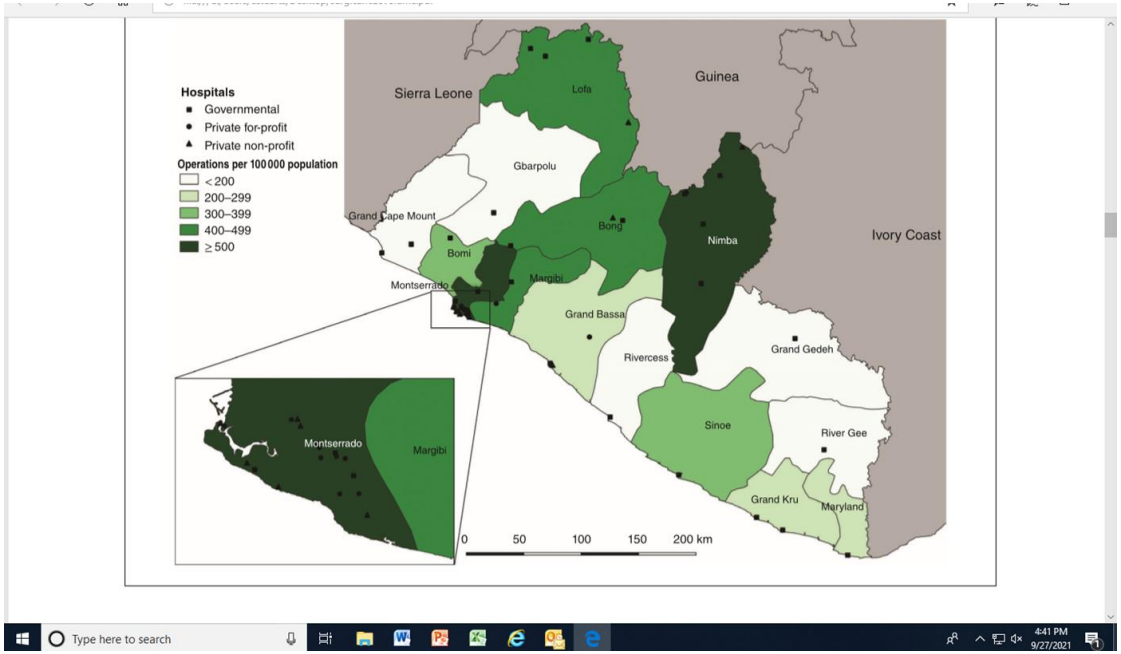
- Lack of access to essential surgery linked to anesthesia underservice
- Barriers to access to safe anesthesia include :
  - Inadequate monitoring
  - Lack of training
  - Weak health system infrastructure
- With access to 44 essential surgeries
  - Prevent 1.5 million deaths/year
  - Prevent disability
  - Improve economies

LIBERIA HOPE CONFERENCE

By Aaron K. Sonah MS, BSc Nursing, CRNA

Strategic planning

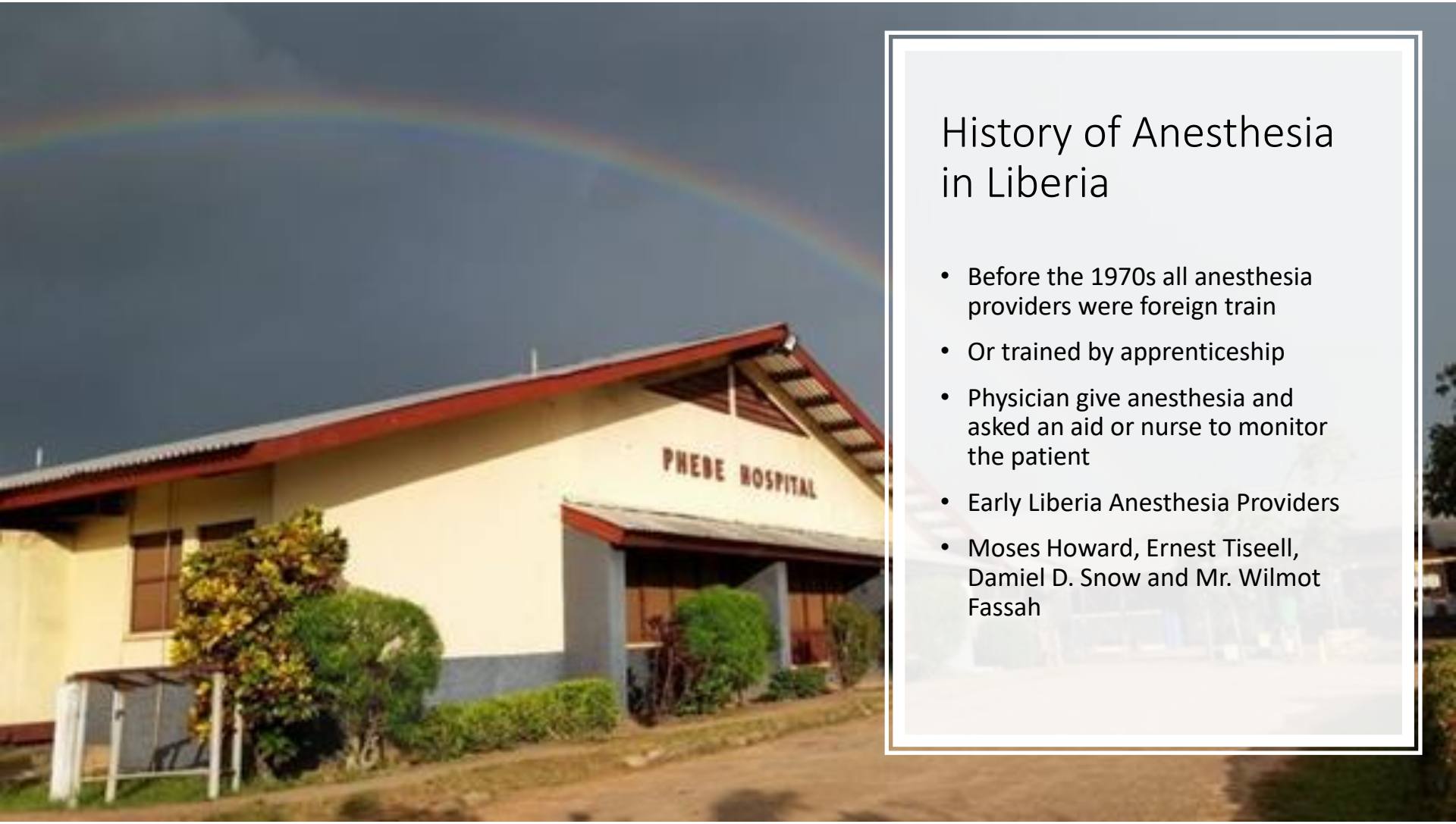
- History
- Curriculum development
- Concept to major stake holders
- Acceptance of new curriculum
- Implementation of new curriculum



Phebe leads the way in Anesthesia Education

- 99% of anesthesia in Liberia is delivered by RNAs
- 87% of RNA are trained at Phebe
- 95% of RNAs in rural areas are trained at Phebe
- Ideal ratio of RNA/pop is 10:100,000
  - Interim goal is 5:100,000
- No county in Liberia meets the interim goal
- To scale up surgery and reduce maternal mortality, need to scale up the production of qualified anesthesia providers

- Phebe interviews 5/2020
- WFSA Global Anesthesia Workforce Survey
- Adde HA et al, BJS 2021



History of Anesthesia in Liberia

- Before the 1970s all anesthesia providers were foreign train
- Or trained by apprenticeship
- Physician give anesthesia and asked an aid or nurse to monitor the patient
- Early Liberia Anesthesia Providers
- Moses Howard, Ernest Tiseell, Damiel D. Snow and Mr. Wilmot Fassah

History of Anesthesia in Liberia

- Liberia Nurse Anesthesia Schools started in the mid 1970s
- The first Nurse Anesthesia School was established at the Tubman National Institute of Medical Art (TNIMA), part of the John F. Kennedy Medical Centre (JFKMC).
- The Phebe Nurse Anesthesia Program began in the late 1970s led by Mrs. Carmen Gwenigale, a Nurse Anesthetist and wife of former Minister of Health Dr. Walter Gwenigale
- The civil crisis forced these schools to closed but
- Mr. Fassah has always felt that the light of anesthesia should not go off he reopen Phebe Nurse anesthesia Program 2021

- With input from an American, Ms. Nancy Haberstich.
- The Program has received support from the Africa Mercy Ship (UK) from 2007-2008
- Mothers of Africa Charity (UK) from 2008-2014, and the Swiss Development Council.
- Since 2001, the Phebe academic and clinical faculty have trained over seventy nurses who account for more than 80% of the Nurse Anesthetists currently working in the country.

- Liberia – GHSP Partnership 2016-2018 With Dr. O'Sullivan
- Curriculum aligned to International Federation of Nurse Anesthetists

(IFNA)

- Liberian Association of Nurse Anesthetist where under Liberia Medical and Dental Council
- Was moved to the Liberian Board of Nursing and Midwifery
- Curriculum developed is now a national curriculum
- We have Level 2 Recognition from the International Federation of Nurse Anesthetists (June 2018)

Boston Africa Anesthesia Collaborative (BAAC)

- After the GHSP program in Liberia ended,
- Dr. Eileen Stuart-Shor, former lead of GHSP was not satisfied and decided to work along with her colleagues from Boston.
- They created the Boston Africa Anesthesia Collaborative to work along with anesthesia programs in Africa, taking interest in Liberia.
- With their help we now have students going to our primary sites Phebe, C. B. Dunbar, and Ganta United Methodist Hospital.
- Affiliation in Monrovia at ELWA, St. Joseph Catholic, J. F. Kennedy and MSF-Fr Children Hospitals
- Maryland County J. J. Dosson

Capacity Building

- Three staff taking to US for advanced anesthesia education by BAAC
- Two instructors sent to get their masters in nursing and midwifery education
- Expat brought in to work with national staff in up grading