ESSENTIAL AND EMERGENCY SURGERY SHOULD BE A GLOBAL PUBLIC HEALTH PRIORITY

Faculty of Medicine and Dentistry

Author: **Patel, Mihir**
Supervisor: **Petráková, Alena, doc. MUDr. CSc**

Introduction

Universal Health Coverage (UHC) is a clear priority of the WHO. A component of UHC is **Essential and Emergency Surgery (EES)** - defined as aspects of the surgical system that address the substantial needs of the population, are cost effective and can be easily implemented. 1.5 million deaths worldwide (representing ~7% of all avertable deaths - see **figure 1**) could be prevented each year with adequate EES protocol and resources – with a large proportion of these avertable deaths occurring **in Low-Middle Income Countries (LMICs)**. Additionally, population growth and overcrowding in **Upper Income Countries (UICs)** poses a challenge in maintaining baseline health coverage for EES accessibility.

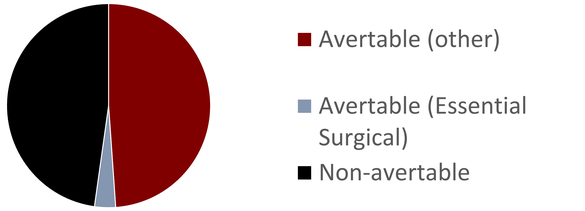


Figure 1 – Total Deaths per year (45 million) [1]. ~49% (non-avertable). Of all avertable deaths, ~7% is due to lack of EES

Materials and Methods

World Health Organisation (WHO) Guidelines and meeting summaries from the **Global Initiative for Emergency and Essential Surgical Care (GIEESC)** 2019 conference were analysed and supplemented by information from the wider literature surrounding public health and surgery.

NSOAPs

Figure 2 – components of 8 step NSOAP development procedure [2]

National Surgical, Obstetric and Anaesthesia Plan (NSOAP) framework aims to strengthen the 6 pillars of the surgical system - Infrastructure, Service Delivery, Surgical Workforce, Information Management, Financing and Governance. 8 Key stages are associated with the development process of an NSOAP (see Figure 2).

WHO Surgical Safety Checklist (SSC)

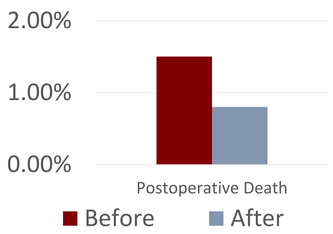
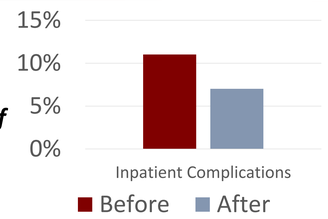


Figure 3 – showing the impact of WHO SSC implementation on postoperative death rate (expressed as % of total post-op deaths) [3]

Figure 4 – showing the impact of WHO SSC implementation on inpatient complications of surgery (expressed as % of total inpatient complications [3]



NSOAP Commitment	NSOAP in Development	Completed NSOAP
• Ghana • Congo • Angola • Kenya • Mozambique • South Africa • Lesotho • Eswatini	• Sierra Leone • Cameroon • Pakistan • Uganda • Zimbabwe • Namibia • Malawi • Botswana • Burundi	• Zambia • Rwanda • Madagascar • Nigeria • Senegal • Ethiopia • Tanzania
Reported - 23	Reported – 10	Reported - 7

Table 1 – showing NSOAP Commitment, development and completion in different countries

Results

Since NSOAP framework development began in 2015, there have been 7 reported completed NSOAPs, 10 NSOAPs in development and 23 countries who have committed to development of an NSOAP **(see Table 1**). Several initiatives dedicated to the development of NSOAPs have been set up e.g Program in Global Surgery and Social Change (PGSSC). PGSSC provides resources aiding in NSOAP planning e.g Optimal resources for children's surgery, technical guides for NSOAP planning, NSOAP templates, Surgical indicators, Surgical assessment tools (SAT), Implementation strategies and NSOAP costing templates.

In one study, the impact of WHO Surgical Safety Checklist Guidelines were assessed on 8 countries including LMICs and UICs; Implementation was found to reduce postoperative death by ~47% (**see Figure 3**) and inpatient complications by ~35% (**see Figure 4**). SSC measures included several perioperative measures e.g objective airway assessment and instrument/sponge counts after procedures.

Discussion

NSOAP development increases collaboration between stakeholders, the MoH and policymakers – strengthening and increasing political commitment in the process; as opposed to isolated governmental efforts to address surgical burden. NSOAP development is still a relatively novel approach in reducing surgical burden. Thus, NSOAP development protocol needs to be refined to condense the process into manageable steps and to remove common obstacles.
Collaboration between LMICs with a complete NSOAP and LMICs in the developing stages are key to accelerating progress. Collaboration between frontline professionals in UICs and LMICs is essential in increasing key surgical skills and competencies – which ultimately can aid in reducing surgery-related avertable deaths.

Conclusions

Currently there exists limited data on the outcomes of NSOAPs. However, NSOAPs provide realistic and achievable timebound goals that are country-specific and in line with WHO UHC targets – a critical first step in improving patient outcomes. Strengthening Surgical, Obstetric and Anaesthesia (SOA) care via improved EES is paramount in reducing up to 1.5 million surgical avertable deaths. SOA care needs to be addressed both at the level of stakeholders and policymakers – NSOAPs are the vector by which we can achieve efficient collaboration on this scale. Further data collection on the impact of NSOAP will be essential in the following years in assessing the impact of NSOAP implementation.

References:
[1] https://pubmed.ncbi.nlm.nih.gov/19144931/ [Last Accessed 30th April 2022[
[2] Globalization of NSOAPs - DOI:10.1186/s12992-019-0531-5 [[Last Accessed 30th April 2022]
[3] https://doi.org/10.1596/978-1-4648-0346-8_ch1 [[[[[Last Accessed 30th April 2022]