APPENDIX 1 - QUESTIONNAIRE FOR INTERVIEWING THE ANAESTHESIA PROVIDER

We are carrying out a survey to establish the quality of anaesthesia care provided to Obstetric patients in East Africa. We therefore request you to provide information on the following questions.

A. ANAESTHESIA PROVIDER DERMOPHASIC DATA

1. Study Number
2. Age
3. Gender
4. Physician or Nurse Anesthetist?
5. Are you still in training or completed training?
6. How many years of experience do you have in anesthesia?
7. Where else do you work?
8. Presence of 24 hr recovery rooms
9. Number of anesthesiologists in hospital
10. Number of nurse anesthetists in hospital

B. OPERATIONAL DATA—(Tick appropriate answer)

1. You use a pre-anaesthetic surgical checklist on all patients
   Agree □ □ Disagree □ □
2. Sometimes surgical checklist is not used because
   It is not clear □ □
   It is not available □ □
3. You know about the International Guidelines for Safe Anaesthesia care for Obstetric Patients?
   Agree □ □  Disagree □ □

4. You perform pre-anesthetic evaluation in all obstetric cases
   Agree □ □  Disagree □ □

5. You always check patient’s preoperative informed consent
   Agree □ □  Disagree □ □

6. You always check patient’s identification and type of surgery
   Agree □ □  Disagree □ □

7. There is adequate anesthesia personnel in your department
   Agree □ □  Disagree □ □

8. If they are inadequate, how much more do you need? 20%, 30%, 50%, > 50%
   □ □

9. You always have an assistant who knows how to give cricoid pressure?
   Agree □ □  Disagree □ □

10. Continuous education activity in your department is sufficient
    Agree □ □  Disagree □ □

11. Supervision in your department is adequate
    Agree □ □  Disagree □ □

12. In the past year at least one of your patients had intra-operative cardiac arrest
    Agree □ □  Disagree □ □

13. Supervision in your department regarding emergency condition is adequate
    Agree □ □  Disagree □ □

14. Number of Emergency Caesarean Sections done in your Hospital per day
15. Time from decision to perform Emergency Caesarean Section, to actual surgery

16. Reasons for delay

No anaesthetist
No Surgeon
Equipment fault
Other

17. You can catch up with new obstetric anesthesia technology

Agree    Disagree

18. More than 50% of your obstetric patients receiving anesthesia were firstly evaluated in the operating room

Agree    Disagree

19. You usually monitor your patients ventilation using (GA)

<table>
<thead>
<tr>
<th></th>
<th>Always used</th>
<th>Sometimes used</th>
<th>Never used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stethoscope</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reservoir bag movement</td>
<td></td>
<td></td>
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<tr>
<td>Capnography</td>
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</tr>
</tbody>
</table>

20. Anesthesia practice always strictly complies to clinical practice guidelines

Agree    Disagree

C. EQUIPMENT

21. You always perform pre-anesthetic checking of anesthetic machine and circuit

Agree    Disagree
22. You monitor patient with electrocardiography (EKG) in every case
   Agree □ □ Disagree □ □

23. You use a nerve stimulator on all patients with neuro muscular blockade
   Agree □ □ Disagree □ □

24. You monitor patient with pulse oximeter in every case
   Agree □ □ Disagree □ □

25. You always have suction available for each case
   Agree □ □ Disagree □ □

26. You sometimes experience miscommunication during anesthetic practice
   Agree □ □ Disagree □ □

27. You have all monitors on during spinal anesthesia

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Present</th>
<th>Functioning</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse oximeter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated blood pressure monitor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Blood Pressure monitor</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ECG</td>
<td></td>
<td></td>
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<tr>
<td>Thermometer</td>
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<tr>
<td>Capnograph and end tidal measurement</td>
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<tr>
<td>Stethoscope</td>
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<tr>
<td>Defibrillator</td>
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</tbody>
</table>

28. You have infusion pumps available for use
   Agree □ □ Disagree □ □

29. You have a difficult airway cart, available for emergency difficult airways
   Agree □ □ Disagree □ □

30. In the past 3 months, you experienced medication error
   Agree □ □ Disagree □ □
31. You always have a nerve stimulator when using neuromuscular blocking drugs
   Agree □□□□ Disagree □□□□

D. RECOVERY

32. Your patients are always taken care of for at least half an hour during postoperative period
   Agree □□□□ Disagree □□□□

33. All of your patients are taken care of in the recovery room
   Agree □□□□ Disagree □□□□

34. Your patients have pain relief 24 hrs, 48 hrs, › 48 hrs after surgery
   □□□□ □□□□ □□□□

35. In the past year, you experienced at least a case of dental injury
   Agree □□□□ Disagree □□□□

36. You have basic ICU services available for monitoring patients post operatively
   Agree □□□□ Disagree □□□□
## APPENDIX II - DRUGS AND EQUIPMENT CHECKLIST

### 1) DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Which are always present?</th>
<th>Sometimes present?</th>
<th>Never present?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiacid</td>
<td></td>
<td></td>
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<tr>
<td>Sedatives</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Anti hypertensives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vasopressors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antibiotics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinal Drugs</td>
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<td></td>
</tr>
<tr>
<td>General Anaesthetics I.V</td>
<td></td>
<td></td>
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<tr>
<td>Gaseous anaesthetics</td>
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<td></td>
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<tr>
<td>Muscle relaxants</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Opiod analgesics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non opioid analgesics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxytocics</td>
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<td></td>
</tr>
</tbody>
</table>

### 2) ANAESTHETIC MACHINE (tick appropriate response)

- **a)** Oxygen source
  - Piped
  - Cylinder
  - Other

- **b)** Reserve oxygen cylinder
  - Present
  - Absent

- **c)** Inspired oxygen recording
  - Present
  - Absent

- **d)** Oxygen supply failure alarm
  - Functioning
  - Not functioning

- **e)** Low oxygen failure alarm
  - Functioning
  - Not functioning

- **f)** Oxygen supply failure alarm
  - Functioning
  - Not functioning
  (Prevent delivery of hypoxic gases)

- **g)** Ventilator
  - Functioning
  - Not functioning

- **h)** Mechanical Ventilation disconnection alarm
  - Functioning
  - Not functioning

- **i)** Scavenging system
  - Present
  - Absent

- **j)** Breathing systems
  - Present
  - Absent
3) **OPERATING TABLE** (tick the appropriate)

   a) Present ; Yes ☐ No ☐

   b) Number of operating tables present ..................................................

   c) Are they functioning (Tiltable); Yes ☐ No ☐ Other ......................

   d) Serviced; Yes ☐ Never ☐

      If yes what was the last service date? ..............................................

4) **SUCTION MACHINE**

   a) Present ☐ Absent ☐

   b) Functioning ☐ Not functioning ☐

   c) Serviced ☐ Not serviced ☐

      Last service date ..............................................................

5) **MONITORS** (tick appropriate response)

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Functioning</th>
<th>Absent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse oximeter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated blood</td>
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</tr>
<tr>
<td>pressure machine</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Manual blood pressure</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>machine</td>
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<td>ECG</td>
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<tr>
<td>Temperature probe</td>
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<tr>
<td>Capnograph and end</td>
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</tr>
<tr>
<td>tidal measurement</td>
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<tr>
<td>Stethoscope</td>
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<tr>
<td>Defibrillator</td>
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</tbody>
</table>
6) **AIR WAY EQUIPMENT** (tick appropriate response)

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Absent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>laryngoscope</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>facemasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETT and connectors</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Artificial airways</td>
<td></td>
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<td></td>
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<tr>
<td>Ambu bag</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Magill’s forceps</td>
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</tbody>
</table>

7) **DIFFICULT AIRWAY CART**  
   [ ] present  [ ] absent

8) **Recovery Room**

   a) Present [ ]  Absent [ ]

   The following are available in your recovery room:

<table>
<thead>
<tr>
<th>Monitor</th>
<th>Present</th>
<th>Absent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse oximeter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated Blood pressure machine</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Manual Blood pressure machine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature monitor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECG</td>
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<td></td>
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</tr>
<tr>
<td>Continuous pulse display</td>
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<td></td>
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<tr>
<td>Stethoscope</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Suction Machine</td>
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<td></td>
<td></td>
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<tr>
<td>Oxygen Supply</td>
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</table>
APPENDIX III - QUESTIONNAIRE FOR INTERVIEWING A REPRESENTATIVE FROM THE MINISTRY OF HEALTH/ HEAD OF ANAESTHESIA SOCIETY

We are carrying out a survey to establish the quality of anaesthesia care provided to Obstetric patients in East Africa. We therefore request you to provide information on the following questions.

1. How many hospitals and healthcenters do you have that conduct surgery on obstetric patients?

2. How many Anaesthesia providers do you have country wide?

3. What is their level of education?
   - Physician anaesthetists (number) …………………………
   - Non physician anaesthetists (number) …………………………

4. Is improving anaesthesia care to obstetric patients a priority area in your National Development Plan? ………………………………….

5. What challenges are you facing in delivery of anaesthesia to obstetric patients? (Tick appropriate response)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few anaesthesia providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High patient load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under funding of anaesthesia service</td>
<td></td>
<td></td>
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<tr>
<td>Lack of basic equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorly serviced equipment (frequent breakdown)</td>
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</tr>
</tbody>
</table>
Drugs shortage
Shortage of Blood and blood products for transfusion
Lack of local protocols and guidelines for patient management

Other

6. What can be done to improve this situation?

7. What is the number of cases and case-fatalties (all deaths during the hospitalization, not just during labor) of?
   a) Pregnancy-induced hypertension (preeclampsia and eclampsia)___________
   b) Obstructed labor _______________________________________________
   c) Maternal/ peripartum hemorrhage__________________________________
d) Maternal sepsis

8. Number of deliveries per year
a) Maternal fatalities

b) Neonatal fatalities (and number of stillbirths if separate data is available)

9. Number of proportion of cesarean sections per year (per month if possible)

a) Proportion elective, urgent, emergent

b) Indications for emergency C/S

c) Maternal fatalities

d) Neonatal fatalities

e) Any data on average blood transfusion, and/or pre- and post-delivery

10. Who is attending the deliveries (by year/month if possible) % of c-sections by anesthesiology-trained personnel

Physician anaesthetist

Non-Physician anaesthetist