The Hospital Assessment Tool and Key Performance Indicators: Ethiopia's National Strategy for Surgical System Monitoring & Evaluation

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Program/Project Purpose

International recognition of the need for quality surgical system data from LMICs has increased in recent years, as evidence is necessary for system improvement and policy change. In 2015, Dr. Jim Kim commended the Lancet Commission on Global Surgery for its proposed 'time-bound indicators' that can 'motivate governments to provide the universal and affordable surgical and anesthesia care that people deserve.[1] The LCoGS six core surgery indicators, four of which were included in the 2015 World Bank Development Indicators, provide a comprehensive method of assessing surgical systems.[2,3] To date, collection of indicators and other surgical system data has been lacking, highlighting the need to develop sustainable methodology for national-level data collection.[4]

Over the past two decades, the Ethiopian Federal Ministry of Health (FMOH) has sought to improve its health system by implementing four strategic Health Sector Development Plans and the current Health Sector Transformation Plan, which emphasizes an agenda focused on surgical and anesthesia care. The *Saving Lives through Safe Surgery* (SaLTS) initiative is a national surgical planning effort that aims to improve equitable access to safe and quality surgical and anesthesia care in facilities across all health system levels (Figs. 1. and 2.). SaLTS activities are organized around eight pillars of excellence: (1) leadership and management, (2) infrastructure, (3) pharmaceuticals, (4) human resource development, (5) advocacy and partnership, (6) innovations, (7) quality of surgical and anesthesia care service delivery, and (8) monitoring and evaluation (M&E). The eighth pillar of SaLTS intends to improve the collection processes and quality of evidence regarding the surgical system to inform implementation of activities and allow for timely decision-making.[5] Through implementation of SaLTS, Ethiopia has become one of the first low-income countries to prioritize surgical system reform, including an emphasis on indicator collection and sustainable monitoring and evaluation activities, in their national health agenda.

As part of the Safe Surgery 2020 initiative, the Program in Global Surgery and Social Change (PGSSC) at Harvard Medical School collaborated with the FMOH to create the SaLTS M&E strategy, tools, and training programs.

Images for this section:

Fig. 1: Saving Lives Through Safe Surgery (SaLTS)

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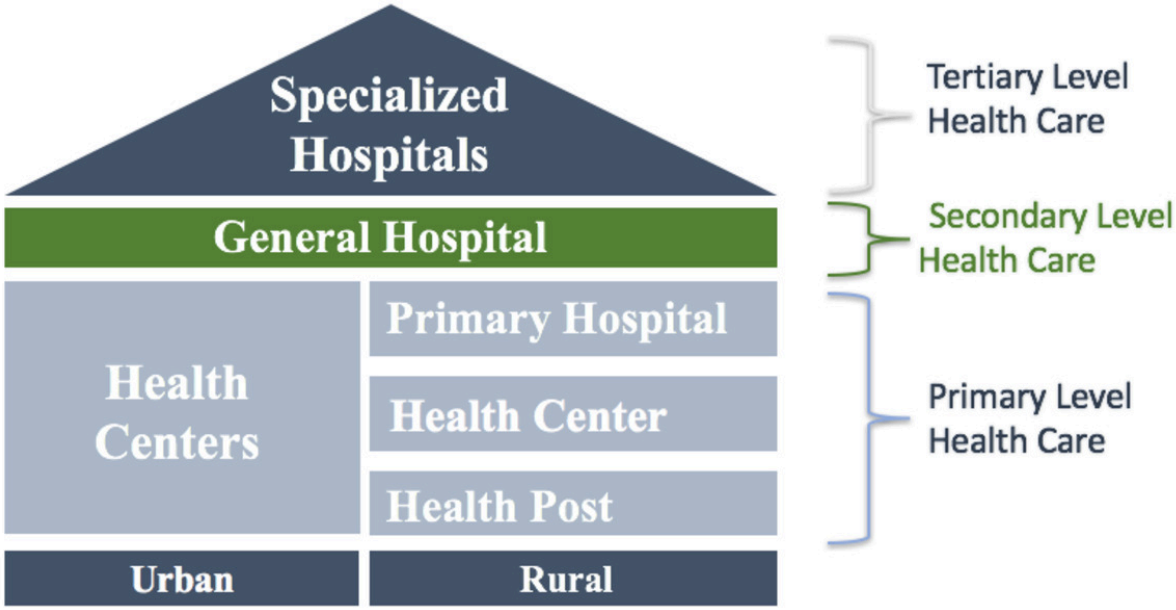

Fig. 2: Structure of the Ethiopian health care system.

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Structure/Method/Design

The SaLTS M&E framework assesses the impact of SaLTS activity implementation using two tools: the Ethiopian Hospital Assessment Tool (HAT) and 15 surgical key performance indicators.

Hospital Assessment Tool (HAT)

In 2016, the FMOH performed the first assessment of surgical capacity using the WHO Emergency & Essential Surgical Care (EESC) Situational Assessment Tool (SAT) during which it was recognized that the tool needed to be aligned to the SaLTS project plan. In collaboration with Harvard PGSSC, the FMOH modified the WHO SAT to better fit the Ethiopian context. The resulting Ethiopian HAT is a 363-question monitoring tool that includes questions across 8 domains: General Information, Infrastructure, Human Resources, Interventions, EESC Equipment and Supplies, Financing, Information Management, and Surgical Sets (Fig. 3). Notably, the Intervention section includes a list of 74 essential and emergency procedures selected by the FMOH that primary, general, and specialized hospitals should ideally be performing. Further revisions to the tool were made after baselining in one region of Ethiopia to separate questions into sections by profession, specify wording of questions, and remove repetitive questions or those deemed unnecessary upon feedback from providers. The HAT is intended to be administered nationally every 2-5 years.

Surgical Key Performance Indicators (KPIs)

Fifteen surgery- and anesthesia-specific indicators, including five of the LCoGS indicators, were identified to track regular change within the national surgical system (Table 1.). These indicators are intended to be collected at the facility level and reported regionally and nationally in aggregate on a monthly to yearly basis. Over the course of a year, PGSSC and the FMOH engaged in working group sessions to finalize the list of indicators, definitions, formulas, data sources, data elements needed for indicator calculation, and reporting expectations.

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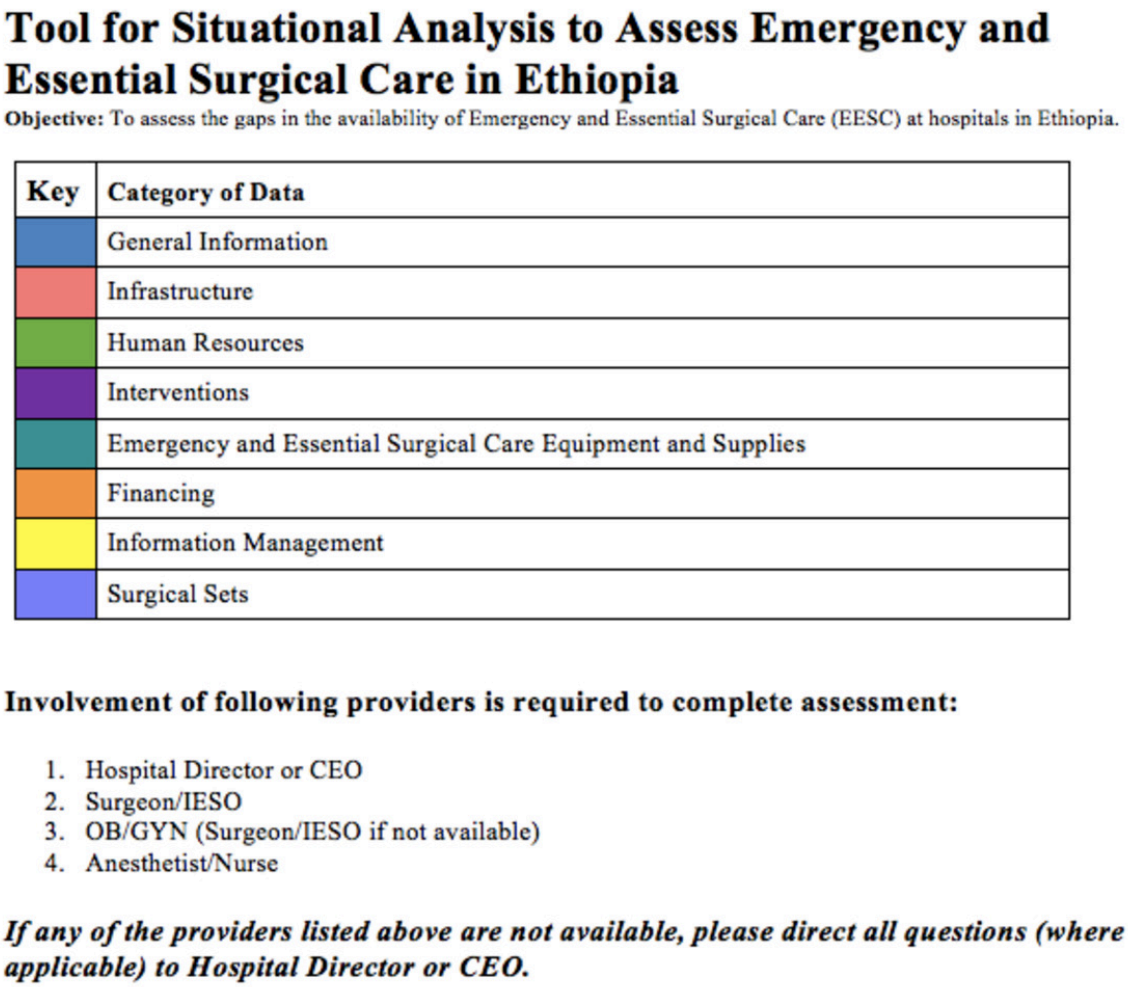

Tool for Situational Analysis to Assess Emergency and Essential Surgical Care in Ethiopia

Objective: To assess the gaps in the availability of Emergency and Essential Surgical Care (EESC) at hospitals in Ethiopia.

Key	Category of Data
	General Information
	Infrastructure
	Human Resources
	Interventions
	Emergency and Essential Surgical Care Equipment and Supplies
	Financing
	Information Management
	Surgical Sets

Involvement of following providers is required to complete assessment:

1. Hospital Director or CEO
2. Surgeon/IESO
3. OB/GYN (Surgeon/IESO if not available)
4. Anesthetist/Nurse

If any of the providers listed above are not available, please direct all questions (where applicable) to Hospital Director or CEO.

Fig. 3: Ethiopian Hospital Assessment Tool (HAT)

Saving Lives Through Safe Surgery (SaLTS) Key Performance Indicators	
No	**Indicator**
1	Surgical Volume
2	Peri-operative mortality (POMR)
3	Rate of safe surgery checklist utilization
4	Surgical site infection (SSI) rate
5	Anesthetic Adverse Outcome
6	Delay for elective surgical admission
7	Mean duration of in-hospital pre-elective stay
8	Blood unavailability ratio for surgical patients
9	Surgical patient satisfaction
10	Surgical bed occupancy rate
11	Surgery, Anesthesia, and Obstetric (SAO) provider density
12	Rate of first elective case on time theater performance
13	Rate of cancellation of elective surgery
14	Emergency (2h) surgical access
15	Protection against catastrophic expenditure

Table 1: SaLTS Key Performance Indicators, including 5 LCoGS indicators (in blue).

Outcome & Evaluation

Utilization of both M&E tools is currently underway in Ethiopia. To date, the HAT has been administered by Harvard PGSSC and collaborators in 29 hospital facilities in three regions of Ethiopia with plans to expand nationally. Collected data is being used to develop a baseline of surgical capacity at these primary- and general-level hospitals. Of the fifteen surgical KPIs, nine have been accepted for national-level collection in the newly revised Health Performance Monitoring and Improvement (HPMI) strategy based on relevance and ability to indicate change at the facility-level.

National trainings covering both the HAT and the KPIs have been conducted successfully (Fig. 4). With the support of the GE Foundation's Safe Surgery 2020 initiative, Harvard PGSSC has collaborated with the Federal Ministry of Health and selected Regional Health Bureaus to conduct facility-level training, mentorship, and supervised collection of the SaLTS KPIs (Fig. 5). These activities are intended to promote local capacity for indicator collection and identify best practices for quality data collection to inform future national scale-up.

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Fig. 4: FMOH and Harvard PGSSC teams at the first national HPMI indicator training, December 2017.

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Fig. 5: SaLTS KPI data quality training participants, Amhara Region, February 2018.

Going Forward

The FMOH intends to scale-up the use of both the HAT and the KPIs over the coming years in order to create a national surveillance mechanism of the surgical system. Surgical system data collected using this M&E framework is intended to provide ongoing evidence of the progress of SaLTS activities, which can be used to identify and address inequalities in surgery and anesthesia care, inform decision-making, program implementation, and health policy, and help make surgical care a priority within the national health system. By fully integrating indicator collection into the national surgical plan, developing a robust national reporting system (Fig. 6), and seeking collaboration with stakeholders interested in data collection, Ethiopia is effectively leading the international effort to increase the collection of quality surgical system data.

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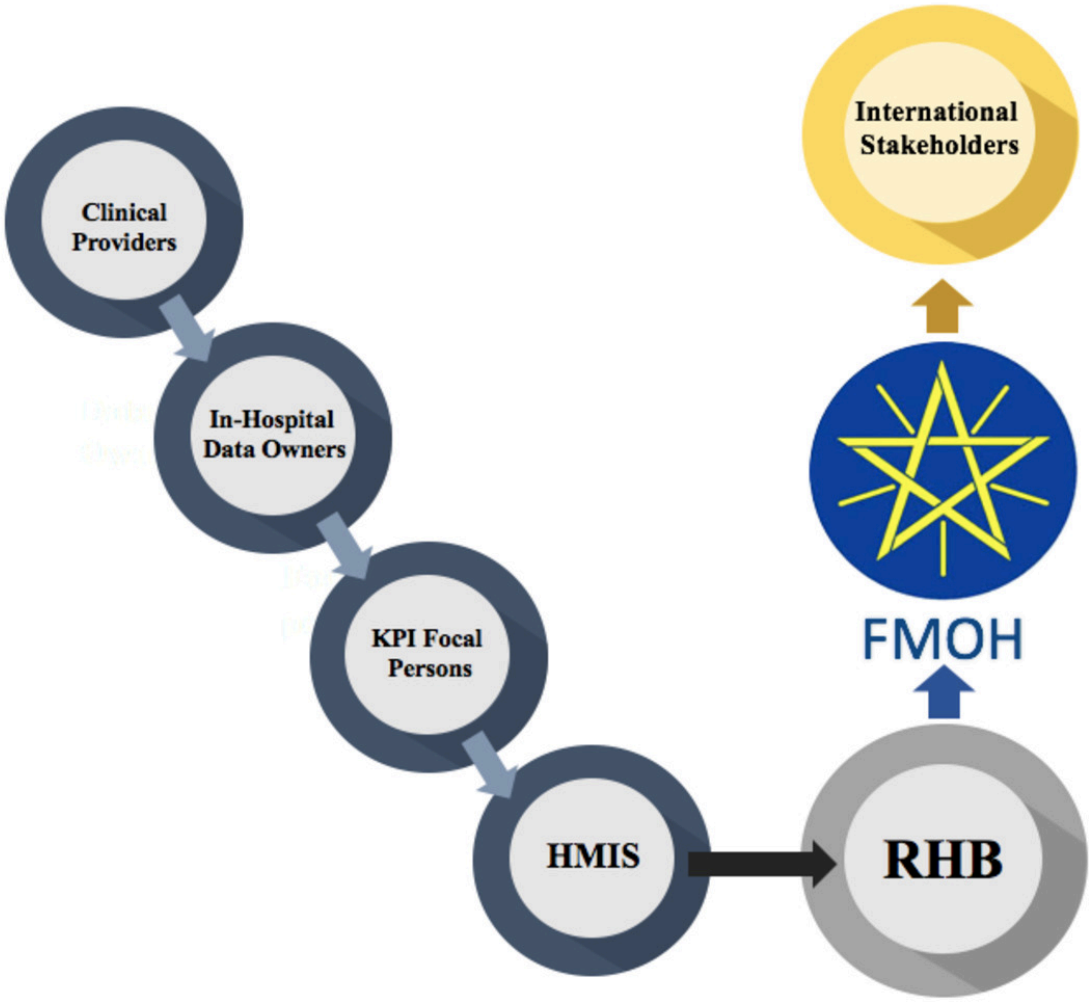

Fig. 6: SaLTS M&E data collection and reporting flow.

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Short Bio (max. 100 words or less)

Kaya Garringer is a research assistant with the PGSSC at Harvard Medical School. She graduated from the University of Notre Dame's Eck Institute for Global Health with a M.S. in Global Health and Carroll College with a B.A. in Biology. Since August 2016, she has been working on programmatic and national strategies for surgical system monitoring & evaluation in Ethiopia as part of the Safe Surgery 2020 initiative.

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