



Ministry of Health



Federal Ministry of Health of Ethiopia National Safe Surgery Strategic PLAN

Saving Lives Through Safe Surgery (SaLTS)
Strategic Plan 2016–2020

Addis Ababa, 2017

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Abbreviations

COSECSA	College of Surgeons of East, Central, and Southern Africa
CPD	Continuous professional development
CRC	Compassionate, respectful and caring
CRCP	Curative and rehabilitative core process
CRCPT	Curative and rehabilitative core process team
EHAQ	Ethiopian Hospitals Alliance for Quality
FMOH	Federal Ministry of Health
HEI	Higher education institution
HMIS	Health management information system
HSTP	Health Sector Transformation Plan
IESO	Integrated Emergency Surgical Officer
IST	In-service training
KPI	Key Performance Indicators
M&E	Monitoring and evaluation
MOF	Ministry of Finance
OR	Operating room
RHB	Regional health bureau
SaLTS	Saving Lives Through Safe Surgery
TWG	Technical working group
WHO	World Health Organization

Foreword

The Ethiopia Federal Ministry of Health (FMOH) has launched the Health Sector Transformation Plan (HSTP) as part of the second Growth and Transformation Plan of the Ethiopian government. The HSTP has set ambitious targets toward realizing the sustainable development goals and identified four transformation agendas: Quality and Equity, Woreda Transformation, Information Revolution and Compassionate, Respectful and Caring (CRC) health workforce.

In line with the quality and equity transformation agenda and as part of recognizing the key roles essential and emergency surgical care plays in achieving universal health coverage, the FMOH has prioritized surgical and anesthesia care by launching the national flagship initiative-Saving Lives through Safe Surgery (SaLTS).

The SaLTS initiative was launched in response to the World Health Assembly resolution-68/15 and aims to make essential and emergency surgical and anesthesia care accessible and affordable as part of the universal health coverage. It is expected that the SaLTS initiative will streamline all efforts toward defining a package of essential and emergency surgical care for Ethiopia: to be available at all levels of the health care delivery system so that they will be accessed equitably by all segments of the population.

The FMOH extends its firm commitment to improving the situation of surgical and anesthesia care in Ethiopia by launching this strategic plan. As a flagship initiative, SaLTS will receive the highest level of attention by the leadership of the health sector.

I would like to take this opportunity to extend our profound appreciation to all individuals and organizations who have actively participated in the development of the SaLTS strategic plan.

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SCMS: Supply Chain Management System
CHAI: Clinton Health Access Initiative
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Background

Safe surgery has been an essential component of health care for years. However, the increasing incidence of traumatic injuries, cancers and cardiovascular diseases continue to raise the impact of surgical intervention in public health systems. In fact, safe surgery is the second global patients' safety challenge next to health care associated infections. Surgical safety is a concern because most institutions do not implement the standard World Health Organization (WHO) surgical checklist.

Disorders that could be managed by surgery constitute a significant portion of the global disease burden (Debas et al. 2015). Annually, injuries kill nearly 5 million people, and about 270,000 women die from complications of pregnancy. Many of these injury-related and obstetric-related deaths, as well as deaths from other causes (e.g., abdominal emergencies and congenital anomalies), could be prevented by improved access to surgical care (Debas et al. 2015).

An estimated 234 million major surgeries are performed around the world each year, corresponding to one surgery for every 30 people alive. Yet, surgical services are unevenly distributed with 30% of the world's population receiving 75% of major operations. Lack of access to high quality surgical care remains a significant problem in much of the world despite the fact that surgical interventions can be cost effective in terms of lives saved and disability averted. Despite this large burden, surgical services are not being delivered to many of the individuals who need them most. An estimated 2 billion people lack access to even the most basic of surgical care (WHO 2008).

This need has not been widely acknowledged, and, therefore, priorities for investment in health systems' surgical capacities have only recently been investigated. Indeed, until the 1990s, health policy in resource-constrained settings focused sharply on infectious diseases and under nutrition, especially in children. Surgical capacity was developing in urban areas, but was often viewed as a secondary priority that mainly served socio-economically advantaged people.

The number of surgeries done in Ethiopia is not more than 200,000 a year with 250 general surgeons, 300 gynecologists, 50 orthopedic surgeons, and 100 ophthalmologists, which is inadequate to reach the unmet need of 5,000,000 surgeries per year. The waiting time for surgery extends up to four years, especially in referral hospitals.

Surgical site infections remain one of the most common causes of serious surgical complications. Evidences show that proven measures, such as antibiotic prophylaxis within the hour before incision and effective sterilization of instruments, are inconsistently followed often not because of cost or lack of resources but because of poor systematization. Antibiotics, for example, are given perioperative in both developed and developing countries, but they are often administered too early, too late or simply erratically, making them ineffective in reducing patient harm.

Mortality from general anesthesia alone is reported to be as high as 1 in 150 in parts of sub-Saharan Africa. Three decades ago, a patient undergoing general anesthesia had an estimated 1 in 5,000 chance of death. With improvements in knowledge and basic standards of care, the risk has dropped to 1 in 200,000 in the developed world—a 40-fold improvement. Unfortunately, the rate of anesthesia-associated mortality in developing countries appears to be 100–1000 times higher, indicating a serious, sustained lack of safe anesthesia for surgery in these settings. In addition, anesthetic complications remain a substantial cause of surgical death globally, despite safety and monitoring standards that have significantly reduced unnecessary deaths and disability in developed countries.

Introduction

The Ethiopian Federal Ministry of Health (FMOH) implemented the Health Sector Development Program 1–4 successfully that helped reform the nation’s health system in the last 20 years. Currently, the FMOH launched the fifth strategic plan, called the Health Sector Transformation Plan (HSTP), which is aligned with country’s second growth and transformation plan. The HSTP has identified quality and equity as a cornerstone of the transformation agenda focusing mainly on essential and emergency safe surgical and anesthesia care, in addition to maternal, neonatal and child health; nutrition; chronic non-communicable diseases and infectious diseases.

Saving Lives Through Safe Surgery (SaLTS) is the FMOH’s flagship initiative that is designed to respond to the World Health Assembly resolution of A68/15 in making emergency and essential surgical and anesthesia care accessible and affordable as part of the universal health coverage. The SaLTS initiative was developed with the objective to ensure the delivery of quality, safe, essential and emergency surgery throughout the country to alleviate the national burden of diseases, disability and death that are preventable throughout safe surgery.

The development of the SaLTS initiative was informed by input from various stakeholders and it aims to build on the experiences of existing reform agendas including but not limited to the Ethiopian Hospitals Reform initiative and utilizes the Ethiopian Hospitals Alliance for Quality (EHAQ) as a platform for rapid scale up. As a flagship initiative of the HSTP under the quality and equity transformation agenda, it will be integrated into the newly revised the Ethiopian hospitals reform implementation guideline for rapid implementation and scale up in all health centers, primary hospitals and tertiary hospitals.

Rationale for Saving Lives through Safe surgery

The provision of essential surgical procedures ranks among the most cost effective of all health interventions and would avert about 1.5 million deaths a year, or 6%–7% of all avertable deaths in low-income and middle-income countries (Debas et al. 2015; Mock et al. 2015).

In general, the large burden of surgical disorders, cost-effectiveness of essential surgery, and strong public demand for surgical services suggest that universal coverage of essential surgery should be financed early on the path to universal health coverage. Full coverage of universal coverage of essential surgery applicable to first-level hospitals would require over an estimated US \$3 billion annually of additional spending and yield a benefit–cost ratio of more than 10:1. It would efficiently and equitably provide health benefits, financial protection, and contributions to stronger health systems (Mock et al. 2015).

Country Surgical and Anesthesia Care Assessment

A situational analysis was conducted on selected health centers, primary hospitals and tertiary hospitals using the WHO surgical and anesthesia needs and status assessment tool.

According to WHO, properly equipped primary hospitals in low-income countries such as Ethiopia are able to perform emergency surgery for a number of conditions, including obstetric complications; abdominal emergencies and basic surgeries and injuries; simple orthopedic care for extremity fractures, dislocations, and amputations; burn care and uncomplicated general surgery for hernias; and treatment and control of surgical infections (Debas et al. 2006). However, many primary hospitals in rural Ethiopia are not in a position to provide the mentioned services due to lack of appropriate human resources, supporting staff, equipment and supplies.

A total of 44 essential surgical procedures that have been recommended in the Disease Control Priorities will provide a reasonable starting point for an essential surgical package, although there will be country-specific variations (Debas et al. 2015). Safe anesthesia and perioperative care are necessary components of all of these procedures.

The surgical platform of the first-level hospital delivers 28 of the 44 essential procedures. Investing in this platform is also highly cost effective for the long term to expand access to surgery. Task sharing by health officers through short-term training has been shown to be safe and effective while the country made long-term investments in building the surgical and anesthesia workforces.

SaLTS focuses on availing a package of essential and emergency surgical and anesthesia care at all levels of the Ethiopian health care delivery system with special emphasis in strengthening primary care to provide essential surgical care. Feasible measures, such as WHO's Surgical Safety Checklist, have led to improvements in safety and quality. (Debas et al. 2006).

Strengths and Weaknesses

A thorough systematic analysis of the Ethiopian health system supported the Salts priorities.

Building Blocks	Strength	Weakness
Leadership and governance	<p>Leading and coordinating</p> <ul style="list-style-type: none"> • Use of technical working groups (TWGs) • Establishment of partner's forum at subnational level • Health Extension Program (HEP) and Health Development Army (HAD) as a demand creation, improving access and community empowerment tool • Improved integrated supportive supervision practice • Institutionalization of service improvement approaches like Balanced Score Card (BSC), EHAQ. <p>Controlling and monitoring</p> <ul style="list-style-type: none"> • Strengthening of regulatory system • Actions for standardization and regulation (facility standard, licensing) • Establishment of quality control of lab 	<ul style="list-style-type: none"> • Essential surgical and anesthesia care were not classified as primary health care • Donor dependent program designing, resource and funding allocation • Inadequate focus for streamlined planning and implementation among the directorates and agencies of FMOH, partners and regions. • Low involvement of patients in decision-making/leadership level • Inequity across regional capacity in leading and implementation capacity among regions and health facilities • Weak implementation capacities among agencies, FMOH and regional health bureaus (RHBs). • Lack of structural review and adjustment along with strategic plan
Human resources and infrastructure	<ul style="list-style-type: none"> • Rapid increase in the availability of human resources for health IESOs, surgeons • New initiatives such as CPD, leadership programs, by Ethiopian Food Medicine Health Care Administration and Control Authority (FMHACA) under FMOH • Rapid expansion of health institutions with primary health care to 100% • Procurement of medical equipment including operating room (OR) tables and anesthesia machines 	<ul style="list-style-type: none"> • Wide gap in the global indicator of surgical capacity per population • Lack of clarity in implementation of national guidelines in big cities, including health center and primary hospital reforms • Limited capacity to own and lead some program areas at national level • Poor provider attitude and low commitment of various stakeholders • High attrition rate and absence of human resources motivation and retention strategy • Weak institutional knowledge management • Weak knowledge generation and utilization at national level • Inequity in the distribution of skilled manpower • Lack of motivation and retention strategy

Building Blocks	Strength	Weakness
Information	<ul style="list-style-type: none"> • Improvement of evidence generation and dissemination: • Several surveys and assessments are/were conducted (Ethiopian Health Demographic Survey (EHDS), Service Provision Assessment Plus Survey (SPA+), STEP wise survey for non-communicable diseases (NCDs),) • Improvement of health management information system (HMIS) and initiation of HMIS in private health facilities, initiation of community-based information systems (CHIS) • Documentation of best practices • Regular and participatory review mechanism such as annual review meetings 	<ul style="list-style-type: none"> • Suboptimal use of evidence generated for timely decision-making (mainly at local level): • Weak systematic documentation of evidences • Inadequate triangulation of information (HMIS, surveys, safe surgery findings, operational research) • Inadequate and /or incomplete data: • Inaccuracy of data on surgical and anesthesia care • Lack of comprehensive information on disease burden • Limited implementation of logistics management information system (LMIS) and HMIS • Parallel and multiple reporting system • Weak joint planning and monitoring of surgical and anesthesia service performances • Inadequate capacity-building of regional public health research centers
Medical drug and product	<ul style="list-style-type: none"> • Improved commodity security • Growth of revolving drug fund capital • Increased availability of ambulance services • Increased supply of medical equipment • Initiation of telemedicine, tele-education 	<ul style="list-style-type: none"> • Supply chain gap (No availability of essential medicines and supplies (weak pharmaceutical logistics information system) • Weak ambulance service management and inadequate running cost • Poor capacity of forecasting, quantification procurement and stock management of supplies and commodities • Poor forecasting, quantification and stock management of supplies and commodities • Weak maintenance capacity (medical equipment) • Low utilization of technology and innovations

Building Blocks	Strength	Weakness
Service delivery	<ul style="list-style-type: none"> • Increase in construction of hospitals and health centers • Steady increase in key diagnostic and radiological intervention coverage • Health facility expansion particularly to primary health care facilities • Increase in availability of ambulance services • Storage and distribution capacity of pharmaceutical supplies and services • Experience in implementing large scale successful programs • Efforts for preparation of minimum service standards • Decentralized lab services 	<ul style="list-style-type: none"> • Sub-optimal functionality of health facilities • Sub-optimal service availability and readiness at health facilities • Missed opportunities for essential health interventions due to limited focus on integrated service delivery • Inadequacy in continuum of care: • Potential tertiary care gaps - limited surgeons, gynecologists, IESOs, anesthesia professionals, trained OR nurses/managers access to hospital care, with negative influence on the continuum of care • Inequitable distribution of human resources • Socioeconomic situations (gender, education, income) • Service points are not user-friendly particularly for disabled people and women • Sub-optimal quality of care • Inadequate availability of clinical service protocols for health facilities • Absence of surgical and anesthesia care standard operating procedures, clinical auditing guidelines, standardized service assessment tools/checklists, indicators • Inadequate follow-up on implementation of strategies, guidelines and standard operating procedures • Weak referral and feedback system
Laboratory and imaging	<ul style="list-style-type: none"> • Presence of national strategic plan for laboratory services and designated unit • Decentralized laboratory services • Presence of national laboratory services with referral network • Presence of national quality assurance and accreditation system • Initiation of backup laboratory system in Addis Ababa • Increasing investment in high tech imaging services • Improving national blood transfusion services accessibility 	<ul style="list-style-type: none"> • Frequent interruption of important laboratory services • Lack of supplies and consumables • Inadequate human resources for laboratory and imaging services • Lack of safe blood in some parts of the country • Poor medical equipment management • Lack of strategic plan for imaging services

Building Blocks	Strength	Weakness
Health financing	<ul style="list-style-type: none"> Implementation of health care financing reform (such as fee retention, private wing, service fee revision, etc.) Establishment of health insurance Resource mobilization (Millennium Development Goals Pool Fund (MDG PF); Revolving drug fund capital is improving) Encouraging multi-sectorial collaborative efforts National Nutrition Program (NNP), water and sanitation, non-communicable diseases, s, MoE-Ministry of Education) 	<ul style="list-style-type: none"> Gaps in mobilizing local resources Low utilization and liquidation at all levels Poor resource mapping capacity especially at sub-national level Weak financial utilization and timely liquidation

Challenges, Opportunities and Threats

Challenges	Opportunities	Threats
<ul style="list-style-type: none"> Delay in implementation of policies, guidelines and plans Sub-optimal public-private partnership (coordination, mistrust, reporting) Regulatory weaknesses Gender mainstreaming not institutionalized in planning and monitoring and evaluation (M&E) of health programs Less optimal buy-in for the three one's principles Good governance challenges – weak accountability Variation in leadership and good governance Variation in fostering coordination/partnership (inadequate resource mobilization and utilization capacity and sub-optimal leadership of programs at sub-national level) Regulatory: Inadequate quality assurance actions Poor capacity to implement the regulatory framework Limited multi-sectorial response such as in the development corridor 	<ul style="list-style-type: none"> Determination and political commitment by the government Increasing engagement, determination and commitment by professional associations Improving health care seeking behavior by community Safe surgery is a global and national priority Emerging of important national initiatives like Ethiopian Hospitals Alliance for Quality (EHAQ), Clean and Safe Health Facilities (CASH), and Auditable Pharmaceutical Transactions and Services (APTS) Sustained national economic development Improving road infrastructure, telecom Increasing academic institutions intake Establishment of vital events registration agency Settlement of pastoralist communities Health insurance schemes Existence of strong government structure up to community level Industrialization (increase in local production of drugs and equipment, local manufacturers of food, etc.) Urbanization Acceptance of health insurance 	<ul style="list-style-type: none"> Geographic inaccessibility of many communities, including to ambulance services High donor source for health expenditure Low predictability of foreign funding Harmful traditional practices as barriers to essential health services Potential for community fatigue for referral and service preferences by community Perception that Had-Health Development Army (HDA)s are politically oriented rather than service quality improvement scheme Trade agreements such as importation of sub-standard supplies Inadequate counterfeit control (sub-standard imports) High caliber health professional attrition Climate change Increasing pool factor for the health workers/brain draining Fragile neighborhood states Population growth

Stakeholders' Analysis

Stakeholders	Behaviors the SaLTS Initiative desires	Stakeholder needs	Anticipated Challenges	Level of Impact	Institutional response
<ul style="list-style-type: none"> Community 	<ul style="list-style-type: none"> Participation, engagement Ownership and Healthy life style 	<ul style="list-style-type: none"> Access to health information and service Empowerment, Quality of surgical and anesthesia care 	<ul style="list-style-type: none"> Dissatisfaction Opting for unsafe alternatives Underutilization 	High	<ul style="list-style-type: none"> Community mobilization, ensure participation Quality and equitable service and information
<ul style="list-style-type: none"> Parliaments, Prime Minister's Office, Council of Ministers, agencies, regional governments 	<ul style="list-style-type: none"> Ratification of Policy proclamations, polices, etc. Resources allocation 	<ul style="list-style-type: none"> Implementation of proclamations, Policy, etc. Equity & quality Plans & Reports 	<ul style="list-style-type: none"> Administrative measures Organizational restructuring Influence on budget allocation 	High	<ul style="list-style-type: none"> Put in place strong M&E system & comprehensive capacity-building mechanisms
<ul style="list-style-type: none"> Line Ministries (Water, electricity, finance, labor, women's affairs, agriculture, etc.) 	<ul style="list-style-type: none"> Inter-sectorial collaboration Consider health in all policies and strategies 	<ul style="list-style-type: none"> Evidence-based plans; Reports Effective & efficient use of resources & coordination Technical support 	<ul style="list-style-type: none"> Fragmentation Dissatisfaction Considering health as low priority 	Medium	<ul style="list-style-type: none"> Collaboration Transparency Advocacy
<ul style="list-style-type: none"> Health professional associations and universities 	<ul style="list-style-type: none"> Knowledgeable, skilled and ethical surgical and anesthesia professionals produced Participate in licensing and accreditation Promote professional code of conduct 	<ul style="list-style-type: none"> Technical, policy support, guidance Involved in planning, implementation & M&E 	<ul style="list-style-type: none"> Curriculum revision Dissatisfaction Fragmentation Scale down Withdrawal 	High	<ul style="list-style-type: none"> Policy, financial and leadership support Capacity-building
<ul style="list-style-type: none"> Development partners 	<ul style="list-style-type: none"> Harmonized & aligned Participation More financing Technical support Harmonization & alignment 	<ul style="list-style-type: none"> Financial system accountable & transparent 	<ul style="list-style-type: none"> Fragmentation High transaction cost Inefficiency & ineffective 	Medium	<ul style="list-style-type: none"> Government leadership Transparency Efficient resource use Build financial management capacity

Stakeholders	Behaviors the SaLTS Initiative desires	Stakeholder needs	Anticipated Challenges	Level of Impact	Institutional response
<ul style="list-style-type: none"> • Diaspora and private for profit) 	<ul style="list-style-type: none"> • Quality of care; Client oriented; • Knowledge and technology transfer 	<ul style="list-style-type: none"> • Enabling environment for their engagement 	<ul style="list-style-type: none"> • Mistrust • Rent seeking 	Medium	<ul style="list-style-type: none"> • Transparency • Accountability • Dialogue
<ul style="list-style-type: none"> • Civil servants 	<ul style="list-style-type: none"> • Commitment, • Participation • CPD 	<ul style="list-style-type: none"> • Conducive environment • Transparency • Incentive 	<ul style="list-style-type: none"> • Dissatisfaction • Unproductive • Attrition 	High	<ul style="list-style-type: none"> • Motivation, Involvement

Saving Lives Through Safe Surgery Aim and Objectives

Aim

To improve equitable access to high-quality and safe essential and emergency surgical and anesthesia care as part of the universal health coverage.

Objectives

- To implement a nationally coordinated national plan on surgical care.
- To define and implement essential surgery package for all levels of the Ethiopian health care delivery system.
- To create better awareness on surgical and anesthesia care with different stakeholders.
- To improve the safety of surgical care by implementing the surgical safety checklist and improving the safety culture.
- To implement a quality improvement and audit tool in surgical care.
- To proactively identify best practices and scale up rapidly through EHAQ.

Core Values:

- Accountability
- Transparency
- Compassion
- Respect
- Care
- Patient centeredness
- Quality focused
- Innovation
- Partnership

Strategic Pillars and Strategic Results

A high-level professional workshop was conducted to develop the strategic pillars and plan documents on the pillars of essential and emergency surgical care based on mapping the development and the existing capacity, commitment and funding.

The SaLTS initiative has identified key strategic objectives in line with the commitment of approaching the initiative through the health system building blocks. Considering the vast undertakings in making essential surgical care available and accessible, innovative approaches and wider partnerships will be solicited. Accordingly, the following key strategic pillars were identified.

1. Leadership, management and governance
2. Infrastructure development
3. Equipment and supplies management
4. Human resources development
5. Partnership and advocacy

6. Quality and Safety
7. Innovation
8. Monitoring and evaluation

Strategic Pillar One: Leadership, Management and Governance

Effective leadership and governance are key to the successful implementation of such an ambitious program. Accordingly, functional structures will be established at all levels of the health system to oversee the program. The initiative will be led at the national level by the Minister of Health. Regionally, the program implementations will be integrated within the Medical Services General Directorate and the Health Services Quality Directorate and curative and rehabilitative core process (CRCP)/health care quality process. Similarly, the SaLTS leadership and management structure extends below the RHBs in zones, woredas and health facilities.

Existing structures and staff have limited experience in safe surgery leadership and management to effectively address essential and emergency surgical issues in the country, so the executive leadership will be supported by a TWG at the national level and a technical advisory group at the regional level. Day-to-day activities will be led and managed by respective government structures (project management team) at all levels. Additionally, the initiative will be incorporated with the existing EHAQ structure.

Current budget allocation for safe surgery is inadequate to address specific problems such as medical equipment, supplies, surgical workforce availability, capacity-building, improvement of operational quality capabilities and infrastructural development. Therefore, the FMOH will work in partnership with professional societies, partners, senior service providers and universities that have responsibilities for overall SaLTS program implementation and management in the country.

Strategic Objectives

1. Establish effective leadership and management system across all levels of the health system.
 - Establish leadership and management structure at all levels.
 - Identify potential members.
 - Invite participants.
 - Conduct regular meetings
 - Develop guidelines/manual for leadership and management structure.
 - Develop a draft guideline.
 - Incorporate feedback from national TWG.
 - Finalize the guidelines/manual.
 - Circulate the manual for RHBs and facilities.
 - Preparation of tool kits (assessment tool, SaLTS leadership guidelines, and standard operating procedures).
 - Designate individual champions and institutions for SaLTS.
 - Monitor, report and evaluate leadership and management activities.
2. Strengthen leadership and management capabilities at all levels.
 - Provide short-term trainings on leadership and management skills.
 - Develop training packages.
 - Identify trainees).

- Conduct the training.
- Conduct supportive supervisions, mentorship and coaching (on team building, communication).
- Identify mentors.
- Develop mentorship guide.
- Conduct mentorship.
- Seconded expertise to build the capacity of government.
 - Identify and communicate partners.
 - Develop Terms of Reference (ToR).
 - Identify and assign the expert.
- International and local experience sharing
 - Identify areas that have best practices.
 - Secure budget.
 - Conduct the experience sharing.
- Establish knowledge management center.

Strategic Results

Improved leadership and management system, measured by the following components:

- Establishing safe surgery leadership structure at all levels including their respective ToR.
- Identifying major leadership gaps at all levels in leading safe surgery program.
- Designing leadership support/training package based on identifying gaps.
- Implementing leadership support/training package.

Structure

Executive committees

The SaLTS strategy should be implemented by the executive committee at all levels of the health system. This committee gives guidance as to how emergency and essential surgical care should be implemented through SaLTS. It approves plans and the necessary budget to operate the program. It takes an active part in the supervision and monitoring and evaluation of the activities and gives the necessary feedback.



It is composed of the high-level management team in all strata. It establishes an advisory or steering committee that helps involve stakeholders, promote the program, and strengthen networking and advocacy.


Project Management Teams

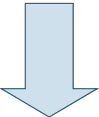
The management teams for SaLTS will be established in the medical services general directorate under the quality directorate, or Curative and Rehabilitative Core Process (CRCP), according to the level of organization. This team acts as an engine in the implementation of SaLTS. In addition, the management team develops plans according to the directions from the executive committee and the guidelines of emergency and essential surgical care. It may establish a TWG to run the program effectively. It has clearly outlined job descriptions (See Annex E).



Technical Working Groups

The Medical Services General Directorate or CRCP of the health structure will create the TWG, which will be comprised of management teams, various professional societies, and partners relevant to SaLTS. The TWG has clearly outlined job descriptions (See Annex E).

Health Facility Structure	Roles and responsibilities
Hospital/health center CEO/clinical director/Senior Management Team (SMT) 	<ul style="list-style-type: none"> • Supervise overall SaLTS activities • Conduct baseline and ongoing assessment • Assign necessary surgical team and OR manager • Engage senior professionals in leadership • Allocate and mobilize resources • Evaluate the progress of implementation • Assess and reward champion provider • Ensure availability of necessary supplies • Ensure the availability and utilization of WHO safe surgery essential checklists • Establish facility level taskforce that follows the implementation of SaLTS strategy by delegating authority

Health Facility Structure	Roles and responsibilities
SaLTS program coordinating teams (surgical team) 	<ul style="list-style-type: none"> • Develop SaLTS specific action plan • Support the implementation of the facility SaLTS plan • Conduct ongoing assessment to advise SMT and provide feedback to service units • Provide training to clinical and non-clinical surgical staff • Plan and supervise the activity of respective unit • Discuss with team to improve the quality of surgical activities • Organize hospital wide advocacy and communications • Involve in all surgical team meetings • Document all activities and submit the report
Full-time OR manager	<ul style="list-style-type: none"> • Act as a secretary of SaLTS implementing team • Oversee day to day activity of OR • Conduct daily supervision to key function units and give information to SaLTS coordinating team • Participate on senior management team representing surgical team

Facility SaLTS team

The facility SaLTS team will be organized by health workers from the different management bodies and facility health workers. It will be led by the surgical and anesthesia staff of the facility. The job descriptions should be designed by the specific health facilities based on need and relevance to SaLTS and emergency and essential surgical care. Strong OR management will be established.

❖ Ethiopian Calander

Major Initiatives	2009	2010	2011	2012	2013
Establish safe surgery leadership structure at all level including their respective ToR	X	X			
Identify major leadership gaps at all levels in leading safe surgery programs	X	X			
Design leadership support/training package based on identifying gaps	X	X			
Implement leadership support/training package	X	X	X	X	X
Strengthen FMOH capacity in leadership and governance	X	X	X	X	X
Assist and empower professional societies to positively contribute toward leadership and good governance in safe surgery	X	X	X	X	X
Provide supportive follow-up, identified in leadership capacity-building as requested by regions and hospitals	X	X	X	X	X
Identify and recognize champions, documenting and disseminating proven best practices		X	X	X	X
Finalize safe surgery leadership structure at health facilities including their respective ToR		X	X	X	X
Continue to implement the leadership support/training package	X	X	X	X	X
Develop masters' level training curriculum for OR managers and identifying potential training sites		X			
Provide follow-up, identified and need based leadership and capacity-building support requested by regions, hospitals, zonal, woredas and health centers	X	X	X	X	X

Major Initiatives	2009	2010	2011	2012	2013
Enroll 25 OR managers for masters' level trainings recruited from all regions			X		
Enroll 50 OR managers for masters' level training recruited from all regions				X	
Develop incentive and retention package and professional career for masters' level OR manager graduates			X		
Develop a syllabus to integrate leadership course into the undergraduate and postgraduate programs of the different surgical workforces				X	
Enroll 75 OR managers for masters' level from all regions					X

Strategic Pillar Two: Infrastructure Development

Infrastructure development entails necessary health facility buildings that are critical for the smooth functioning of the OR. Standard ORs meeting the national requirements and conducive for the surgical team and patients need to be prioritized. Recovery and central sterilization services and other adjoining structures will be improved. Improving the condition of the existing infrastructure through renovations and constructing additional facilities as per the standard will be implemented.

Additionally, this pillar will focus on improving key utility services for ORs including safe and adequate water services, uninterrupted power services with back up, and communication systems. Due consideration will be provided to innovative ways of fulfilling the utility services requirements. For example, the possible use of solar power will be explored.

Strategic Objectives

1. To ensure availability of standards infrastructure and building of delivery room, minor OR, and major OR in primary and tertiary level.
2. To ensure the construction of new or renovation of existing health facilities complies with the national standard guidelines.
3. To ensure that functional uninterrupted utility services are available at the facility level. This includes services such as water, power supply and communication system.

❖ Ethiopian Calander

Major initiatives	2009	2010	2011	2012	2013
Conduct surgical infrastructure gap assessment in all regions.	X	X			
Mobilize financial, material, and technical resources	X	X	X	X	X
Renovate and build surgical suites that were identified in all regions based on assessment findings and their priorities.	X	X	X	X	X
Devise a mechanism for timely preventive check up and maintenance of all the distributed equipment	X	X			

Strategic Pillar Three: Equipment and Supplies Management

Availability of essential equipment, supplies, and consumables are key for the provision of surgical and anesthesia care. The SaLTS initiative will identify a national package of essential surgical and anesthesia procedures, and standard lists of national supplies and consumables will be prepared. Similarly, essential medical equipment and package of surgical instruments will be developed in accordance with the nationally identified essential surgical services package. Using a standardized inventory checklist, an assessment will be conducted to estimate the capacity and identify the gaps in supplies and equipment.

Evidence-based quantification of the supplies and equipment will be used to procure these essential items. A close follow-up system will be established for procurement and distribution of these items. Appraisal of existing anesthesia drugs for safety and effectiveness will be performed and, as necessary, newer and safer anesthesia drugs will be introduced into the system. A number of standardized tools will be introduced to assist health facilities to conduct regular inventories of the critical supplies and medical equipment.

Strategic Objectives

1. To ensure that health centers and hospitals are equipped with the standard list of surgical and anesthesia equipment according to the SaLTS equipment list and standard operating procedures and protocols to enable the provision of essential and emergency anesthesia care.
2. To ensure that required consumables are available in a timely way at each level and that supply chain management for pharmaceuticals is in place for essential and emergency surgical and anesthetic care the standard for health centers and hospitals.
3. To ensure there are centers for medical equipment maintenance and innovation.
4. To ensure that safe anesthesia drugs and consumables are available in the health care delivery system.
5. To ensure that a standard audit tool and monitoring guidelines for quality SaLTS are used across the entire region.

Major initiatives	2009	2010	2011	2012	2013
Develop comprehensive package of equipment, medicine and consumables for national essential and safe surgery package.	X				
Procure and distribute essential OR and related infrastructure and supplies to the already established and newly constructed hospitals.	X	X	X	X	X
Quantify, forecast and procure comprehensive package of equipment, medicine and consumables for national essential and safe surgery package.		X	X	X	X
Establish national safe surgery and anesthesia procurement and supply technical advisory committee inclusive of all stakeholders including professional societies.	X				
Provide need based capacity-building training for all regions on pharmaceutical chain management.	X	X	X		
Mobilize financial, material, and technical resources.	X	X	X	X	X
Encourage and support local investors to produce surgical and anesthetic supplies that can be manufactured in country.	X	X	X	X	X
Distribute procured pharmaceutical items in a timely manner.	X	X	X	X	X

Major initiatives	2009	2010	2011	2012	2013
Conduct mid-project review meeting with stakeholders.		X		X	
Conduct supportive supervision in the hospitals to audit the newly distributed equipment and gadgets	X	X	X	X	X

Strategic Pillar Four: Excellence in Human Resource Development

The surgical workforce is the most important component of the SaLTS strategy. The availability of a motivated and competent surgical workforce is key to the success of the SaLTS initiative. A rapid analysis of the existing workforce, including identifying opportunities and potential challenges, needs to be conducted.

To ensure equitable distribution of competent health workers, innovative approaches will be introduced. Strategies for maximizing the efficiency of the existing workforce will be developed and implemented.

Evidence-based approaches such as task sharing and task shifting will be utilized meticulously. Leveraging high-level hospitals to support lower-level health facilities under them will be structured and highly encouraged. There will also be frequent capacity-building trainings at all levels based on the gaps identified.

The concept of compassionate, respectful and caring health professionals will be the main agenda and, as such, mechanisms for continuous engagement with the surgical workforce at all levels will be designed, and a motivation and recognition system will be implemented. In areas where there is an acute shortage of a skilled surgical workforce, strategies such as medical campaigns and surgical missions will be strengthened in the interim.

Strategic Objectives

1. To ensure availability of surgical team in all primary, general and tertiary hospitals.
2. To ensure the motivation and retention of workforce for SaLTS through effective and efficient mechanism of surgical taskforce.
3. To ensure that qualified and certified health care providers deliver essential and emergency surgical and anesthetic care.
4. To ensure and support all efforts toward capacity-building for productivity of surgical team.
5. To ensure compassionate, respectful and caring surgical health workforce (CRC).
6. To ensure bottlenecks are adequately managed

Strategies for Objectives

1. Increase availability of essential surgical team (focusing on anesthesia, IESO and OR nursing professionals).
 - Implement strategies to increase surgical specialties:
 - Partner with the College of Surgeons of East, Central, and Southern Africa (COSECSA).
 - Support medical schools to increase trainee pool.
 - Explore the establishment of additional specialty training centers.
 - Pair institutions.

- Implement task shifting.
 - IESO are trained in emergency obstetric and surgical conditions at the primary care level
 - Anesthesia technician/Level 5 will fill the significant anesthesia professionals gap
 - Clinical nurses - Perioperative nursing technical and non-technical update trainings
 - Implement task sharing
 - Integrate leadership competencies into existing curricula of key forces.
 - Conduct induction training on NTS (inter-professional collaboration) before deployment.
 - Review OR nurses curriculum to integrate post-anesthesia care unit and central sterilization room (CSR) competencies –
 - Select OR managers short term training.
 - Maximize current enrollment of key surgical taskforce through innovative solutions:
 - Introduce simulation laboratory.
 - Encourage cognitive apprenticeship (expanding clinical practice site).
 - Improve partnership with private sector.
 - Avail required infrastructure and teaching and learning materials
 - Promote and advocate new cadre.
 - Create new essential surgical cadre.
 - Emergency surgery physician
 - OR managers (post-grad)
 - Anesthesia technicians
 - OR/perioperative nurse (post-grad)
 - IESO future career structure
 - OR technician
2. Improve motivation and retention of key surgical team.
- Conduct professional development activities.
 - Conduct motivation and retention study.
 - Design motivation and retention strategies for key SaLTS surgical teams
 - Establish career and incentive packages for new cadres.
 - Link the human resources motivation strategy with the CRC movement
 - Support the accreditation of surgical workforce.
3. Build capacity of surgical task force.
- Provide short-term training, including OR leadership and management.
 - Use technology for learning (online training, telemedicine)
 - Conduct on-the-job training
 - Establish a system of mentorship and coaching.

- Provide long-term training to advance the technical and managerial skills of the surgical team.
 - Work collaboratively with professional associations to provide quality in-service training (IST) – sustainability.
 - **Ensure quality of IST-training package.**
4. Increase productivity of surgical team.
- Conduct technical update trainings and experience sharing, including NTS.
 - Implement day care surgery.
 - Explore and implement multiple shift surgery.
 - Utilize the private wing initiative to benefit the surgical team
 - Conduct surgical campaigns
 - Identify, officially recognize and award champions.
 - Prepare and implement benefit and incentive packages.
5. Balance deployment by offering privileges and incentives for those assigned to remote areas.
6. Improve quality of surgical care.
- Create a simulation lab in lead hospitals.
 - Establish educational standards for pre-service education.
 - Develop and implement practice standards.
 - Create a licensure examination.
 - Use a facility quality improvement tool.
 - Review anesthetist competencies addressed in the pre-service education curriculum.
 - Implement an organized coaching and mentorship system at all levels

Bottlenecks

- Critical shortage of key surgical team (IESO, anesthesia provider and OR nurses).
- Inadequate skill mix of existing professionals.
- Lack of systemic human resources management system.
- Flexibility in including additional cadres of health workers in to the surgical system for e.g. - OR manager
- Challenges in developing career structure.

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
1	Increase availability of essential surgical team (focusing on anesthesia, IESO and OR nursing professionals).						
1.1	In partnership with the Ministry of Education , higher education institutions (HEIs) and societies, encourage review of surgical team curricula to integrate non-technical skills competencies including ethics, medical law in Ethiopia, research methodology, targeted leadership and management (anesthesia all levels, IESO, OR nurse, surgery and ob/gyn specialties).	Indicator: Number of curricula reviewed					
		5 Yr. target	2016	2017	2018	2019	2020
		7	0	4	3	0	0
1.2	Determine surgical workforce required for next 10 years (anesthesiologists, anesthesiologists, surgeons, obstetricians, OR nurses and others).	Indicator: Workforce development document prepared					
		5 Yr. target	2016	2017	2018	2019	2020
		1	-	-	-	-	-
1.3	Design induction training on non-technical skills, safe surgery, CRC, and ethical care for newly graduating surgical team before deployment (all teams members as one).	Indicator: No. of graduates trained					
		5 Yr. target	2016	2017	2018	2019	2020
		1,500	300	300	300	300	
1.4	Review OR nurses (BSc or MSc) curriculum to integrate Post-Anesthesia Care Unit and (CSR) competencies.	Indicator: Curriculum reviewed					
		5 Yr. target	2016	2017	2018	2019	2020
		2	2	-	-	-	-
1.5	Design and provide short-term training on OR management for identified surgical team members from different hospitals (nationally).	Indicator: No. of Hospitals having trained staff					
		5 Yr. target	2016	2017	2018	2019	2020
		500	-	100	100	100	100
1.6	Strengthen skill development labs of (Higher Education Institutions) HEIs to provide.	Indicator: No. of labs strengthened					
		5 Yr. target	2016	2017	2018	2019	2020
		14	-	3	3	4	4
1.7	Provide short-term technical update training (on pre-op preparation, post-anesthesia care unit, CSR (Central Sterilization Services) and scrub) for clinical nurses working in OR.	Indicator: No. of nurses trained from 3 areas					
		5 Yr. target	2016	2017	2018	2019	2020
		1,000	-	200	200	200	200

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
1.8	Promote pre-service education hospital-based training (cognitive apprenticeship) among training institutions to increase enrollment.	Indicator: No. of HEIs implementing the strategy					
		5 Yr. target	Annual targets				
1.9	Provide financial support for HEIs to implement hospital-based pre-service education training (cognitive apprenticeship).	14	2016	2017	2018	2019	2020
			-	14	-	-	-
1.10	Support HEIs to sign memorandum of understanding with private sectors to create additional training sites for surgeons, obstetricians, anesthesia, OR nurse and IESO students.	Indicator: No. of HEIs supported					
		5 Yr. target	Annual targets				
1.11	Conduct promotion of surgical team members (anesthesiology, OR nursing, Level 5 anesthesia and IESO).	5	2016	2017	2018	2019	2020
			-	-	2	3	-
1.12	Avail required infrastructure and teaching and learning materials in HEIs providing surgical team training.	Indicator: No. of memoranda of understanding signed					
		5 Yr. target	Annual targets				
1.13	Encourage and assist 10 universities to start BSc program in anesthesia.	30	2016	2017	2018	2019	2020
			-	15	15	-	-
1.14	Support HEIs to start anesthesiology residency program.	Indicator: No. of promotions conducted					
		5 Yr. target	Annual targets				
1.14	Support HEIs to start anesthesiology residency program.	20	2016	2017	2018	2019	2020
			-	5	5	5	5
1.12	Avail required infrastructure and teaching and learning materials in HEIs providing surgical team training.	Indicator: No. of teaching institutions supported					
		5 Yr. target	Annual targets				
1.13	Encourage and assist 10 universities to start BSc program in anesthesia.	14	2016	2017	2018	2019	2020
				4	4	4	2
1.13	Encourage and assist 10 universities to start BSc program in anesthesia.	Indicator: No of new BSc programs started					
		5 Yr. target	Annual targets				
1.14	Support HEIs to start anesthesiology residency program.	10	2016	2017	2018	2019	2020
			-	4	3	3	-
1.14	Support HEIs to start anesthesiology residency program.	Indicator: No. of HEIs starting program					
		5 Yr. target	Annual targets				
1.14	Support HEIs to start anesthesiology residency program.	5	2016	2017	2018	2019	2020
				1	2	2	-

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
1.15	Develop an MSc program curriculum in OR management to train OR managers.	Indicator: Targeted curriculum developed					
		5 Yr. target	Annual targets				
		1	2016	2017	2018	2019	2020
			1	-	-	-	-
1.16	Support HEIs to start MSc program in OR management.	Indicator: No. of graduates trained					
		5 Yr. target	Annual targets				
			2016	2017	2018	2019	2020
		150	-	25	50	50	50
1.17	Develop an MSc program curriculum in OR and perioperative nursing to train OR nurses in perioperative/OR nursing.	Indicator: Targeted curriculum developed					
		5 Yr. target	Annual targets				
		1	2016	2017	2018	2019	2020
			-	1	-	-	-
1.18	Train OR nurses in MSc in OR nursing/perioperative nursing.	Indicator: No. of graduates trained					
		5 Yr. target	Annual targets				
		500	2016	2017	2018	2019	2020
			100	100	100	100	100
1.19	Encourage the existing anesthesiology residency program for intake.	Indicator: Number of trainees enrolled					
		5 Yr. target	Annual targets				
			2016	2017	2018	2019	2020
		3	-	-	-	-	-
1.20	Develop a strategic plan for IESO future career.	Indicator: Targeted curriculum developed					
		5 Yr. target	Annual targets				
		1	2016	2017	2018	2019	2020
			-	-	1	-	-
1.21	Expand the COSECSA based training of general surgeons in the country.	Indicator: No. new programs opened					
		5 Yr. target	Annual targets				
			2016	2017	2018	2019	2020
		15	2	3	3	3	4

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
1.22	Encourage existing surgery and obstetric residency programs to increase their annual intake.	Indicator: Percentage of increase in uptake					
		5 Yr. target	Annual targets				
		100%	2016	2017	2018	2019	2020
			20%	20%	20%	20%	20%
1.23	Encourage new HEIs to commence residency programs in surgery and obstetrics.	Indicator: Number of new programs opened					
		5 Yr. target	Annual targets				
			2016	2017	2018	2019	2020
		10					-%
1.24	Provide the necessary infrastructure and financial support to HEIs that are expanding their number residents intake based on the percentage of increase.	Indicator: Amount of support provided					
		5 Yr. target	Annual targets				
		-%	2016	2017	2018	2019	2020
			-%	-%	-%	%	%
2	Improve motivation and retention of key surgical team.						
2.1	Conduct motivation and retention study on surgical team (anesthesia of all levels, OR nurses, IESO, surgery and ob/gyn).	Indicator: No. of studies conducted					
		5 Yr. target	Annual targets				
		4	2016	2017	2018	2019	2020
			-	4	-	-	-
2.2	Design motivation and retention strategy for surgical team members using retention study findings	Indicator: Targeted strategy developed					
		5 Yr. target	Annual targets				
			2016	2017	2018	2019	2020
		1	-	-	1	-	-
3	Build capacity of surgical teams.						
3.1	Strengthen collaboration with professional associations/ societies to provide quality IST for surgical team.	Indicator: No. of Associations collaboration created					
		5 Yr. target	Annual targets				
		4	2016	2017	2018	2019	2020
			4	-	-	-	-

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
3.2	Introduce technology in to the in-service training of essential surgical team (telemedicine, mobile based technology, web-based learning, e-log books, e-learning).	Indicator: No. of technologies introduced					
		5 Yr. target	Annual targets				
		4	2016	2017	2018	2019	2020
			-	4	-	-	-
3.3	Provide outreach service on primary hospitals with multidisciplinary surgical care team.	Indicator: No of facilities coached					
		5 Yr. target	Annual targets				
		100	2016	2017	2018	2019	2020
			-	35	35	30	-
3.4	Develop anesthesia training package addressing essential and emergency surgery anesthetic competencies designated to primary Hospital level (anesthesia for trauma, obstetrics and emergencies).	Indicator: No. of packages developed					
		5 Yr. target	Annual targets				
		3	2016	2017	2018	2019	2020
			3	-	-	-	-
3.5	Provide technical update training on anesthesia for trauma, obstetrics and emergency procedures at primary hospital level.	Indicator: No. of anesthesiologists trained					
		5 Yr. target	Annual targets				
		200	2016	2017	2018	2019	2020
			-	100	100	-	-
3.6	Provide training of trainers training in mentoring and coaching for senior surgical team that will provide coaching and mentoring visits (equal proportion of anesthesia professionals, surgeons and ob/gyn).	Indicator: No. of professionals trained					
		5 Yr. target	Annual targets				
		360	2016	2017	2018	2019	2020
			-	120	120	120	-
3.7	Provide coaching and mentoring training for senior surgical team planned to be involved in coaching and mentoring visits.	Indicator: No. of staffs assigned as coach					
		5 Yr. target	Annual targets				
		360	2016	2017	2018	2019	2020
			-	120	120	120	-
3.8	Provide SaLTS leadership and management training for national and regional TWG members.	Indicator: No. of professionals trained					
		5 Yr. target	Annual targets				
		15	2016	2017	2018	2019	2020
			5	3	3	3	1

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity	Indicator: No. of professionals trained					
3.9	Provide SaLTS leadership and management training for national and regional project team members.	5 Yr. target	Annual targets				
		50	2016	2017	2018	2019	2020
			10	10	10	10	10
4	Increase productivity of surgical team.						
4.1	Performance-based recognition for surgical team members exceeding set target procedure number.	Indicator: No. of teams recognized exceeding target					
		5 Yr. target	Annual targets				
		160	2016	2017	2018	2019	2020
			-	40	40	40	40
4.4	Performance-based recognition for best facility in implementing SALT initiative.	Indicator: No. Facility recognized					
		5 Yr. target	Annual targets				
		40	2016	2017	2018	2019	2020
				10	10	10	10
4.5	Develop comprehensive training package on day care surgery and anesthesia.	Indicator: Targeted package developed					
		5 Yr. target	Annual targets				
		1	2016	2017	2018	2019	2020
			1	-	-	-	-
4.6	Based on developed training package, provide training for multi-disciplinary surgical team members on day care surgery and anesthesia.	Indicator: No. of Professionals trained					
		5 Yr. target	Annual targets				
		500	2016	2017	2018	2019	2020
			-	80	140	140	140
4.7	Support lead hospitals to initiate day care surgery.	Indicator: No. of Hospitals providing daycare surgery per standard					
		5 Yr. target	Annual targets				
		10	2016	2017	2018	2019	2020
				3	3	4	-

Detailed SaLTS Human Resource Development Plan

Activity No.	Initiative/Planned Activity						
5	Improve quality of surgical care.						
5.1	Assist HEIs to develop simulation lab in lead hospitals.	Indicator: No. of simulations developed					
		5 Yr. target	Annual targets				
		10	2016	2017	2018	2019	2020
			-	4	3	3	-
5.2	Support the SSE in developing a Board of Surgical Specialties under the FMOH.	Indicator: Board established					
		5 Yr. target	Annual targets				
			1	2016	2017	2018	2019
			-	1	-	-	-
5.3	Support anesthesiology society in standardizing the training of anesthesiologists in the country.	Indicator: Standard curriculum developed					
		5 Yr. target	Annual targets				
		1	2016	2017	2018	2019	2020
			-	1	-	-	-

Activity No.	Initiative/Planned Activity	Number of trained personnel					
		5 Year target	Annual target				
			2016	2017	2018	2019	2020
1	General surgeon	750	150	150	150	150	150
2	OB/GYN specialist	750	150	150	150	150	150
3	Anesthesiologist	100	20	20	20	20	20
4	Anesthetist	2,000	400	400	400	400	400
5	Scrub nurse	2,000	400	400	400	400	400
6	Recovery room nurse	2,000	400	400	400	400	400
7	OR manager	200	40	40	40	40	40
8	IESO	500	100	100	100	100	100
9	Dental surgeon	100	20	20	20	20	20
10	Ophthalmologist	200	40	40	40	40	40
11	Ophthalmology nurse	1,000	200	200	200	200	200
12	Orthopedists	150	30	30	30	30	30
15	Chest surgeon	15	3	3	3	3	3
16	Pediatric surgeon	20	5	5	5	5	5
17	Neurosurgeon	50	10	10	10	10	10
18	ENT Surgeon	50	10	10	10	10	10
19	Urologist	50	10	10	10	10	10
20	Plastic surgeon	25	5	5	5	5	5
21	OR technician	250	50	50	50	50	50

Strategic Pillar Five: Excellence in Advocacy and Partnership

Excellence in advocacy and partnership signifies that all stakeholders, including leaders at the FMOH and MOF, health care professionals (via training centers, universities, professional societies, etc.), partners, and the public (via health workers and the media), are aware of SaLTS and the national priority around improving safe surgery, and that SaLTS has sufficient partner engagement for implementation alongside the FMOH.

Strategic Objectives

1. To ensure increased awareness of SaLTS among FMOH and MOF staff, health care professionals (both inside and outside of surgery) and the general public.
2. To mobilize the surgical workforce as part of this movement, with every surgical professional (including surgeons, OBGYNs, anesthetists, and nurses).
3. To increase the number of partners as well as investment by each partner in surgery in Ethiopia.

Components

Awareness

- Promote advocacy to key stakeholders within the FMOH and Ministry of Finance (MOF) as well as to health care management to inform them of SaLTS.
- Build awareness through a campaign to target health care professionals both directly working in surgery as well as more broadly working on maternal, newborn and child health issues (i.e., health service managers, surgeons, health workers, health trainees, and professional associations).
- Conduct a mass media campaign to target broader public (i.e., communities, patients).

Partner Engagement

- Divide responsibilities across core partners to ensure appropriate support for each SaLTS pillar.
- Cultivate additional partners to ensure necessary support for SaLTS strategy.
- Establish institutional arrangement for partner engagement .e.g. strengthening of Technical Working Groups for SaLTS at national and regional levels.

Structure

- Awareness: The project team at the FMOH will take ownership over executing the awareness building campaign and mass media campaign. They will design these campaigns in close collaboration with the SaLTS TWG and with approval from the executive team. The campaigns will then be rolled out with key partners, including the professional societies, universities and the mass media, as well as via quarterly public forums.
- Partner engagement: The SaLTS TWG will be the primary means of engagement for core safe surgery partners in Ethiopia. On an ongoing basis, this group will monitor levels of partner support relative to strategic priorities across the eight SaLTS pillars and determine if additional support is necessary in any particular area. When significant gaps in support for

SaLTS become apparent, members of the TWG alongside the executive team will seek additional funders or partners to fill the identified gaps.

Identified Interventions

Advocacy to create and increase awareness on SaLTS

The FMOH will develop standard SaLTS communication materials to update people on the importance of safe surgery in Ethiopia, as well as SaLTS objectives, pillars and activities. This effort will be completed as soon as possible in 2016. These communication materials should include: a two-page overview document, a key message document for surgical leaders and the full strategy document.

- The FMOH, in collaboration with key disseminating bodies like the RHBs, societies, and universities, will disseminate communication materials via key channels, including but not limited to, RHBs, professional society networks and meetings (including societies for surgeons, anesthesiologists, emergency surgical officers, ob/gyn, ophthalmologists, plastic surgeons and nurses), and university teaching facilities, among others. This dissemination will be completed within the first six months of strategy in 2016.
- The FMOH in collaboration with societies and media, will identify key public meetings where SaLTS should be shared, most likely the Annual Review Meeting, regional public forums, and larger health meetings in the country and seek media coverage at these forums to ensure that articles are written and news coverage is televised. This activity will be completed as soon as possible in 2016 but then carried out as events occur.

Partner Engagement

- The FMOH will convene partners regularly (i.e., monthly in the first six months of SaLTS, and then quarterly) as part of the TWG to discuss progress against the SaLTS strategy, and identify any gaps or areas for further work. The TWG is recommended to be composed of at least 1-2 partners from each level of work (e.g., global/regional, national and local), but likely should not include all partners given the large group. Partners that are investing the most amount of time and resources to SaLTS should be prioritized for formal representation on the TWG while other partners should be asked for input on an ongoing basis.
- The FMOH will convey through the TWG meetings the most important areas for additional partner support based on shifting priorities and gaps and then helps attract partners to core areas.
- As of early 2016, the core partners working with the FMOH on SaLTS include: at the global/regional level, the GE Foundation, Safe Surgery 2020, the Lancet Commission for Safe Surgery, the Harvard Program for Global Surgery and Social Change, G4 Alliance, the World Health Organization, and COSECSA; at the national level, Jhpiego, CHAI, AMREF, MSH, the World Health Organization, and a number of relevant professional societies and associations (i.e., Ethiopian Surgical Society, Anesthesia Society, etc.); and, at the local level, RHBs and local universities. Many of the global and national partners are also engaging deeply at the regional level. The table below shows in more detail which partners will be working to support which pillars.

Measurement/Indicators

Measuring awareness and partner engagement is inherently more challenging than measuring other aspects of this SaLTS strategy. Thus, the indicators outlined below should be considered a starting point to understand relative progress in these areas, but other signals of increased awareness and partner engagement may also become relevant over time.

- **Awareness:** FMOH will track annually the number of SaLTS overview materials distributed; number of inbound requests regarding SaLTS that come to the FMOH; number of public media mentions (in articles/TV shows).
- **Partner engagement:** FMOH will track the total resources committed across partners; number of new partners that join SaLTS TWG.

Monitoring and Evaluation

This area of the strategy only requires light monitoring and evaluation. It is recommended that the above indicators are tracked on a more continual basis. Once a year, when the broader SaLTS strategy is reviewed, progress on these indicators should also be reviewed.

Strategic Result

- **Federal:** Increased awareness of SaLTS program and increased investment from partners to support the program and to improve surgical outcomes more broadly across Ethiopia.
- **Regional, Zonal and Woreda:** Increased awareness of SaLTS program and increased investment from regions / zones / *woreda* as well as other partners to support the program and to improve surgical outcomes more broadly in the regions
- **University:** Increased awareness of SaLTS and increased investment by universities to train surgical professionals
- **Health facilities:** Increased awareness of SaLTS and increased investment by facility leadership in surgical infrastructure and equipment

Major Initiatives	2009	2010	2011	2012	2013
Identify and engage key local and international partners that will support the safe surgery and anesthesia care program.	X	X	X	X	X
Develop national advocacy and partnership management guidelines.	X	X	X	X	X
Support and promote active engagement of local surgical and anesthesia professional societies in SaLTS implementation at all levels.	X	X	X	X	X
Recognize and award best performing local professional societies.	X	X	X	X	X
Make "Safe surgical and anesthesia care discussion" a standing agenda item both in national and regional performance meetings.	X	X	X	X	X
Establish national and regional partners forum that will support the safe surgery and anesthesia care program.	X	X	X	X	X
Strengthen international partnerships with surgical and anesthesia professional societies, colleges and donors.	X	X	X	X	X
Strengthen and expand the COSECESA based training of surgeons.	X	X	X	X	X
Integrate a national advocacy live TV and radio programs	X	X	X	X	X
Implement the national advocacy and partnership guideline across the country	X	X	X	X	X
Support and monitor active engagement and functionality of professional societies and forums	X	X	X	X	X
Conduct quarterly national and regional partner forums	X	X	X	X	X
Support and encourage active engagement of local professional societies through building their financial, material, leadership and management capacities	X	X	X	X	X
Partner with local professional societies and partners for effective and efficient implementation	X	X	X	X	X
Participate in international professional societies conference/meeting and sharing Ethiopian experiences of safe surgical and anesthesia care program implementation and bring new international experiences	X	X	X	X	X
Strengthen international partnerships with surgical and anesthesia professional societies, colleges and donors	X	X	X	X	X
Organize national annual summit on "Ethiopian Safe Surgical and Anesthesia Care Program"	X	X	X	X	X

Strategic Pillar Six: Excellence in Quality and Safety

Quality and safety are essential components of the provision of surgical and anesthesia care. Patient safety issues in Ethiopia include: death, disability (uncontrolled disability, seizure,) infection, fall injury, wrong site, wrong limb, and wrong person surgery, theft of personal materials during death care, psychological trauma, wrong medication. Of all medical errors reported, the largest proportion happened in in OR. Safety of surgical team (PEP, Hepatitis, physical protection) is also an important issue.

The national health care quality strategy has identified six dimensions of quality. These include Safety, efficiency, effectiveness, person-centered care, timeliness of care and equity .Relevant activities will be implemented in accordance with the dimensions of quality in health care. SaLTS will implement interventions to improve quality and safety outcomes.

Objective 1: Improve efficiency in surgical and anesthesia care.

Major Activities:

1. Plan surgical intervention for each procedure (cost, supplies, time of surgery, duration of stay and potential discharge time)
2. Prepare package of consumables for each procedure.
3. Establish and ensure adherence of national standards:
 - a. Set incision time in the morning.
 - b. Set first case start time-anesthesia.
 - c. Set time between two patients: turn over time.
 - d. Decision-to-incision time.
4. Implement a patient scheduling management system.
5. Establish interdepartmental and inter-specialty consultation and coordination mechanism.
6. Introduce shift work in surgery.
7. Improve OR management between departments.
8. Expand OR structure in tertiary hospitals.
9. Implement strategies to enhance productivity of surgical team: plan number of surgeries per surgeon and surgical team considering the case mix.
10. Expand day care surgery.
11. Implement consumption audit for each patient after procedure-checklist.
12. Establish preoperative evaluation clinic-joint evaluation by clinician and anesthetist before admission.
13. Set duration of validity for investigations and laboratory test (e.g., after how long should we order additional tests?).
14. Improve discharge management:
 - a. Introduce discharge lounge.
 - b. Set 24/7 discharge and set time after discharge decision within 2 hours.

Objective 2: Improve effectiveness of surgical and anesthetic care using evidence-based clinical care.

Major Activities

1. Develop and implement standard operating procedures for all surgeries.
2. Establish CPD systems.
3. Establish skill laboratory in major and lead hospitals.
4. Establish a system of clinical mentorship and coaching.
5. Conduct clinical auditing and quality improvement.
6. Develop and implement perioperative guidelines.
7. Develop and implement preoperative assessment guidelines, anesthesia care management guidelines.
8. Improve patient information, procedure/data documentation.
9. Conduct operational research in surgical care at all levels.

Objective 3: Establish a culture of patient-centered care in the surgical system

Major Activities

1. Improve health literacy in surgical and anesthesia care.
2. Strengthen public forums prioritizing surgical care; champions, training.
3. Enhance capacity-building on team building.
4. Implement interventions to improve communication.
 - a. Between the surgical team and the patient
 - b. Between the surgical team during difficult scenarios
 - c. Among colleagues
 - d. With management and other bodies
5. Develop and implement standard counseling guideline for informed consent and decision.
6. Develop and implement guidelines for person centered surgical care in Ethiopia to address issues like: facility improvement, confidentiality, and student-patient ratio.
7. Establish conflict management of surgical team prioritizing patient.
8. Conduct training on CRC in surgery: attitudinal training.
9. Establish immediate post-surgical briefing system for family and attendants
10. Develop Model of care for multidisciplinary cases: (grand round, clinical board, multidisciplinary specialty outpatient clinic so that patient patients will get all relevant professionals in the same clinic.)
11. Ensure presence of birth companion for cesarean section and consider having mothers close to babies for pediatric surgeries.
12. Develop patient transport policy: (who, how on what procedure: nurse to transport assisted by a trained porter.)
13. Implement national pain management guideline for all surgical patients.
14. Assign anesthesia professional and start anesthesia care starting in the outpatient department, inpatient department, preoperative and postoperative care.

15. Ensure clinical governance: authority with responsibility in the medical hierarchy.
16. Ensure the adherence to scope of practice by different professionals.

Objective 4: Improve safety in surgical and anesthesia care.

Major Activities:

Improve communication between members of the surgical team

1. Implement safety checklist.
2. Introduce system safe design: transport stretcher improved, site marking, patient identification-name tag; time out: standard operating procedures for each surgery.
3. Introduce safe anesthesia drugs.
4. Use technology that reduces medical error: disposable drape, better transporting.
5. Introduce a system of independent check: verification.
6. Improve teamwork: training and HDA.
7. Establish a safety culture: Just culture establishment through awareness and training.
8. Conduct a clinical audit/death audit.
9. Develop and implement guidelines for medical error disclosure.
10. Capacity-building on medical error management-regular yearly patient safety forums.
11. Compile medical error-database and share with all professionals.

Objective 5: Ensure the provision of timely surgical and anesthesia care for emergency conditions and elective procedures.

Emergencies:

- Triage and prioritize cases and standard operating procedure for each case.
- Increase awareness on golden hour for injury.
- Strengthen pre-hospital care.
- Strengthen consultation process.
- Strengthen referral process.
- Designate ER table-back up.
- Set standard decision-to-incision for emergency conditions.
- Create a major incidence plan.
- Define critical pathway for each serious condition.
- Establish ER waiting list monitoring system.

Elective procedures:

- Establish waiting list registration and management.
- Set time for each procedure-standards.
- Plan appropriate human resources, supplies, or tables.
- Conduct campaigns and weekend surgeries.

- Build capacity of lower facilities: networking and back referral and continuous support, clinical mentoring.
- Set national time target for elective surgical procedure.

Objective 6: Ensure equity in surgical and anesthesia care.

1. Establish social worker services.
2. Strengthen liaison services.
3. Avail interpretation service where necessary.
4. Improve labeling and sign posts.
5. Establish a system to prioritize people with disabilities.
6. Collect and utilize data on equity dimensions.
7. Develop and implement standards on what kind of cases to be seen by what level of physicians especially in referral cases in teaching facilities.
8. Conduct surgical campaigns.

Major Initiatives	2009	2010	2011	2012	2013
Develop locally adoptable treatment guideline for the essential surgical and anesthesia procedures included in the surgical and anesthesia care package.	X	X	X	X	X
Develop and standardize a nationally endorsed quality assurance and audit system in surgical and anesthesia care.	X	X	X	X	X
Identify EHAQ LEAD hospitals and establish new hospital clusters.	X				
Conduct continuous onsite technical capacity-building and clinical mentorship for regional clinical support teams/committees and EHAQ LEAD hospitals and health centers on surgical and anesthesia care.	X	X	X	X	X
Develop support package for EHAQ LEAD hospitals and other surgical care facilities on surgical and anesthesia care.	X				
Establish clinical support teams/committee on surgical and anesthesia care in all regions.	X	X			
Identify and recognize champions, document and disseminate proven best practices/development of change package.	X	X	X	X	X
Strengthen and promote the national ethical practice guideline for surgical care providers.	X	X			
Implement an adoptable WHO safe surgery checklist at hospitals.	X	X	X		
Provide continuous training regarding the ethical practice guideline and the rules and regulations regarding ethical and legal surgical and anesthesia care practice.		X	X	X	X
Conduct clinical auditing and death reviews in selected hospitals and health centers.		X	X	X	X

Strategic Pillar SEVEN: Excellence in Innovations

Ethiopia is seeking to develop new tools and processes or bring existing tools and processes that are not yet in Ethiopia to address some of the largest identified gaps to improve access to safe surgery in the country. Innovation in this context is defined quite broadly to include any product or tool, process, or item that is new to a particular setting and can help transform the way in which care is delivered in that setting.

Strategic Objective

To increase use of innovations in Ethiopia related to improving safe surgery, either by locally developing these innovations or bringing them to Ethiopia from elsewhere.

Components

Based on existing data from hospitals performing surgery, input from a team drafting the SaLTS strategy, as well as extensive baseline assessments of five hospitals in the Tigray region conducted by the Harvard Program in Global Surgery & Social Change, the areas outlined in Table XX have been identified as priorities for innovation to improve surgical outcomes in Ethiopia. The partner that will be most closely overseeing each priority area is noted in brackets, with certain priority areas still in need of a specific overseeing partner. The table shows the year in which each innovation will be initiated, but these innovations are likely to carry across multiple years.

TABLE -Priorities for innovation to improve surgical outcomes in Ethiopia

	Pillar		Priority Areas		
	Year 1	Year 2	Year 3	Year 4	Year 5
National Level					
Leadership, mgmt. and governance	Form consortium [FMOH]				
Supplies and logistics management	Conduct biomedical engineer and technician (BMET) Training [SS2020]		Provide low-cost ambulance services (and broader referral system) [TBD]		
Awareness and partner engagement	Establish networks of surgical champions [Surgical societies / associations]				
Regional Level					
Leadership, mgmt. and governance	Create training and mentorship programs for surgical leaders regarding leadership, innovation and problem solving skills [SS2020, Jhpiego, Ethiopian Surgical Society]	Scale training and mentorship programs for surgical leaders regarding leadership, innovation and problem solving skills [SS2020, Jhpiego, Ethiopian Surgical Society] Implement day care surgery [TBD]	Establish weekend and two to three shift surgery [TBD]		
Surgical infrastructure	Conduct demonstration projects for alternative power / electricity solutions (e.g., solar) in Tigray and Amhara [SS2020] Conduct demonstration projects for oxygen plans, in collaboration with the oxygen TWG, in Amhara [SS2020]				
Human resources for health development	Increase nurse anesthetist trainings in Tigray and Amhara [SS2020]	Create programs to increase anesthesiologists in the country [SS2020] Establish surgical skills labs (dry and wet) and ongoing training in these labs [TBD]	Create telemedicine programs for ongoing skills boosters [TBD]	Establish simulation centers for teaching and intervention	
Local Level					
Quality assurance		Implement WHO safe surgery checklist [TBD]			
Monitoring and evaluation		Provide real-time data collection devices and programs [TBD]			

Structure

The FMOH will oversee all work within innovation and will source innovation needs from the FMOH data, the TWG, as well as other core surgery partners on a semi-annual basis, which will allow the innovation priority areas listed in Table XX to be updated on an ongoing basis. As the list of innovation priorities is updated, the FMOH will identify appropriate partners to take responsibility for pursuing those innovations.

Identified Intervention

For each of the prioritized areas of innovation above, the FMOH will identify one or two core partners to begin to pursue the innovation and develop a specific plan. Innovations that already have selected partners are listed in the table next to the innovation. The first TWG will work to identify partners to carry forward innovations prioritized for year 1 for those that do not already have a clear owner. After a partner is identified to lead the activity on a specific intervention, they will manage their process in close collaboration with the FMOH and will report back to the TWG every six months.

Measurement/Indicators

Indicators will be specific to the innovation itself. For example, an innovation that supports leadership training for surgical teams to improve their problem-solving, innovation and communication skills will have very different indicators than an innovation to support power and electricity solutions at specific hospitals. Thus, it is recommended that each partner that is implementing a specific innovation intervention should determine their own metrics, in collaboration with the FMOH, at the beginning of implementation and track those metrics over the course of implementation.

Monitoring and Evaluation

A specific monitoring and evaluation plan will need to be developed for each innovation intervention to account for variability in the target metrics, method for data collection and frequency of reporting.

Strategic Results

- **Federal:** Improved leadership, management and governance of surgery at a national level; strong associations or networks of surgical resources; fewer broken machines (as a result of increased number of BME's); and strengthened referral process.
- **Regional, Zonal and Woreda:** Improved leadership, management and governance at the regional level, as well as among surgical teams at the hospital level; increased volumes of surgeries being delivered (as a result of day surgeries and weekend shifts); uptake of power and oxygen solutions by government and local public-private partnerships; improved surgical outcomes (as a result of increased numbers and quality of nurse anesthetists and anesthesiologists, increased skills labs, increased simulation centers and uptake of telemedicine).
- **University:** Improved training capacity, including leadership training, nurse anesthetist training, anesthesiologist training, and hard skills training.
- **Health facilities:** Improved surgical volumes and outcomes as noted above.

Major Initiatives	2009	2010	2011	2012	2013
Promote solar panel electric supply to improve electric supply to operating facilities.	X	X	X	X	X
Dig local water wells for hospitals.	X	X	X	X	X
Develop a postoperative patient tracking system.	X	X			
Assist teaching institutions in graduate tracking system.	X	X			
Promote day care surgery in the country.	X	X	X	X	X
Develop lists of day surgery and their management.	X	X	X	X	X
Promote advanced anesthesia consultation throughout the country (tele-anesthesia).	X	X	X	X	X
Utilize innovative ways of increasing the surgical workforce training capacity.	X	X	X	X	X
Establish continuous oxygen supply to selected hospitals.	X	X	X	X	X
Support and promote day surgery and post-operative patient tracking system.	X	X	X	X	X
Support and monitor implementation of surgical and anesthesia graduates tracking system.			X	X	X
Support and promote effective networks of surgical champions.	X	X	X	X	X
Low-cost ambulance services for broader referral system.	X	X	X	X	X
Support and promote effective simulation centers for teaching and intervention.	X	X	X	X	X

Strategic Pillar Eight: Excellence in Monitoring and Evaluation

SaLTS project M&E Framework

Aim: To improve equitable access to quality and safe essential and emergency surgical and anesthesia care as part of the universal health coverage.

Objectives:

- Implement a nationally coordinated national plan on surgical care
- To define and implement essential surgery package for all levels of the Ethiopian health care delivery system.
- To create better awareness on surgical and anesthesia care with different stakeholders
- To improve the safety of surgical care by implementing the surgical safety check list and improving the safety culture
- Implement quality improvement and audit tool in surgical care
- Proactively identify best practices and scale up rapidly through EHAQ

Major contents of SaLTS M&E framework

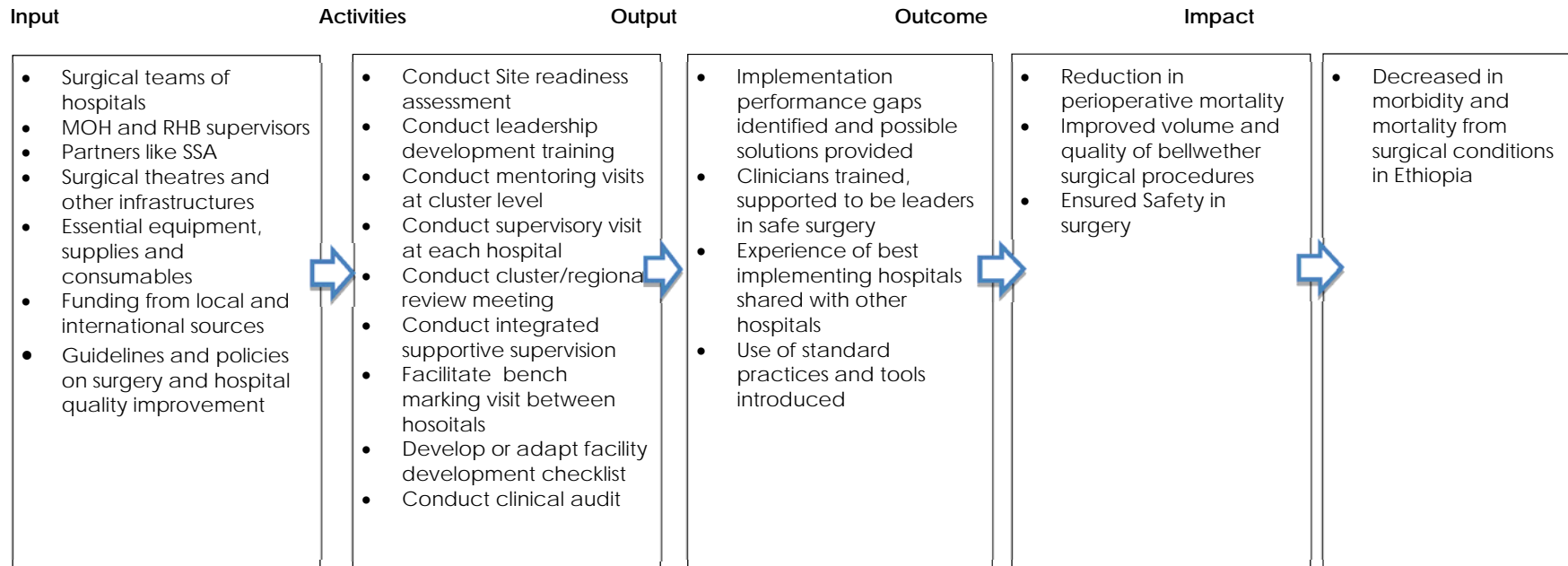
The SaLTS M&E framework is developed as part and parcel of the national Framework for Hospital Performance Monitoring and Improvement. The framework have four major components described in table 1 below.

- 1) The establishment, reporting and review of a core set of hospital KPIs on SaLTS.
- 2) The facilities will monitor additional site level indicators that are not part of KPI but necessary for site level decision making
- 3) Supportive supervision site visits to surgical units of hospitals, led by the respective mentors at each cluster hospitals and including other bodies such as RHB, MSD or partners as necessary; and
- 4) Review meetings:
 - Regional (or cluster) review meetings between each RHB and all hospitals in the respective Region (or cluster); and
 - MSD and all Regional Curative and Rehabilitative Core Process Teams (CRCPTs) review meetings.

Table1. Key elements of the Hospital Performance Monitoring and Improvement Framework

Element	Description
KPIs on SaLTS	<ul style="list-style-type: none"> • A set of core hospital KPIs on SaLTS that meets the needs of Governing Boards, CRCPTs, MSD and the public will streamline reporting processes and prevent duplication of efforts by the different stakeholders. The burden on hospitals will be minimized. • A common set of KPIs on SaLTS will allow hospital performance on surgery to be tracked over time, and comparisons between hospitals and regions can be made • The KPIs on SaLTS can be used by Governing Boards to monitor hospital performance. Problems will be identified at an early stage, allowing the Governing Board to take remedial action where necessary. • KPIs on SaLTS should be reported by each hospital to the RHB CRCPT every month. Comparisons between hospitals can be made, identifying best practice as well as areas where improvement is needed. • The SaLTS team at MSD can review cluster, regional and hospital performance and identify areas where additional support is needed
Supportive supervision site visits	<ul style="list-style-type: none"> • Supportive supervision site visits to hospitals should be conducted in order to check (validate) hospital performance in relation to the KPIs on SaLTS, to identify good practice, and to provide supervision and guidance to help surgical units of hospitals to improve areas that require strengthening • Supervision should be conducted by a team of supervisors. The supervisors could include cluster mentors, RHB CRCPT staff, MSD staff, staff from other hospitals (e.g. CEOs) and other partners such as SSE. It would not be necessary for all stakeholders to attend every supervision visit, rather the team for each visit can be drawn from the different stakeholders. • All supervision should be under the direction of the respective CRCPT. No stakeholder should conduct supervision without the approval/awareness of the CRCPT.
Review meetings	<p>Regional Review meetings between the CRCPT and hospitals (either region wide or in clusters) will allow for benchmarking and the dissemination of good practices At each review meeting hospitals should present a performance report based on their KPIs on SaLTS. Hospitals will have the opportunity to share successes and challenges in order to learn from each other. Regional "all hospital" review meetings can also be used to discuss other relevant topics</p> <p>National Review meetings between MSD and all regional CRCPTs will allow for benchmarking and the dissemination of good practice between regions. At each review meeting CRCPTs should present a regional performance report based on their KPIs. Regional CRCPTs will have the opportunity to share successes and challenges in order to learn from each other. MSD/CRCPT meetings can also be used to discuss other relevant topics.</p>

Logic model for SaLTS project



**Key:
National Level Key Indicators**

Indicators for Safe Surgical and Anesthesia Care Program

S/No	Indicator	Definition	Formula	Data source	Measuring unit	Category	Frequency of reporting
1	Delay for elective surgical admission	The average number of days patients who underwent major elective surgery waited for admission during the reporting period.	$[\text{Total sum of (Date patient is admitted for elective surgery - Date patient is added to the surgical waiting list)} / (\text{Total number of patients admitted for elective surgery during the reporting period})]$	Surgical waiting checklist; Admission/ Discharge Registry	Number	Quality	Monthly
2	Peri-operative mortality	All-cause death rate prior to discharge among patients who underwent a major surgical procedure in an operating theatre during the reporting period. Stratified by emergent, and elective major surgical procedures.	$[(\text{Total number of deaths prior to discharge among patients who underwent a major surgical procedure in an operating theater}) / (\text{Total number of patients who received major surgery})] \times 100$	Patient charts; Admission/ Discharge Registry; OR Registry	Percentage	Quality	Monthly

3	Surgical site infection rate	Proportion of all major surgeries with an infection occurring at the site of the surgical wound prior to discharge.	$[(\text{Number of inpatients with new surgical site infection arising during the reporting period}) / (\text{Number of major surgeries (both elective \& non elective) performed during the reporting period on public patients}) + (\text{Number of major surgeries (both elective \& non-elective) performed during the reporting period on private wing patients})] \times 100$	SW Registry (SSI); Routine surveillance (Surgical Site Infection Report Forms)	Percentage	Safety	Monthly
4	Rate of safe surgery check list utilization	Proportion of surgical cases where the WHO safe surgery check list was fully implemented.	$(\text{Number of surgical patient charts in which the WHO safe surgery checklist was completed} / \text{Total number of OR charts reviewed}) \times 100$	Random review of 20-25 surgical patient charts; OR records	Percentage	Safety	Monthly
5	Mean duration of in-hospital pre-operative stay	The average number of days patients waited in-hospital (after admission) to receive elective surgery during the reporting period.	$[\text{Total sum of (Date patient received elective surgery} - \text{Date patient was admitted for elective surgery}) / \text{Total number of elective surgical patients during the reporting period}]$	OR Registry; Admission/ Discharge Registry	Number	Quality	Monthly
6	Surgical bed occupancy rate	The average percentage of occupied surgical beds during the reporting period.	$[(\text{The sum total surgical patient length of stay (days) during the reporting period}) / (\text{Average number of operational surgical beds during reporting period} \times \text{Number of days in reporting period})] \times 100$	Admission/ Discharge Registry	Percentage	Access	Monthly

7	Rate of first elective case on time theater performance	The percentage of first elective cases that began on or prior to the scheduled time per agreed hospital protocol during the reporting period.	(Number of first elective cases commenced on time / Total number of first elective cases performed) x 100	OR Registry	Percentage	Timeliness-quality	Monthly
8	Rate of cancellation of elective surgery	Percentage of elective surgeries that were cancelled on the planned day of surgery.	(Number of elective surgeries cancelled / Total number of elective surgeries scheduled) x 100	OR Registry	Percentage	Access	Monthly
9	Emergency surgical access	The proportion of patients whose travel time from when they first seek care to their arrival at a facility providing ANY of the selected Bellwether procedures (C-sections, laparotomies, or open fracture repairs) is less than or equal to 2 hours. Stratified by each of the three procedures.	(Number of emergency surgical patients whose travel time from when they first seek care to their arrival at a facility providing either C-sections, laparotomies, or open fracture repairs is less than or equal to 2 hours / Total number of emergency surgical patients) x 100	Patient survey; OR registry	Percentage	Access	Quarterly

10	Surgical volume	Total number of major surgical procedures performed in operating theatre per 100,000 population per year.	$(\text{Total number of major surgical procedures performed in OT per year} / \text{Total population of catchment area}) \times 100,000$	OR Registry	Number	Access	Annual
11	Proportion of budget spent on surgical services	Proportion of recurrent budget that is spent on surgical services.	$(\text{Amount of recurrent budget spent on surgical services} / \text{Total health facility budget}) \times 100$	Hospital finances record	Percentage	Financing	Annual
12	Blood unavailability ratio	The percentage of major surgical cases for which blood was unavailable upon request.	$(\text{Total number of major surgical cases for which blood was unavailable upon request}) / (\text{Total number of major surgical cases for which blood was requested}) \times 100$	Laboratory blood records	Percentage	Quality	Monthly
13	Patient satisfaction	Average rating of hospital on a score of 0-10 from The Out-Patient and In-Patient Assessments of Healthcare Survey (O-PAHC & I-PAHC surveys) collected from surgical patients only.	$[(\text{Sum total of O-PAHC rating scores} + \text{Sum total of I-PAHC rating scores}) / (\text{Number of O-PAHC surveys completed} + \text{Number of I-PAHC surveys completed})]$	Survey	Number	Quality	Every 6 months

14	Protection against catastrophic expenditure	Proportion of households protected against catastrophic expenditure from direct out-of-pocket payments for surgical and anesthesia care.	Number of patients whose aggregate cost for accessing and receiving care is less than 40% of reported household income/ Total number of surgical patients	Patient quality survey (for self-reported income and additional costs for accessing and receiving care) Hospital cashier records (for cost of procedure)	Percentage	Financing	Yearly
15	Surgery, anesthesia, and obstetric provider density	Number of surgical, anesthetic, and obstetric physicians, integrated emergency surgical officers, and anesthetic providers including BSc. anesthesiologists, nurse anesthetists and 'others' (nurses, MS anesthesiologists and health officers), who are working per 100,000 population.	(Number of surgical, anesthetic, or obstetric physicians, integrated emergency surgical officers, or anesthetic providers including: BSc. anesthesiologists, nurse anesthetists and 'others' (nurses, MS anesthesiologists and health officers) working / Total population of catchment area) x 100,000	Survey	Number	Quality	Yearly
16	Anesthetic adverse outcome	Percentage of surgical patients who developed any one of the following: cardio respiratory arrest, failed intubation, or failed spinal anesthesia. Stratified by each of the three adverse events.	(Number of patients with adverse anesthetic outcome/ Total number of patients operated) x 100	Anesthesia sheet and logbook	Percentage	Quality and Safety	Monthly

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Annex A. 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.

Data Collector

<b style="color: red;">Facility Information Fields marked with an asterisk (*) are mandatory	
REGION*	
DATE OF DATA COLLECTION* (dd/mm/yyyy)	
NAME of person(s) filling out form*	
PHONE NUMBER of person(s) filling out form*	
EMAIL*	
NAME and ADDRESS of health care facility* (include city, woreda or zone and region)	
Phone number of health care facility*	

Type of health care facility being evaluated	Primary Hospital	General Hospital	Specialized Hospital	Private Hospital	NGO Hospital	Mission Hospital

Hospital Director

Hospital Director

Infrastructure

		<i>Insert number.</i>
1.	Total population served by this health care facility	#
2.	Total number of hospital beds	#
3.	Total number of surgical beds (ENT, Trauma, GS, orthopedics and others)	#
4.	Total number of obstetric and gynecologic beds	#
5.	Total number of post-op recovery beds	#
6.	Total number of advanced care/ICU beds	#
7.	Total number of emergency area beds	#
8.	Total number of admissions in a year	#
9.	Total number of total surgical admissions in one year (ENT and orthopedics included)	#
10.	Total number of obstetric and gynecologic admissions	#
11.	Total number of outpatients seen in one year	#
12.	What percentage of your patients can reach the hospital within 2 hours of travel?	0 (None) 1-25% 26-50% 51-75% 76-99% 100% (All)
13.	Who is acting as OT manager? <i>OT Manager: defined as the person(s) responsible for the surgical and OB/GYN operating theatres</i>	
14.	What is the average number of peri-operative , in-hospital deaths per month?	#

	<i>Fill in with percentages.</i>	
15.	Over the past month, how often do you have running water?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Hospital Director

16. Over the past month, how often do you have a regular, 24/7 electricity source?	0 (Never)	1-25%	26-50%	51-75%	76-99%	100% (Always)
17. Over the past month, how often do you have a generator/back-up electricity source?	0 (Never)	1-25%	26-50%	51-75%	76-99%	100% (Always)
18. Over the past month, how often do you have internet?	0 (Never)	1-25%	26-50%	51-75%	76-99%	100% (Always)

Hospital Director

Human Resources

	<i>Items</i>	<i>Number of Full Time Workers.</i>
	19. Qualified radiologists?	#
	20. Qualified pathologists?	#
	21. Qualified biomedical technicians?	#
	22. Qualified X-ray technicians?	#
	23. Trained operating theater nurses?	#
	24. Pharmacists (including druggists)?	#
	25. Has any continuing medical education been provided to your staff?	Yes No

Financing

<i>Health Financing and Accounting</i>	
26. What percentage of your patients have health insurance?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (All)

<i>Budget Allocation</i>	
27. What is your total annual hospital budget?	_____ Birr
28. How much of your annual hospital operating budget is allotted to surgery and anesthesia? Including medications, consumables (gloves, etc.) and equipment bought for surgery.	0 (None) 1-25% 26-50% 51-75% 76-99% 100% (All)

Hospital Director

Information Management

<i>Information Systems</i>	
29. What is the method of record keeping in your hospital?	<input type="checkbox"/> None <input type="checkbox"/> Paper <input type="checkbox"/> Electronic <input type="checkbox"/> Both
30. Are there personnel in charge of maintaining medical records?	<input type="checkbox"/> Yes <input type="checkbox"/> No
31. Are charts accessible across multiple visits for the same patient?	<input type="checkbox"/> Yes <input type="checkbox"/> No
32. How often is data prospectively collected for monthly peri-operative adverse events, such as unexpected return to OT or surgical site infection?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
33. How often is data prospectively collected for monthly post-operative mortality rate?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
34. How often are you required to report information to the Ministry of Health or an equivalent agency? <i>If applicable, may check more than one option.</i>	<input type="checkbox"/> Never <input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Yearly
35. Do you use telemedicine?	<input type="checkbox"/> Yes <input type="checkbox"/> No

<i>Research Agenda</i>	
36. How many quality improvement projects were done in the hospital in the past year?	#
37. How many ongoing research projects are being done in the hospital? Exclude resident, intern and student research projects.	#
38. How many papers have been published by hospital staff in the last year? Exclude resident, intern and student research papers.	#

Surgeon or IESO Surgeon or IESO

Infrastructure

	<i>Items</i>	<i>Insert number.</i>
		Minor: any procedure done under local anesthesia Major: any procedure done in the operating theatre under general anesthesia or profound sedation (i.e. spinal anesthesia)
	1. Total number of functioning operating rooms?	Minor #
		Major #
	2. Total number of surgical procedures per year?	Minor #
		Major #
	3. Total number of laparotomies (adult and pediatric) performed per month (on average in the past 6 months)?	#
	4. Total number of surgical fracture repairs performed per month (on average in the past 6 months)?	Minor #
		Major #
	5. Total number of pediatric (aged less than 15 years) surgeries per month?	#
	6. Total number of patients to this facility that you refer for surgical intervention to a higher-level facility per year?	#
	7. How far do most patients travel to get to your health facility for surgical services? If estimation is not possible, which woreda do a majority of patients come from?	(km)
	8. When referred from your hospital, how far does the average patient travel to access surgical services?	(km)

<i>Operating Room</i>		
	<i>Fill in with percentages.</i>	
	9. How many OT tables do you have?	#
	10. How many of those tables are regularly used?	#
	11. If not in use, why? (e.g. non-functional, surgical services not yet started)	

Surgeon or IESO

12. How often do you keep surgery related records?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
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Management Guidelines	
<i>Fill in with percentages.</i>	
13. Do you have management guidelines available for emergency care?	<input type="checkbox"/> Yes <input type="checkbox"/> No
14. Do you have management guidelines available for surgery?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Laboratory	
15. How often do you have access for blood?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
16. How long does it take to get blood that is in stock after you place an order?	
17. How long does it take to get blood that is not in stock after you place an order?	
18. How often is a Complete Blood Count available (including hemoglobin, hematocrit, WBCs, platelets)?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
19. What do you have available often?	
20. What do you not have available often?	
21. How often a full chemistry panel available (including BUN, creatinine, Na, K, etc.)?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
22. What do you have available often?	
23. What do you not have available often?	
24. How often is the lab able to run all coagulation studies (including PT, PTT, BT, INR)?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
25. What do you have available often?	

Surgeon or IESO

26. What do you not have available often?	
27. How often are you able to screen for an infectious panel (HIV, hepatitis virus, syphilis)? i.	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
28. What do you have available often?	
29. What do you not have available often?	
30. How often is the lab able to do a urinalysis?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Surgeon or IESO

Radiology	
31. How many X-ray machines do you have?	#
	#
32. How many of those machines are regularly used?	#
	#
33. If not in use, why? (e.g. non-functional, surgical services not yet started)	
34. How many ultrasound machines do you have?	#
	#
35. How many of those machines are regularly used?	#
	#
36. If not in use, why? (e.g. non-functional, surgical services not yet started)	
37. How many CT scanners do you have?	#
	#
38. How many of those machines are regularly used?	#
	#
39. If not in use, why? (e.g. non-functional, surgical services not yet started)	
40. How many MRI scanners do you have?	#
	#
41. How many of those machines are regularly used?	#
	#
42. If not in use, why? (e.g. non-functional, surgical services not yet started)	
42. How often do you have 24-hour access to radiology imaging services?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Supplies	
44. How many CSR machines do you have?	#
	#
45. How many of those machines are regularly used?	#

Surgeon or IESO

46. If not in use, why? (e.g. non-functional, surgical services not yet started)	
46. How many autoclaves do you have?	#
47. How many of those machines are regularly used?	#
48. If not in use, why? (e.g. non-functional, surgical services not yet started)	
49. How many ambulances do you have?	#
50. How many of those are regularly used?	#
51. If not in use, why? (e.g. non-functional, surgical services not yet started)	

Human Resources

		<i>Full time</i>	<i>Contracted (short-term)</i>	<i>Residents/Interns/ Trainees</i>
52. Surgeons?	General #			
	Ortho #			
	IESO #			
	Other specialties #			
53. General Doctors providing surgery (including obstetrics)?	#			

	<i>Select one.</i>
54. How often is emergency surgical care available after hours/available 24 hours a day? (on average in the past month)	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Surgeon or IESO Interventions

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

<i>Do you perform these procedures?</i>									
	Yes/No	If Yes, How many procedures performed in past month?	If No, Why not?	Do you refer?	If you refer, is it due to... (mark ALL that apply)				
					Lack of skills?	Lack of staff?	Non- functioning equipment?	Lack of supplies/ drugs?	Other?
<i>Trauma or injury related</i>									
55. Airway procedures tracheostomy and/or cricothyroidotomy	Y N	#		Y N					
56. Tube thoracostomy for air and/or fluid collections in the pleura	Y N	#		Y N					
57. Basic wound management including thorough saline washing, irrigation and/or debridement	Y N	#		Y N					
58. Repair of lacerations	Y N	#		Y N					
59. Repair of facial and/or scalp lacerations	Y N	#		Y N					
61. Emergency fracture and/or dislocation management:									
a) Splinting of fractures (including POP)	a) Y N	#		a) Y N					
b) Dislocation: traction and/or closed reduction	b) Y N	#		b) Y N					
c) External fixation application	c) Y N	#		c) Y N					
d) Internal fixations of simple fractures and/or dislocations	d) Y N	#		d) Y N					
	e) Y N	#		e) Y N					

Surgeon or IESO

e) Irrigation and/or debridement of open fracture									
62. Initial management of burn cases like resuscitation, oxygen delivering, pain management	Y N	#			Y N				
63. Advanced burn management: escharotomy and fasciotomy	Y N	#			Y N				
64. Skin graft and/or flap	Y N	#			Y N				
65. Exploratory laparotomy for trauma	Y N	#			Y N				
66. Cut-down for vascular access	Y N	#			Y N				
67. Trauma related amputation	Y N	#			Y N				
68. Burr-hole and/or elevation of depressed skull fracture for head injuries	Y N	#			Y N				

Surgeon or IESO

<i>Do you perform these procedures?</i>									
	Yes/No	If Yes, How many procedures performed in past month?	If No, Why not?	Do you refer?	If you refer, is it due to... (mark ALL that apply)				
					Lack of skills?	Lack of staff?	Non- functioning equipment ?	Lack of supplies/ drugs?	Other?
69. Vascular exploration and/or repair/anastomosis for trauma	Y N	#		Y N					
70. Neck exploration for severe neck injuries	Y N	#		Y N					
71. Emergency thoracotomy for severe chest injury	Y N	#		Y N					
72. Management of acute hand trauma (tendon and neurovascular)	Y N	#		Y N					
73. Management of musculoskeletal multiple trauma and complex fractures (e.g. hemi arthroplasty, intra-articular, spine and pelvic fracture)	Y N	#		Y N					

Surgeon or IESO

Non-trauma emergency and essential general surgical conditions										
74. Draining superficial abscesses	Y	N	#		Y	N				
75. Male circumcision	Y	N	#		Y	N				
76. Vasectomy	Y	N	#		Y	N				
77. Excision of small soft tissue tumors like lipoma, ganglion	Y	N	#		Y	N				
78. Relieving acute urinary retention:										
a) Catheterization	Y	N	#		Y	N				
b) Closed suprapubic cystostomy	Y	N	#		Y	N				
79. Hydrocelectomy	Y	N	#		Y	N				
80. Rectal tube deflation for sigmoid volvulus	Y	N	#		Y	N				
81. Explorative laparotomy for acute abdomen										
a) Acute appendicitis	a)	Y	N	#	a)	Y	N			
b) Acute perforation	b)	Y	N	#	b)	Y	N			
c) Bowel Obstruction	c)	Y	N	#	c)	Y	N			

Surgeon or IESO

<i>Do you perform these procedures?</i>									
	Yes/No	If Yes, How many procedures performed in past month?	If No, Why not?	Do you refer?	If you refer, is it due to... (mark ALL that apply)				
					Lack of skills?	Lack of staff?	Non- functioning equipment ?	Lack of supplies / drugs?	Other?
82. Management of Gallbladder Pathologies a) Cholecystectomy b) Cholecystostomy	a) Y N b) Y N	# #		a) Y N b) Y N					
83. Repair of hernias	Y N	#		Y N					
84. Anal Pathology Management: ▪ Haemorrhoidectomy ▪ Fistulotomies and/or drainage of perianal abscesses	Y N	#		Y N					
85. Complex surgical infection management: a) Septic arthritis, osteomyelitis b) Pyomyositis c) Surgical management of hand infection	a) Y N b) Y N c) Y N	# # #		a) Y N b) Y N c) Y N					
86. Transvesical-prostatectomy (TVP)	Y N	#		Y N					
87. Cystolithotomy		#		Y N					
88. Common bile duct (CBD) exploration, biliary bypass procedures and/or T-tube insertion for hepato-biliary pathologies	Y N	#		Y N					

Surgeon or IESO

89. Constructing and/or reversal of colostomies, colon resection and/or anastomosis	Y N	#		Y N					
90. Modified radical mastectomy	Y N	#		Y N					
91. Thyroidectomy	Y N	#		Y N					
92. Pediatric emergencies: a) Intussusception b) Colostomy for anorectal malformation c) Management of foreign body swallowing d) Aspiration	a) Y N b) Y N c) Y N d) Y N	# # # #		a) Y N b) Y N c) Y N d) Y N					
93. Cleft lip	Y N	#		Y N					
94. Cleft palate	Y N	#		Y N					

Surgeon or IESO

95. Tenotomy and/or Ponseti cast for club foot	Y N	#		Y N					
96. Neonatal surgery	Y N	#		Y N					
97. Gastric resection for cancers and/or perforation	Y N	#		Y N					
98. Esophageal resection for cancers	Y N	#		Y N					
99. Esophageal resection for perforation	Y N	#		Y N					
100. Pulmonary resections and/or mediastinal procedures for chest pathologies	Y N	#		Y N					

Surgeon or IESO

<i>Ophthalmic, Oral, Dental Procedures</i>										
101. Extraction of primary and permanent tooth	Y	N	#		Y	N				
102. Incision and/or drainage (periodontal and dental abscess)	Y	N	#		Y	N				
103. Dental caries treatments and/or scaling	Y	N	#		Y	N				
104. Replantation of avulsed teeth	Y	N	#		Y	N				
105. Disimpaction	Y	N	#		Y	N				
106. Foreign body removal from nose, ears, throat	Y	N	#		Y	N				
107. Ear and/or eye irrigation	Y	N	#		Y	N				
108. Reduction of acute TMJ dislocation	Y	N	#		Y	N				
109. Orofacial infection management	Y	N	#		Y	N				
110. Cataract surgery	Y	N	#		Y	N				
111. Tarsotomy (upper eyelid)	Y	N	#		Y	N				
112. Eye enucleation	Y	N	#		Y	N				
113. Management of facial bone fractures and/or injury to dentition	Y	N	#		Y	N				

Surgeon or IESO

(interdental wiring, arch bar, IMF and open reduction)									
114. Myringotomy for otitis media	Y N	#		Y N					
115. Tonsillectomy	Y N	#		Y N					
116. Surgical management of common benign and/or malignant tumors and cyst of oral & maxillofacial regions	Y N	#		Y N					

Emergency and Essential Surgical Care Equipment and Supplies

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

Capital Outlays					
		0 absent	1 available with shortages or difficulties	2 fully available for all patients all the time	<i>Remark</i>
	117. Suction pump (manual or electric) with catheter				
	118. Blood pressure measuring equipment				
	119. Scalpel with blades				
	120. Retractors				
	121. Scissors				
	122. Tissue forceps				
	123. Gloves (sterile)				
	124. Gloves (examination)				
	125. Needle holder				
	126. Sterilizing skin prep				
Renewable Items					
	127. Nasogastric tubes				
	128. Light source (lamp & flash light)				
	129. Intravenous fluid infusion set				
	130. Intravenous cannulas/scalp vein infusion set				
	131. Syringes with needles (disposable)				
	132. Sharps disposal container				
	133. Tourniquet				

Surgeon or IESO

		0 Absent	1 available with shortages or difficulties	2 fully available for all patients all the time	<i>Remark</i>
	134. Needles & sutures				
	135. Splints for arm, leg				
	136. Waste disposal container				
	137. Face masks				
	138. Eye protection				
	139. Protective gowns/aprons				
	140. Soap				
	141. Electrocautery				

<i>Supplementary Equipment for use by skilled health professionals</i>					
	142. Adult McGill forceps				
	143. Pediatric McGill forceps				
	145. Chest tubes insertion equipment				
	146. Tracheostomy set				

Surgeon or IESO Financing

<i>Cost</i>		
147.	What is the average out-of-pocket cost to a patient for an open fracture repair (procedure only)?	#
148.	What is the average out-of-pocket cost to a patient for a laparotomy (procedure only)?	#
149.	What is the average out-of-pocket cost to a patient for a CBC?	#
150.	What is the average out-of-pocket cost to a patient for a chest X-ray?	#
151.	What is the average out-of-pocket cost to a patient for surgery-associated lodging (e.g. bed, overnight stays) per visit? Surgery-associated lodging: defined as in a single visit, before returning home (include lodging for patient <i>and</i> lodging for the caretaker)	#
152.	What do the most patients pay out-of-pocket for patient and family transportation per visit?	
	a) Emergency visits	#
	b) Elective visits	#
153.	What is the average out-of-pocket cost to a patient for surgery-associated medication per visit (e.g. perforated appendix)?	#
154.	What is the average out-of-pocket cost to a patient for other necessities (e.g. laundry/food) per visit?	#

Information Management

<i>Research Agenda</i>		
155.	How many ongoing research projects does the department of surgery have? Exclude resident, intern and student research papers.	#

Surgeon or IESO Surgical Sets

<p>156. How many surgical sets are available for treatment of open fractures?</p> <p>Missing: defined as any part of a surgical set that is absent or non-functional</p>	a) Complete #
	b) Incomplete #
	c) If incomplete, what is missing?
<p>157. How many surgical sets are available for laparotomy?</p> <p>Missing: defined as any part of a surgical set that is absent or non-functional</p>	a) Complete #
	b) Incomplete #
	c) If incomplete, what is missing?

OB/GYN (Surgeon/IESO if not available)

Infrastructure

	<i>Items</i>	<i>Insert number.</i>
	1. Total number of surgical OB/GYN procedures per month (on average in the past 6 months)?	Minor #
		Major #

<i>Management Guidelines</i>	
<i>Fill in with percentages.</i>	
2. How often do you have management guidelines available for obstetrics?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
3. How often do you have management guidelines available for maternal delivery?	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Human Resources

		<i>Full time</i>	<i>Contracted (short-term)</i>	<i>Residents/trainees</i>			
	4. OB/GYNs? #						
	5. Midwives? #						
	6. How often are OB/GYN services available for 24 hours a day? (on average in the past month)	0 (Never)	1-25%	26-50%	51-75%	76-99%	100% (Always)

OB/GYN (Surgeon/IESO if not available)

Interventions

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

<i>Do you perform these procedures?</i>									
	Yes/No	If Yes, How many procedures performed in past month?	If No, Why not?	Do you refer?	If you refer, is it due to... (mark ALL that apply)				
					Lack of skills?	Lack of staff?	Non- functioning equipment ?	Lack of supplies/ drugs?	Other?
Obstetrics									
7. Caesarean Section	Y N	#		Y N					
8. Abdominal Hysterectomy	Y N	#		Y N					
9. Repair of Uterine perforation or rupture (intractable PPH)	Y N	#		Y N					
10. Normal delivery	Y N	#		Y N					
11. Manual removal of the placenta	Y N	#		Y N					
12. Vacuum-assisted delivery	Y N	#		Y N					
13. Repair of Genital Laceration/Injury	Y N	#		Y N					
14. Comprehensive abortion care	Y N	#		Y N					
15. Surgery for ectopic pregnancy	Y N	#		Y N					
16. VIA	Y N	#		Y N					
17. Cryotherapy for precancerous cervical lesions	Y N	#		Y N					
18. Cervical biopsy	Y N	#		Y N					

OB/GYN (Surgeon/IESO if not available)

19. Endometrial biopsy	Y N	#		Y N					
20. Tubal ligation	Y N	#		Y N					
21. Incision of Hymen for imperforate hymen with hematocolpos and/or hematoma	Y N	#		Y N					
22. Surgical management of pelvic organ prolapse	Y N	#		Y N					
23. Surgical management of major benign and/or malignant gynecologic conditions	Y N	#		Y N					
24. Repair of obstetric fistula	Y N	#		Y N					

OB/GYN (Surgeon/IESO if not available)

Emergency and Essential Surgical Care Equipment and Supplies

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

<i>Supplemental Equipment for use by skilled health professionals</i>					
		0 absent	1 available with shortages or difficulties	2 fully available for all patients all the time	<i>Remark</i>
	25. Vaginal speculum				

Financing

<i>Cost</i>	
26. What is the average out-of-pocket cost to a patient for a C-section (procedure only)?	#
27. What is the average out-of-pocket cost to a patient for surgery-associated lodging (e.g. bed, overnight stays) per visit? Surgery-associated lodging: defined as in a single visit, before returning home (include lodging for patient <i>and</i> lodging for the caretaker)	#
28. What is the average out-of-pocket cost to a patient for surgery-associated medication per visit (e.g. perforated appendix)?	#
29. What is the average out-of-pocket cost to a patient for other necessities (e.g. laundry/food) per visit?	#

Information Management

<i>Research Agenda</i>	
30. How many ongoing research projects does the department of obstetrics have? Exclude resident, intern and student research papers.	#

OB/GYN (Surgeon/IESO if not available)

Surgical Sets

31. How many surgical sets are available for caesarean delivery? Missing: defined as any part of a surgical set that is absent or non-functional	a) Complete #
	b) Incomplete #
	c) If incomplete, what is missing?

Infrastructure

Quality and Safety	
<p>1. For Anesthetist/Nurse to answer:</p> <p>How often is the WHO surgical safety checklist utilized in the operating rooms?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
<p>2. For Data Collector (if able):</p> <p>Calculate # of times the checklist is used in a random selection of 20 charts:</p> <p style="color: red; text-align: center;"><i># of charts with checklist utilized ÷ 20</i></p>	#

Operating Room	
<i>Fill in with percentages.</i>	
<p>3. How many anesthesia machines do you have for the OT?</p>	#
<p>4. How many of those machines are regularly used?</p>	#
<p>5. If not in use, why? (e.g. machines not functional, surgical services not yet started)</p>	
<p>6. How often do you have oxygen cylinder or concentrator supply with mask and tubing?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
<p>7. How often is a pulse oximetry used in the operating theater?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
<p>8. How often do you keep anesthesia related records?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Management Guidelines	
<i>Fill in with percentages.</i>	
<p>9. How often do you have management guidelines available for anesthesia?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)
<p>10. How often do you have management guidelines available for pain relief?</p>	0 (Never) 1-25% 26-50% 51-75% 76-99% 100% (Always)

Supplies

11. How often do you have a functioning adult pulse oximeter available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%
12. How often do you have a functioning pediatric pulse oximeter available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%
13. How often do you have adult blood pressure monitoring available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%
14. How often do you have pediatric blood pressure monitoring available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%
15. How often do you have adult ECG monitoring available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%
16. How often do you have pediatric ECG monitoring available?	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%

Human Resources

		<i>Full time</i>	<i>Part time</i>	<i>Contracted (short-term)</i>	<i>Residents/Interns / Trainees</i>	
17. Anesthesiologist physicians?						
18. Other anesthesia providers:	a) BSc. anesthetists #					
	b) MS anesthetists #					
	c) Level 5 anesthesia nurses #					
	d) Nurses #					
	e) Health officers #					
19. General Doctors providing anesthesia?						
20. How often is anesthesia care available for 24 hours a day? (on average in the past month)	0 (Never) (Always)	1-25%	26-50%	51-75%	76-99%	100%

Interventions

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

<i>Do you perform these procedures?</i>										
	Yes/No	If Yes, How many procedures performed in past month?	If No, Why not?	Do you refer?	If you refer, is it due to... (mark ALL that apply)					
					Lack of skills?	Lack of staff ?	Non- functioning equipment ?	Lack of supplies/ drugs?	Other?	
Anesthesia and Critical Care										
21. Basic traumatic life support (BTLS) training	Y N	#		Y N						
22. Advanced traumatic life support (ATLS), Pediatrics advanced life support (PALS) training	Y N	#		Y N						
23. Local anesthesia	Y N	#		Y N						
24. General anesthesia: a) With intubation b) Without intubation	a) Y N b) Y N			a) Y N b) Y N						
25. Spinal anesthesia	Y N	#		Y N						
26. Epidural anesthesia (General Hospital)	Y N	#		Y N						
27. Peripheral nerve blocks	Y N	#		Y N						
28. Procedural sedation	Y N	#		Y N						
29. LMA/advanced airway	Y N	#		Y N						
30. Mechanical ventilation	Y N	#		Y N						

	31. Fiber optic intubation	Y N	#		Y N					
	32. Blood patch	Y N	#		Y N					
	33. Central venous catheter insertion	Y N	#		Y N					
	34. Arterial catheter insertion	Y N	#		Y N					

Emergency and Essential Surgical Care Equipment and Supplies

Please ask questions in point in time context i.e. what is able to be done at time of assessment.

<i>Capital Outlays</i>					
		0 absent	1 available with shortages or difficulties	2 fully available for all patients all the time	<i>Remark</i>
	35. Resuscitator bag valve & mask (adult)				
	36. Resuscitator bag valve & mask (pediatric)				
	37. Stethoscope				
	38. Thermometer				
	39. Oropharyngeal airway (adult size)				
	40. Oropharyngeal airway (pediatric size)				

<i>Supplementary equipment for use by skilled health professionals</i>					
	41. Endotracheal tubes (adult)				
	42. Endotracheal tubes (pediatric)				
	43. IV infuser bags				
	44. Laryngoscope Macintosh blades with bulbs & batteries (adult)				
	45. Laryngoscope Macintosh blades with bulbs & batteries (pediatric)				

Please check availability of following items.

	<i>Items</i>	<i>Yes</i>	<i>No</i>	<i>Remark</i>
	46. Functional Anesthesia Machine			
	47. Anesthesia machine			
	48. Ambu bag			
	49. Oral airways			
	50. Nasal airways			
	51. Perfuser			
	52. Patient monitor			
	53. Patient monitor for transport			
	54. Esophageal stethoscope			
	55. Blood or Fluid pumper			
	56. Warming blanket			
	57. Mechanical ventilator for transport			
	58. Suction machine			
	59. Capnogram			
	60. Portable pulse oximeter			
	61. Blood warmer			
	62. Stethoscope			
	63. Manual BP apparatus			
	64. Oxygen gauge			
	65. Oxygen cylinder			
	66. Bougie (Adult)			
	67. Bougie (Pediatric)			

<i>Items</i>	<i>Yes</i>	<i>No</i>	<i>Remark</i>
68. Stylet (Adult)			
69. Stylet (Pediatric)			
70. Anesthesia trolley			
71. Oxygen concentrator			
72. Double lumen tube 35- 42			
73. Suction tip			
74. Urinary Catheter			
75. Spinal needle 22-26			
76. Epidural set			
77. Tegaderm			
78. Insulated nerve block needles			
79. Central venous catheterization set			
80. Arterial line set with module			
81. Defibrillator			

<i>Pharmaceuticals</i>			
Local Anesthetics			
82. Lidocaine 1% with adrenaline			
83. Lidocaine 2% with adrenaline			
84. Lidocaine 1% without adrenaline			
85. Lidocaine 2% without adrenaline			
86. Bupivacaine 0.5%			
General Anesthetics			
87. Halothane			
88. Isoflurane			

89. Sevoflurane			
Paralytics			
90. Succinylcholine			
91. Rocuronium			
92. Vecuronium			
93. Pancuronium			
94. Atracurium			
95. Cisatracurium			
Sedatives			
96. Thiopental			
97. Ketamine			
98. Propofol			
99. Etomidate			
Analgesic			
100. Pethidine			
101. Fentanyl			
102. Sufentanil			
103. Morphine			
104. Alfentanil			
Benzodiazepines			
105. Diazepam			
106. Midazolam			
Diuretics			

107.	Furosemide IV			
Vasopressors				
108.	Noradrenaline			
109.	Dopamine			
110.	Dobutamine			
111.	Phenylephrine			
112.	Adrenaline			
113.	Ephedrine			
Beta-blockers				
114.	Labetolol			
115.	Metoprolol			
116.	Propranolol			
117.	Esmolol			
Steroids				
118.	Hydrocortisone			
119.	Dexamethasone			
Anti-emetics				
120.	Ondansetrone			
121.	Metaclopramide			

	<i>Items</i>	<i>Yes</i>	<i>No</i>	<i>Remark</i>
	IV Fluids			
	122. Normal Saline			
	123. Dextrose in Normal Saline			
	124. 5% Dextrose			
	125. Ringer's Lactate			
	Miscellaneous			
	126. Naloxone			
	127. Salbutamol inhaler			
	128. Dantrolene			
	129. Atropine			
	130. Glycopyrrolate			
	131. Neostigmine			
	132. Aminophylline			
	133. Lidocaine IV			
	134. Hydralazine			
	135. Amiodarone			
	136. Intralipid			
	137. 40% glucose			

Information Management

Research Agenda

138.	How many ongoing research projects does the department of anesthesia have? Exclude resident, intern and student research papers.	#
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Annex B: Safe surgery checklist

Patient Name: _____

Medical Record Number: _____

✓	Before induction of anesthesia	✓	Before skin incision	✓	Before patient leaves OR
	Patient has confirmed		Confirm all team members have introduced themselves by name and role		Nurse verbally confirms with the team:
	Identity		Surgeon, anesthesia professional and nurse verbally confirm		The name of the procedure recorded
	Site		Patient		That instrument, sponge and needle
	Procedure		Site		Counts are correct (or not applicable)
	Consent		Procedure		Specimen is labelled (including patient name)
	Site marked/not applicable		Anticipated critical events		Any equipment problems to be addressed
	Anesthesia safety check completed		Surgeon reviews: critical or unexpected steps, operative duration, anticipated blood loss?		Surgeon, anaesthesia professional and nurse review the key concerns for recovery and management of this patient
	Pulse oximeter on patient and functioning		Anesthesia team reviews: any patient-specific concerns?		
	Does patient have known allergy? <ul style="list-style-type: none"> No Yes 		Nursing team reviews: has sterility (Including indicator results) been confirmed? are there equipment issues or any concerns?		
	Difficult airway/aspiration risk? <ul style="list-style-type: none"> No 		Antibiotic prophylaxis given within last 60 minutes? yes		
	<ul style="list-style-type: none"> Yes, and equipment/assistance available 		Not applicable		
	Risk of >500ml blood loss (7ml/kg in children)?		Is essential imaging displayed? yes		
	<ul style="list-style-type: none"> No 		Not applicable		
	<ul style="list-style-type: none"> Yes, and adequate intravenous access and fluids planned 				

Surgical and Anesthesia Care Audit Tool

Surgical and Anesthesia Care Audit Tool			
Quality statement	Quality measure	Score	Remark/verification criteria
Surgical Service Standard 1: The health facility has an appropriate working system AND physical environment with adequate working guidelines, utilities, medicines, supplies and equipment for providing quality surgical services.			
SS 1.1 Water, energy, sanitation, handwashing and waste disposal facilities are functional, reliable, safe and sufficient to meet the needs of staff, clients and their families (as per national standard).	Continuous electric supply with backup generator is available.	1	
	In case of power cut, generator is automatic or can be started within 5 minutes.	1	
	Continuous water supply is available.	1	
	Adequate backup water source is available when there is interruption from the main source.	1	Tankers, rotos
	Functional telephone is available in liaison office.	1	
	Telephone service is available for internal communication (fixed or mobile).	1	Central operator or separate lines in laboratory, pharmacy etc.
	Leakproof covered and labeled waste bins and impermeable sharps containers available to segregate waste into 3 categories.	1	Verify in all wards/rooms used for surgical service 0 if missed/ nonfunctional even in one room
	At least one functioning hand hygiene station per 10 beds with soap and water or alcohol based hand rubs in all surgical wards (1:6).	3	Verify in all wards/rooms used for surgical service 0 if missed/nonfunctional even in one room
	Health care staff demonstrate cleaning their hands correctly as per the WHO 5 moments for hand hygiene (audit tool exists).	8	Staff Interview Check the skills of four health care workers
	Written, up-to-date protocols and awareness raising materials (posters) on cleaning and disinfection, hand hygiene, operating and maintaining water, sanitation and hygiene facilities, safe waste management are available at all areas and are visibly posted.	1	Verify in all wards/rooms used for surgical service 0 if missed/nonfunctional even in one room
Sanitation facilities are appropriately illuminated at night, accessible to people with limited mobility, gender separated for staff and patients, include at least one toilet that meets menstrual hygiene management needs, handwashing stations	6	1 for each bullet	

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
	with soap and water adequate number (at least 1 latrine per 20 users for inpatient settings).		
	Sufficient funds are allocated to support rehabilitation, improvements and ongoing operation and maintenance of water, sanitation, hygiene and health care waste services.	3	Document review
	Curative and preventative risk-management plan exists for managing and improving water, sanitation and hygiene services.	1	
	Suggestion box, register, complaint handling office is available for handling complaint of clients and their families.	1	
	Suggestions and complaints are reviewed in the day to day HDA and appropriate measures are taken when needed.	5	
	Clients and families attending the health facility were satisfied with the water, sanitation and energy services and would recommend the health facility to friends and family.	10	Client Interview
	All health care staff are satisfied with the water, sanitation and energy services and believed that such services contribute positively to providing quality care.	8	Staff Interview 2 health care workers and 2 support staffs
	Clients and their families attending the health facility were satisfied with the power and lighting source and would recommend the health facility to friends and family.	10	Client Interview
	Rooms are well ventilated, illuminated, regularly cleaned and maintained.	1	
SS 1.2 The OR has adequate rooms for provision of essential and emergency surgical services (as per national standard).	Adequate number of OR tables are present.	4 (if 100%) 3 (if 50-100%) 0 if < 100%	<ul style="list-style-type: none"> • 2 for primary hospital • 4 for general hospital (1 septic) • 7 for specialized hospital • (1 septic)
	Demarcated 4 zones present (restricted, semi restricted, transitional, non restricted).	1	
	CSR wrap present with a minimum of 2 functional autoclaves.	1	
	Changing rooms with lockers present (separated for male and female, for a minimum of 10 persons).	1	

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
	Scrub area present (direct access, multiple sinks).	1	
	Recovery room is present.	1	
	Toilet and showers present.	1	
	Clean and dirty utility rooms present.	1	
	OR equipment storage.		
	Sterile supply storage available.		
	Nurse station present.		
	Cleaner's room present.		
	Anesthesia storage available.		
	Duty room present.	1	
	Mini-store present.	1	
SS 1.3 The facility ensures the physical safety of the infrastructure (as per national standard).	Safety of electrical establishment ensured – no temporary connections and no loosely hanging wires	1	
	Floors of the ward are non slippery surface and even.	1	
	Windows/ ventilators if any in the OR are intact and sealed.	1	
SS 1.4 Financial protection given from cost of care.	Overall cost of care is not expensive.	10	Client Interview
	Prescribed investigations are available at the facility.	10	Chart Review
	The facility ensures that drugs prescribed are available at pharmacy and wards.	10	Chart Review
Surgical Service Standard 2: For every surgical patient, competent and motivated staff are consistently available to provide routine care and manage complications.			
SS 2.1 Every surgical patient has access at all times to at least one skilled provider (as per national standard).	Adequate number of surgeons are available based on level of hospital.	<ul style="list-style-type: none"> • 5 • 5 if 100% • 3 if 50-100% • 2 if 25-50% • 0 if < 25% 	<ul style="list-style-type: none"> • Primary hospital – 1 IESO • General hospital – 2 General surgeon, 2 OB-GYN and 1 orthopedist • Specialized hospital – 3 General surgeon (1 subspecialist), 2 orthopedic surgeon, 3 obstetricians, 1 anesthesiologist, 10 anesthetists.
	A clear communication channel is present to reach staff on duty at all times.	1	

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
	A roster is used which is accessibly displayed in all areas, detailing the names of staff on duty, the times of their shift and their specific roles and responsibilities.	1	
	All surgical patients were satisfied with the health care received.	10	Client Interview
SS 2.2 Surgical staff working in OR and surgical ward have appropriate competencies and skills mix to meet needs during labor, childbirth and the early postnatal period (as per national standard).	Health professionals know how to prepare 0.5% chlorine solution (specify profession)	8	Staff Interview Select 4 health care workers randomly and verify if they have the knowledge
	Health professionals know how to process used instruments (instrumental processing).	8	Staff Interview Select 4 health care workers randomly and verify if they have the knowledge
	All surgical patients were satisfied with the care and support from the facility staff.	10	Client Interview
	More than 80% of OR and surgical ward staff had a satisfactory performance appraisal on the previous month appraisal.	5	
	All OR and surgical ward staffs reported to be "highly satisfied" with their job in relation to the working environment and support of hospital management.	8	Staff Interview Select 4 health care workers randomly and verify
	No staff in OR and surgical ward is actively considering looking for a new job because of poor working environment and poor hospital management support.	8	Staff Interview Select 4 health care workers randomly and verify
	A written, up-to-date quality-of-care improvement plan and patient-safety program is present in OR and surgical ward.	1	
	A written, up-to-date, leadership structure, indicating roles and responsibilities with reporting lines of accountability is present in OR and surgical ward.	1	
	A mechanism is in place for regular collection of information on patient satisfaction (monthly) and provider satisfaction (quarterly) in OR and surgical ward.	1	
Surgical staff efficiency is monitored.	Major surgeries per full-time surgeon in the facility (last month)	10	<ul style="list-style-type: none"> • 10 if more than 45 or less than 45 but 0 surgical waiting list • 7 if 30–45 • 5 if 20–30

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
			<ul style="list-style-type: none"> • 2 if 10–20 • 0 if less than 10
	Delay for elective surgery (last month)	10	<ul style="list-style-type: none"> • 10 if less than 1 month • 7 if b/n 1–3 month • 5 if b/n 3–6 month • 2 if b/n 6–9month • 0 if more than 9 month
SS 2.3 Every health facility has managerial and clinical leadership that is collectively responsible for creating and implementing appropriate policies and fosters an environment that supports facility staff to undertake continuous quality improvement (managerial and clinical leadership should be done by the right professional as per the national standard).	Monthly meeting is conducted to review data, monitor quality improvement performance and make recommendations to address problems identified, and to celebrate those who have performed and encourage staff who are struggling to improve.	5	Verify if it was done in the previous month
	All OR and surgical ward leaders are trained in quality improvement and leading change (use of information, enabling behavior, continuous learning).	5	
	Action plan is developed and implemented / implementation in progress for the gaps identified from clients feedbacks, staff feedbacks, data review, clinical audit feedback, etc.	10	
	Health facility leaders and front line workers are communicated through established mechanisms (e.g., a dashboard of key metrics) that track the performance of the department.	5	See last month's report and management meeting minute
Surgical Service Standard 3: Evidence-based care is provided for all surgical patients.			
SS 3.1 The facility has defined and established procedures for clinical assessment and reassessment of the patients.	Preoperative assessment is done for all surgical patients (P/E, results of lab investigation, diagnosis and proposed surgery).	10	Chart Review
	Minimum preoperatively needed lab tests are done.	10	Chart Review
	All lab tests were done in the same facility.	10	Chart Review
SS 3.2 Facility has defined and established procedures for continuity of care of patient and referral.	Protocol for transferring and consultation mechanisms are present.	1	
	Established procedure of handing over is present while receiving patient from OR to wards and intensive care unit (transfer form documented).	10	Chart Review

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
	Interdepartmental or interprofessional consultations are effected not more than 2 hours.	10	Chart Review
SS 3.3 Rational use of drugs is practiced.	Antibiotics used for surgical prophylaxis are as per standard treatment guidelines (STG) recommendation.	10	Chart Review
	Drugs are prescribed under generic name only	10	Chart and Prescription Review
	Antibiotics used for surgical prophylaxis: dose, frequency, route and number of doses, timing of administration are as per standard treatment guidelines (STG) recommendations.	10	Chart Review
SS 3.4 All the necessary preoperative preparations are done before surgery.	Anesthetic evaluation was done.	10	Chart Review
	Cross matched blood prepared.	10	Chart Review
	Written consent taken.	10	Chart Review
	Patient informed of the clinical condition, treatment plan and possible outcomes.	10	Chart Review and Client Interview
	Date of surgery was preplanned at admission and informed to the patient.	10	Client Interview
	No delay from the preplanned procedure day.	10	Client Interview
	Surgical safety checklist is used.	10	Chart Review
SS 3.5 Facility has defined and established procedures of surgical services.	There is procedure OT scheduling.	1	
	Surgical site is marked before entering into OR to prevent wrong site and wrong surgery.	10	Client Interview
	Sponge and instrument count practice is implemented.	10	Chart Review
	Postoperative monitoring is done before discharging to ward.	10	Chart Review
SS 3.6 Facility has established procedures for monitoring during anesthesia.	Anesthesia plan is documented before entering into OR.	10	Chart Review
	Food intake status of patient is checked.	10	Chart Review
	Patients' vitals are recorded during anesthesia.	10	Chart Review
	Post-anesthesia status is monitored and documented.	10	Chart Review

Surgical Service Standard 4: The health information system enables the use of data for early and appropriate action to improve care for surgical patients.

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
SS 4.1 All surgical patients have a complete and accurate standardized medical record.	The health facility has registers, data-collection forms, clinical and observation charts in place at all times, designed to routinely record and track all key care processes for surgical patients (see annex).	1	Observation
	All surgical patients have complete record of all information in the client chart and registered on the HMIS register in alignment with ICD code.	10	Chart Review <ul style="list-style-type: none"> • Verify if all information is recorded in the client chart and if the diagnosis is registered on the HMIS register in alignment with ICD code
	The health facility has a system to classify diseases in alignment with ICD codes at all times.	10	Chart Review <ul style="list-style-type: none"> • Verify if the diagnosis written in the client chart is documented in the HMIS register in alignment with the ICD codes
SS 4.2 Facility has defined and established procedures for maintaining, updating patients' clinical records and their storage.	Records of intraoperative monitoring maintained.	10	Chart Review
	Operative notes are recorded (date, identification of patient including MRN number, surgical and anesthesia team, preoperative and postoperative diagnosis, type and description of procedure, type of incisions and used suture materials, postoperative plan).	10	Chart Review
	Anesthesia notes are recorded.		
	Registers and records are maintained.	10	Register Review
SS 4.3 Every health facility has a mechanism in place for data collection, analysis and feedback, as part of its monitoring and performance improvement activities.	OR and surgical ward working health care workers regularly conducts reviews of surgical care and their data every month AND develops and implements a quality improvement project for all the gaps identified.	40	40 (10 for each bulleted criteria's) if the following were done in the previous month <ul style="list-style-type: none"> • Surgical care assessment was done the previous month • Gaps were identified • Quality Planning (action plan) for the gap • Implementation and follow up in progress

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
	The health facility implements standard operating procedures and protocols in place at all times for checking, validating and reporting data	5	Check previous month minutes if the OR and surgical ward staff evaluated their data before reporting
Surgical Service Standard 5: Communication with surgical patients and their families is effective and in response to their needs and preferences.			
SS 5.1 All surgical patients and their families receive information about their care and experience effective interactions with staff.	Surgical patients are given the opportunity to discuss their concerns and preferences.	10	Client Interview
	Health care staff demonstrate the following skills: active listening, asking questions, responding to questions, verifying client's and their families understanding, and supporting client's in problem-solving.	10	Client Interview
	Surgical patients and their families cared in the facility felt they were adequately informed by the attending care provider(s) regarding examinations, any actions and decisions taken about their care.	10	Client Interview
	Surgical patients and their families cared in the facility expressed overall satisfaction with the health services.	10	Client Interview
	Surgical patients and their families cared in the facility reported that they were satisfied with the health education and information they received from the care providers.	10	Client Interview
SS 5.2 There are established procedures for taking informed consent before treatment and procedures.	Written informed consent is taken before any surgical procedure and induction of anesthesia.	10	Client Interview
SS 5.3 Information about the surgical finding and treatment is shared with patients or attendants, regularly.	Patient and/or attendant is informed about clinical condition, surgical finding and treatment provided.	10	Client Interview
Surgical Service Standard 6: Surgical patients receive care with respect and dignity.			
SS 6.1 All surgical patients have privacy around the time of clinical evaluation, and their confidentiality is respected.	The physical environment of the health facility facilitates privacy and provision of respectful care, confidential care including the availability of curtains, screens.	10	Client Interview
	The health facility has written, up-to-date, protocols to ensure privacy and confidentiality for all clients throughout all aspects of care.	1	

Surgical and Anesthesia Care Audit Tool

Quality statement	Quality measure	Score	Remark/verification criteria
SS 6.2 No surgical patient is subjected to mistreatment such as physical, sexual or verbal abuse, discrimination, neglect, detainment, extortion or denial of services.	The health facility has accountability mechanisms for redress in the event of violations of privacy, confidentiality and consent.	1	
	The health facility has written, up-to-date, zero-tolerance, non-discriminatory policies relating to the mistreatment of clients.	1	
	Any client who reported physical, verbal or sexual abuse, to themselves or their families during clinical evaluation.	20	<ul style="list-style-type: none"> • Select and verify 5 clients exiting from the OR register • 4 for each client if they are protected • 0 for each client if report of abuse (sampling method)
	The health facility has written accountability mechanisms for redress in an event of mistreatment.	1	
	The health facility has a written, up-to-date policy and protocols outlining clients right to make a complaint about the care received and has an easily accessible mechanism (box) for handing in complaints and is periodically emptied and reviewed.	4	<ul style="list-style-type: none"> • 4 if present AND periodically emptied and reviewed • 1 if only present
	All clients were satisfied with the facility meeting their religious and cultural needs.	10	Client Interview
SS 6.3 All clients have informed choices in the services they receive, and the reasons for intervention or outcomes are clearly explained	All clients reported to be treated with respect and dignity.	10	Client Interview
	The health facility has a written, up-to-date, policy in place to promote for obtaining informed consent from clients prior to examinations and procedures.	1	Document review

Annex C. Procedure Lists

Ethiopian National Lists of Essential and Emergency Surgical and Anesthesia Care Procedures						
S/No	Speciality	Procedures	Availability of Procedures Based on Health Facility Types			
			Health Center	Primary Hospital	General Hospital	Specialized Hospital
1	Gynecology and Obstetrics	Caesarean Section				
2		Abdominal Hysterectomy or Repair of Uterine perforation for rupture (associated with intractable PPH)				
3		Normal delivery, Manual removal of the placenta, Vacuum Delivery and Repair of Genital Injury/Laceration				
4			Comprehensive Abortion Care			
5		Management of pelvic organ prolapse (This is not an essential surgery)				
6		Repair of Obstetric Fistula				
7		VIA and cryotherapy for precancerous cervical lesions				
8		Management of Major Benign and Malignant Gynecologic Conditions				
9		Tubal ligation/Vasectomy				
10		Trauma and Injury Related	Tracheostomy and crico-thyroideotomy			
11	Tube thoracostomy for air or fluid collection in the pleura					

12		Basic wound management including wound toilet, debridement repair of lacerations and splinting of fractures				
13		Initial management of burns such as resuscitation, emergency wound management oxygen delivering, pain management				
14		Burn management such as Escharotomy, Fasciotomy and skin grafts				
15		Explorative laparotomy for Trauma				
16		Emergency thoracotomy for severe chest injury				
17		Burr-hole and Elevation of Depressed Skull Fracture for Head Injuries				
18		Vascular exploration and repair/anastomosis for trauma				
19		Neck exploration for severe neck injuries				
20		Cut down for vascular access				
21		Emergency fracture and dislocation management including pain management, immobilization, POP application, traction, dislocation reduction and external fixation application				
22		Trauma related amputation				
23		Non trauma emergency and essential surgical conditions	Draining superficial abscesses			
24	Male circumcision and adult hydrocelectomy					

25	Excision of small soft tissue tumors like lipoma, ganglion etc) (These cannot be essential or emergency)				
26	Relieving acute urinary retention by catheterization, closed supra-pubic cystostomy				
27	Trans vesical prostatectomy (TVP), Cysto-lithotomy				
28	Rectal tube deflation for sigmoid volvulus				
29	Pediatric emergencies including intussusception, colostomy for ano-rectal malformation and foreign body swallowing/aspiration management				
30	Explorative laparotomy for acute abdomen (acute appendicitis, ectopic pregnancy, ovarian torsion, hollow viscus perforation and trauma)				
31	Cholecystectomy, cholecystostomy, CBD exploration, biliary bypass procedures and T-tube insertion for hepato-biliary pathologies				
32	Repair of abdominal wall hernias				
33	Constructing and reversal of colostomies, colonic resection and anastomosis, Haemorrhoidectomies, Fistulotomies, fissure surgery and drainage of perianal abscesses				

34		Modified radical mastectomy and thyroidectomy (all forms)				
35		Gastric and esophageal resection for cancers and perforation				
36		Operative and non operative management of club foot				
37		Management of Septic Arthritis, Osteomyelitis, Pyomyositis, and hand infection				
38		Complex orthopedic trauma care including hemiarthroplasty, intra-articular fractures, spine and pelvic fracture management)				
39		Anesthesia and Critical Care	General anesthesia			
40	Spinal anesthesia					
41	Epidural anesthesia/analgesia (Not an essential procedure)					
42	Procedural sedation					
43	Advanced traumatic life support (ATLS), Pediatrics advanced life support(PALS) (Not an essential procedure)					
44	Basic traumatic life support (BTLS)					
45	Intubation/ Extubation (Not an essential procedure)					
46	Mechanical ventilation					
47	Ophthalmic, Oral and Dental PROCEDURES	Extraction of Primary and Permanent tooth				

48	Ophthalmic, Oral and Dental PROCEDURES	Incision and drainage (periodontal and dental abscess)				
49		Dental caries treatments and scaling				
50		Management facial bone fractures and injury to dentition (inter-dental wiring, arch bar, IMF and open reduction)				
51		Management of common benign and malignant tumors and cyst of oral & maxillofacial regions (
52		Cataract surgery				
53		Tarsotomy				
54		Foreign body removal from nose and ears				
55		Myringotomy for otitis media				
56		Tonsillectomy				



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