**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:**
- To implement a nationally coordinated national plan on surgical care.
- To define and implement an essential surgery package for all levels of the Ethiopian health care delivery system.
- To create better awareness of 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.
- To implement quality improvement and audit tools in surgical care.
- To 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 has four major components described in Table 1 below:
1) The establishment, reporting and review of a core set of hospital KPIs for SaLTS.
2) Facility monitoring of additional site level indicators that are not part of the KPIs 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 hospital and include other bodies such as RHB, MSD or partners as necessary.
4) Review meetings:
   - Regional (or cluster) review meetings with each RHB and all hospitals in the respective region (or cluster).
   - MSD and all Regional Curative and Rehabilitative Core Process Teams (CRCPTs) review meetings.
Table 1. **Key Elements of the Hospital Performance Monitoring and Improvement Framework**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
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</table>
| KPIs for SaLTS | - 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. |
| Site level indicators | - A set of indicators used to monitor performance of surgical units at each hospital but not reported to CRCPTs and MSD. The site level indicators will be used by surgical teams and hospitals to improve their performance routinely. The clinical mentors assigned in each cluster will also use the site level indicators for the routine performance improvement. |
| Supportive supervision site visits | - 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 or awareness of the CRCPT. |
| Review meetings | **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.  
**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. |
Logic Model for SaLTS Project

**Input**
- Surgical teams of hospitals
- MOH and RHB supervisors
- Partners like SSA
- Essential equipment, supplies and consumables
- Funding from local and international sources
- Guidelines and policies on surgery and hospital quality improvement

**Activities**
- Conduct clinical audit
- Develop or adapt tertiary guidelines
- Conduct site readiness assessment
- Conduct mentoring visits at each hospital cluster level
- Conduct cluster/regional review meeting
- Conduct supportive supervision
- Conduct clinical audit, performance gaps assessment
- Conduct leadership training and possible solutions provided
- Conduct benchmarking visits at each hospital cluster level
- Conduct supervision visits
- Conduct site readiness assessment
- Conduct clinical audit

**Output**
- Improved volume and quality of bellwether surgical procedures
- Quality of perioperative mortality and morbidity
- Reduction in perioperative mortality
- Reduction in morbidity and mortality from surgical conditions in Ethiopia

**Outcome**
- Ensured safety in surgery
- Increased volume and quality of bellwether surgical procedures
- Supportive supervision shared with other hospitals
- Experience of best surgery
- Identified and possible solutions provided
- Leadership training
- Benchmarking visits
- Supportive supervision
- Tertiary guidelines
- Site readiness assessment
- Site readiness assessment
- Site readiness assessment
- Site readiness assessment

**Impact**
- Decreased in morbidity and mortality from surgical conditions in Ethiopia
- Improved volume and quality of bellwether surgical procedures
- Reduced morbidity in surgery
- Reduced mortality in surgery
- Increased site readiness
<table>
<thead>
<tr>
<th>S/No</th>
<th>Indicator</th>
<th>Definition</th>
<th>Formula</th>
<th>Data source</th>
<th>Measuring unit</th>
<th>Category</th>
<th>Frequency of reporting</th>
<th>Rate of safe utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Delay for elective surgical admission</td>
<td>The average number of days patients who underwent major elective surgery waited for admission during the reporting period.</td>
<td>$\frac{\text{Total sum of (Date patient is admitted for elective surgery)} - \text{Date patient is added to the surgical waiting list)}}{\text{Number of patients who received major surgery}}$</td>
<td>Surgical waiting checklist; admission/discharge registry</td>
<td>Days</td>
<td>Quality</td>
<td>Monthly</td>
<td>Proportion of surgical cases in which the WHO Surgical Safety Checklists were fully implemented.</td>
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<tr>
<td>2</td>
<td>Peri-operative mortality</td>
<td>All-cause death rate prior to discharge among patients who underwent a non-emergent major surgical procedure.</td>
<td>$\frac{\text{Number of patients who underwent a non-emergent major surgical procedure}}{\text{Number of patients who underwent a non-emergent major surgical procedure in an operating theatre} \times \text{Length of reporting period}}$</td>
<td>Patient charts; admission/discharge registry; OR registry</td>
<td>%</td>
<td>Safety</td>
<td>Monthly</td>
<td>Proportion of all major surgeries where surgical site infection occurred.</td>
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<tr>
<td>3</td>
<td>Surgical site infection rate</td>
<td>Proportion of all major surgeries with an infection occurring at the site of the surgical wound prior to discharge.</td>
<td>$\frac{\text{Number of inpatients with new surgical site infection arising during the reporting period}}{\text{Number of major surgeries (both elective &amp; non-elective) performed during the reporting period on public patients} + \text{Number of major surgeries (both elective &amp; non-elective) performed during the reporting period on private patients}} \times 100$</td>
<td>SW Registry (SSI); routine surveillance (surgical site infection report forms)</td>
<td>%</td>
<td>Safety</td>
<td>Monthly</td>
<td>Proportion of all surgical patient records reviewed in which the WHO Surgical Safety Checklist was completed.</td>
</tr>
<tr>
<td>4</td>
<td>Rate of safe surgery checklist utilization</td>
<td>Proportion of surgical cases in which the WHO Surgical Safety Checklists were fully implemented.</td>
<td>$\frac{\text{Number of surgical patient charts in which the WHO Surgical Safety Checklist was completed}}{\text{Total number of OR charts reviewed}} \times 100$</td>
<td>Random review of OR charts</td>
<td>%</td>
<td>Safety</td>
<td>Monthly</td>
<td>Proportion of surgical patient charts in which the WHO Surgical Safety Checklist was completed.</td>
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<tr>
<td>Quarterly</td>
<td>Access</td>
<td>%</td>
<td>OR Registry</td>
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<tr>
<td>Mean duration of in-hospital pre-elective operative stay</td>
<td>The average number of days patients waited in-hospital (after admission) to receive elective surgery during the reporting period.</td>
<td>Total sum of (Date patient received elective surgery – Date patient was admitted for elective surgery) / Total number of elective surgical patients during the reporting period</td>
<td>6</td>
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<tr>
<td>Surgical bed occupancy rate</td>
<td>The average percentage of occupied surgical beds during the reporting period.</td>
<td>[(The sum total surgical patient length of stay (days) during the reporting period) / (Average number of operational surgical beds during reporting period x Number of days in reporting period)] x 100</td>
<td>7</td>
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<td>Percentage Access</td>
<td>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 fractures) is less than or equal to 2 hours.</td>
<td>(Number of emergency surgical 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 fractures) is less than or equal to 2 hours / Total number of emergency surgical patients) x 100</td>
<td>8</td>
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</table>

**OR Registry**

- Day of surgery cancellation of scheduled elective surgeries that were cancelled on the planned day of surgery.
- Per centage of first elective cases performed on or prior to the scheduled time per agreed hospital protocol during the reporting period.
- Service access: the percentage of first elective cases that began on or prior to the scheduled time per agreed hospital protocol.

**Patient Survey**

- Mean duration of pre-elective hospital stay (after admission) for elective surgery.
- Per centage of patients receiving elective surgery within the reported stay period.
<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>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)</td>
</tr>
<tr>
<td>2</td>
<td>OR registry: Number of surgical procedures performed in operating theatre per year.</td>
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<tr>
<td>3</td>
<td>Hospital finaces record: Percentage of healthcare facility budget spent on surgical services. ((\text{Amount of recurrent budget spent on surgical services} / \text{Total health facility budget}) \times 100)</td>
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<tr>
<td>4</td>
<td>Laboratory blood records: Blood unavailability ratio. ((\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)</td>
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<tr>
<td>5</td>
<td>Survey: Patient satisfaction on a score of 0-10 from Patient Assessments of Health Care (PAHC) surveys.</td>
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<td>6</td>
<td>Patient quality survey: Average rating of hospital on a score of 0-10 from In-Patient and Out-Patient Assessments of Healthcare Survey (O-P &amp; I-P AHCH surveys).</td>
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<tr>
<td>7</td>
<td>Laboratory blood records: Blood unavailability ratio. ((\text{Number of patients whose aggregate cost for accessing and receiving care was less than 40% of reported household income}) / \text{Total number of surgical patients} \times 100)</td>
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<tr>
<td>8</td>
<td>Hospital cashier records: Number of surgical patients whose additional costs for accessing and receiving care were less than 40% of reported household income.</td>
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<tr>
<td>9</td>
<td>Patient quality survey: Average rating of hospital on a score of 0-10 from In-Patient and Out-Patient Assessments of Healthcare Survey (O-P &amp; I-P AHCH surveys).</td>
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<tr>
<td>10</td>
<td>Survey: Patient satisfaction on a score of 0-10 from Patient Assessments of Health Care (PAHC) surveys.</td>
</tr>
<tr>
<td>11</td>
<td>Hospital finaces record: Percentage of healthcare facility budget spent on surgical services. ((\text{Amount of recurrent budget spent on surgical services} / \text{Total health facility budget}) \times 100)</td>
</tr>
<tr>
<td>12</td>
<td>Laboratory blood records: Blood unavailability ratio. ((\text{Number of patients whose aggregate cost for accessing and receiving care was less than 40% of reported household income}) / \text{Total number of surgical patients} \times 100)</td>
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<tr>
<td>13</td>
<td>Survey: Patient satisfaction on a score of 0-10 from Patient Assessments of Health Care (PAHC) surveys.</td>
</tr>
<tr>
<td>14</td>
<td>Hospital cashier records: Number of surgical patients whose additional costs for accessing and receiving care were less than 40% of reported household income.</td>
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</tbody>
</table>
| Monthly | Safety | Percentage | Survey | Adverse | Anesthesia adverse outcome | Anesthesia adverse outcome
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<td>15</td>
<td></td>
<td></td>
<td>(Number of patients with any adverse anesthesia outcome / Total number of surgical patients) x 100</td>
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<td>Provider density</td>
<td>Number of surgical, obstetric, and anesthesia providers per 100,000 population</td>
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<td>Number of obstetric, anesthesia, and surgical providers per 100,000 population</td>
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</table>

Anesthesia adverse outcome: Percentage of surgical patients who developed any of the following:
- Cardiopulmonary arrest
- Failed intubation or failed spinal anesthesia
- Failed respiratory arrest

Anesthesia sheet and logbook percentage:
(Number of patients with an adverse anesthetic outcome / Total number of surgical patients) x 100