## Supplemental Appendix 3: Safe Surgery 2020 Tanzania Data Collection Tools

### Daily Surveillance Log

<table>
<thead>
<tr>
<th>Date Format</th>
<th>Patient file number</th>
</tr>
</thead>
<tbody>
<tr>
<td>dd/mm/yy</td>
<td>____________________</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Current time (hh:mm)</th>
<th>Study ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________________</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Observer Name</th>
<th>Patient Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Information</td>
<td></td>
</tr>
<tr>
<td>Age (Year)</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td></td>
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<tr>
<td>Name of Surgical Center</td>
<td></td>
</tr>
<tr>
<td>Date of Admission (dd/mm/yy)</td>
<td></td>
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<tr>
<td>Name of Procedure/Delivery**</td>
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<tr>
<td>Date of Procedure/Delivery (dd/mm/yy)</td>
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<tr>
<td>Date of Discharge (dd/mm/yy)</td>
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<tr>
<td>Date of Death*** (dd/mm/yy)</td>
<td></td>
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<tr>
<td>Date of Referral*** (dd/mm/yy)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Day</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</tr>
</tbody>
</table>

**Please elaborate on the details of patient death, if applicable:**

*If Yes, write “Y” and implement the Surgical Site Infection Screening tool, Post-operative Sepsis Screening tool or Maternal Sepsis Screening tool
*If No, write “N” and move to the following patient
*If Tool has Already been Completed, write “TAC” and implement the relevant tool
**If no procedure or delivery took place, leave blank
***Complete only if applicable
Evaluation for Surgical Site Infection Screening Tool

Study ID: __________

Patient file number: _____________________

Study ID: ________________

Today's date [dd/mm/yy] ____/_____/____

Current time (hh:mm)

<table>
<thead>
<tr>
<th>Patient name</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer Name</td>
<td>Procedure(s)</td>
</tr>
<tr>
<td>Surgeon Name</td>
<td>Incision Site</td>
</tr>
</tbody>
</table>

1. Is there a Surgical Site Infection (SSI)? [Please select one only]
   - □ Yes [Continue to 2]
   - □ No [END TOOL]

2. When was the SSI detected? [Please select one only]
   - □ During this admission
   - □ Post-discharge

3. Date of onset of SSI [dd/mm/yy]
   ____/_____/_____
4. Has the infection occurred with 30 days of the surgery? [Please select one only]

☐ Yes
☐ No

5. What type of SSI? [Please select one only]

☐ Superficial: Involves only skin and subcutaneous tissue of incision
☐ Deep: Infection involves deep tissues, such as fascial and muscle layers
☐ Organ/space: Infection involves any part of the anatomy in organs and spaces other than the incision, which was opened or manipulated during operation

6. Where is the infection(s)? [Please select all that apply]

☐ Abdomen
☐ Pelvis
☐ Head
☐ Neck
☐ Chest
☐ Other___________________(Please specify)

7. Please find below a list of criteria for SSI [Please select all that apply within each of the individual criterion]

<table>
<thead>
<tr>
<th>Signs &amp; Symptoms</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Redness</td>
<td>☐ Not cultured</td>
</tr>
<tr>
<td>☐ Heat</td>
<td>☐ Positive culture</td>
</tr>
<tr>
<td>☐ Localised pain and tenderness</td>
<td>☐ Negative culture</td>
</tr>
<tr>
<td>☐ Localised swelling</td>
<td>☐ Imaging test evidence of infections</td>
</tr>
<tr>
<td>☐ Purulent drainage</td>
<td></td>
</tr>
<tr>
<td>☐ Fever (temperature 38C or more)</td>
<td></td>
</tr>
<tr>
<td>☐ Incision deliberately opened/drained</td>
<td></td>
</tr>
<tr>
<td>☐ Abscess or other evidence of infection found during a re-operation, by radiology or histopathology examination</td>
<td></td>
</tr>
<tr>
<td>☐ Aspirated fluid/swab of surgical site yields organisms and pus cells are present</td>
<td></td>
</tr>
<tr>
<td>☐ Clinician’s diagnosis</td>
<td></td>
</tr>
<tr>
<td>☐ Incision spontaneously dehisces</td>
<td></td>
</tr>
</tbody>
</table>
8. Type of surgery [Please select one only and validate through WHO Surgical Safety Checklist Observation Tool]
   - Elective
   - Emergency

9. Was there a history of trauma preceding the onset of SSI? [Please select one only]
   - Yes (indicate “Yes” if the surgery took place due to a trauma)
   - No

10. ASA Score [Please select one only]
    Obtain ASA score retrospectively by patient history and clinical exam. Please note that pregnancy is at minimum ASA 2.
    - 1
    - 2
    - 3
    - 4
    - 5
    - Unknown

11. Wound class [Please select one]
    Obtain retrospectively by patient history and clinical exam. Please note that C-section wounds are at least “clean-contaminated”.
    - Clean
    - Clean-contaminated
    - Contaminated
    - Dirty
    - Unknown
    - Not applicable

12. Wound closure [Please select one only]
    - Open
    - Closed

13. Were pre-operative antibiotics given? [Please select one only and validate through the patient chart]
14. Were post-operative antibiotics given? [Please select one only and validate through the patient chart]
   - Yes [CONTINUE to 15]
   - No [SKIP to 18]

15. Regarding post-operative antibiotics only, what was the indication for the first set of post-operative antibiotic therapy? [Please select one only and validate through the patient chart or provider interview]
   - Prophylactic (select prophylactic ONLY if the antibiotics were given 1 hour before the incision and continued post-operatively up to 24 hours after the surgery)
   - SSI
   - Post-operative sepsis
   - Maternal sepsis
   - Other ____________ (Please specify)

16. Regarding post-operative antibiotics only, which antibiotics were prescribed (record the antibiotics prescribed, not the antibiotics actually administered)? [Please select all that apply and validate through the patient chart or provider interview]
   - Ampicillin
   - Gentamicin
   - Cefotaxim
   - Ceftriaxone
   - Metronidazole
   - Amoxicillin
   - Ciprofloxacin
   - Cloxacillin
   - Other __________________ (Please specify)

17. Regarding post-operative antibiotics only, please fill out the table below.
18. What is the functional status of the patient? [Please select one]

- Independent
- Partially dependent
- Fully dependent

19. What are the patient’s characteristics? [Please select all that apply. Please ask patient if information is not provided in charts]

- Obese (BMI ≥ 30)
- Smoked during pregnancy
- Anemia
- Diabetes
- Any previous miscarriages
- History of sexually transmitted diseases
- HIV
- Other (please specify): __________________________
- None

For Obstetric patients (at the time of surgery)

1. Was the patient in labor? [Please select one only]
   - Yes
   - No

2. Was there PROM (premature rupture of membranes)? [Please select one only]
   - Yes
   - No (Select “No” if rupture of membranes did occur, but was not premature)
   - Not applicable (Select “Not applicable” if there was no delivery)

**Evaluation for Post-Operative Sepsis Screening Tool**

Today's date [dd/mm/yy] ____/_____/______

Patient file number: __________________

Study ID: __________________

Current time (hh:mm) ____________

<table>
<thead>
<tr>
<th>Patient name</th>
<th>Diagnosis</th>
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<tbody>
<tr>
<td>Observer Name</td>
<td>Procedure(s)</td>
</tr>
<tr>
<td>Surgeon Name</td>
<td>Incision Site</td>
</tr>
</tbody>
</table>

1. Is the patient’s history suggestive of any new, post-operative infections? *[Please select only one]*

   - □ Yes [Continue to 2]
   - □ No [END TOOL]

2. Which of the new post-operative infection(s) is the patient’s history suggestive of? *[Please select all that apply]*

   - □ Urinary tract infection
   - □ Skin/soft tissue infection
   - □ Wound infection
   - □ Blood stream catheter infection
   - □ Pneumonia, empyema
   - □ Acute abdominal infection
   - □ Bone/joint infection
   - □ Endocarditis
   - □ Meningitis
   - □ Implantable device infection
   - □ Other ____________ (Please specify)
3. Where is the infection(s)? [Please select all that apply]

- Abdomen
- Pelvis
- Head
- Neck
- Chest
- Other ______________(Please specify)

4. What do you think was the suspected cause of the infection? [Please provide your response in the space below]

_____________________________________________________________________

5. Are any of the following signs & symptoms of infection present and new to the patient?

<table>
<thead>
<tr>
<th>Hyperthermia &gt; 38.3 °C (101.0 °F)</th>
<th>Tachypnea &gt; 20 bpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothermia &lt; 36 °C (96.8°F)</td>
<td>Leukocytosis (WBC count &gt;12,000 µL–1) (After post-op Day 1)</td>
</tr>
<tr>
<td>Altered mental status</td>
<td>Leukopenia (WBC count &lt; 4000 µL–1)</td>
</tr>
<tr>
<td>Tachycardia &gt; 90 bpm</td>
<td>Hyperglycemia (plasma glucose &gt;140 mg/dL) or 7.7 mmol/L in the absence of diabetes</td>
</tr>
</tbody>
</table>

6. Are two or more signs & symptoms of infection listed in Q5 are present and new to the patient?

- Yes
- No

If the answer is yes, to both questions 1 and 6, suspicion of sepsis is present:

7. Is there a suspicion of sepsis [Please select one only]

- Yes
- No [END TOOL]
8. When was the sepsis detected? [Please select one only]

☐ During this admission
☐ Post-discharge

9. Date of onset of sepsis [dd/mm/yy]

_____/_______/______

10. Has sepsis occurred within 30 days of surgery?

☐ Yes
☐ No

11a-f. Are one or more of the following organ dysfunction criteria present at a site remote from the site of the infection that are NOT considered to be chronic conditions? Note: in the case of bilateral pulmonary infiltrates the remote site stipulation is waived. [Please select all that apply]

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Measured</th>
<th>Not measured</th>
<th>Test not available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Met criteria</td>
<td>Did not meet criteria</td>
<td></td>
</tr>
<tr>
<td>11a. SBP &lt; 90 mmHg or MAP &lt; 65 mmHg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11b. SBP decrease &gt; 40 mmHg from baseline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11c. Urine output &lt; 0.5 ml/kg/hour for 2 hours or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creatinine &gt; 2.0 mg/dl (176.8 mmol/L) or</td>
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<tr>
<td>----------------------------------------</td>
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</tr>
<tr>
<td>11d. Platelet count &lt;100,000 µL</td>
<td></td>
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<td></td>
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<tr>
<td>11e. Coagulopathy (INR &gt;1.5 or aPTT &gt;60 secs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11f. Bilirubin &gt; 2 mg/dl (34.2 mmol/L)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please inform the surgical team or nurse. If suspicion of sepsis (Q7) is present AND organ dysfunction is present (Q11a-f), the patient meets the criteria for SEVERE SEPSIS.

12. Is there a severe sepsis? [Please select one only]

- Yes
- No [SKIP to 15]

13. When was the severe sepsis detected? [Please select one only]

- During this admission
- Post-discharge

14. Date of onset of severe sepsis [dd/mm/yy]

_____/______/______

15. Are EITHER of the following criteria present?

- Lactate > 2 mmol/L
- Persistently hypotensive (SBP < 90 mmHg or MAP < 65 mmHg), or requiring vasopressors despite volume resuscitation
- None
Please inform the surgical team or nurse. If the answer is yes, to both questions 12 and 15, the patient meets the criteria for SEPTIC SHOCK.

16. Is there a septic shock? [Please select one only]
   - Yes
   - No [SKIP to 19]

17. When was septic shock detected? [Please select one only]
   - During this admission
   - Post-discharge

18. Date of onset of septic shock [dd/mm/yy]
   _____/_______/_____

19. Type of surgery [Please select one only and validate through WHO Surgical Safety Checklist Observation Tool]
   - Elective
   - Emergency
   - Not applicable

20. Was there a history of trauma preceding the onset of sepsis? [Please select one only]
   - Yes (indicate “Yes” if the surgery took place due to a trauma)
   - No
21. ASA Score [Please select one only]

Obtain ASA score retrospectively by patient history and clinical exam. Please note that pregnancy is at minimum ASA 2.

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ Unknown

22. Wound class [Please select one only]

Obtain retrospectively by patient history and clinical exam. Please note that C-section wounds are at least “clean-contaminated”.

☐ Clean
☐ Clean-contaminated
☐ Contaminated
☐ Dirty
☐ Unsure
☐ Not applicable

23. Wound closure [Please select one only]

☐ Open
☐ Closed

24. Were pre-operative antibiotics given? [Please select one only and validate patient chart]

☐ Yes
☐ No

25. Were post-operative antibiotics given? [Please select one only and validate through patient chart]
26. Regarding post-operative antibiotics only, what was the indication for the first set of post-operative antibiotic therapy? [Please select one only and validate through the patient chart or provider interview]

- □ Yes
- □ No [SKIP to 29]

- □ Prophylactic (select prophylactic ONLY if the antibiotics were given 1 hour before the incision and continued post-operatively up to 24 hours after the surgery)
- □ SSI
- □ Post-operative sepsis
- □ Maternal sepsis
- □ Other __________________(Please specify)

27. Regarding post-operative antibiotics only, which antibiotics were prescribed (record the antibiotics prescribed, not the antibiotics actually administered)? [Please select all that apply and validate through the patient chart or provider interview]

- □ Ampicillin
- □ Gentamicin
- □ Cefotaxim
- □ Ceftriaxone
- □ Metronidazole
- □ Amoxicillin
- □ Ciprofloxacin
- □ Cloxacillin
- □ Other ________________(Please specify)

28. Regarding post-operative antibiotics only, please fill out the table below.

<table>
<thead>
<tr>
<th>1st Antibiotic:</th>
<th>2nd Antibiotic:</th>
<th>3rd Antibiotic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription dosage (mg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription route (i.v./i.m./oral)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription frequency (1x/2x/3x/4x/5x/6x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration (&lt;24 h or &gt;24 h)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
29. What is the functional status of the patient? [Please select one only]

- Independent
- Partially dependent
- Fully dependent

30. What are the patient’s characteristics? [Please select all that apply. Please ask patient if information is not provided in charts]

- Obese (BMI ≥ 30)
- Smoked during pregnancy
- Anemia
- Diabetes
- Any previous miscarriages
- History of sexually transmitted diseases
- HIV
- Other (please specify): __________________________
- None

Adapted from the *Evaluation for Severe Sepsis Screening Tool*, Surviving Sepsis Campaign, 2013
Evaluation for Maternal Sepsis Screening Tool

Today’s date [dd/mm/yy] ____/_____/_____

Patient file number: ____________________

StudyID: ____________________

Current time (hh:mm) ____________

<table>
<thead>
<tr>
<th>Patient name</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer Name</td>
<td>Procedure(s)</td>
</tr>
<tr>
<td>Surgeon Name (If applicable)</td>
<td>Incision Site (select NA if there was no incision)</td>
</tr>
</tbody>
</table>

1. Is the patient’s history suggestive of any new, post-operative infections? [Please select only one]

☐ Yes [Continue to 2]
☐ No [END TOOL]

2. Which of the new post-operative infection(s) is the patient’s history suggestive of? [Please select all that apply]

☐ Urinary tract infection
☐ Skin/soft tissue infection
☐ Wound infection
☐ Blood stream catheter infection
☐ Pneumonia, empyema
☐ Acute abdominal infection
☐ Bone/joint infection
☐ Endocarditis
☐ Meningitis
☐ Implantable device infection
☐ Other __________ (Please specify)
3. Where is the infection(s)? [Please select all that apply]

☐ Abdomen  ☐ Pelvis  ☐ Head  ☐ Neck  ☐ Chest  ☐ Other ______________(Please specify)

4. What do you think was the suspected cause of the infection [Please provide your response in the space below]

______________________________________________________________________

5. Are any of the following signs & symptoms of infection present and new to the patient?

| ☐ Hyperthermia > 38.3 °C (101.0 °F) | ☐ Leukocytosis (WBC count >15,000 µL−1) | ☐ Hyperglycemia (plasma glucose >140 mg/dL) or 7.7 mmol/L in the absence of diabetes |
| ☐ Hypothermia < 36 °C (96.8°F) | ☐ Leukopenia (WBC count < 4000 µL−1) | ☐ Respiratory rate > 24/min |
| ☐ Maternal Heart Rate > 110 bpm | ☐ Altered mental status |

6. Are two or more signs & symptoms of infection listed in Q5 are present and new to the patient?

☐ Yes  ☐ No
If the answer is yes, to both questions 1 and 6, suspicion of maternal sepsis is present:

7. Is there a suspicion of maternal sepsis? [Please select one only]
   - Yes
   - No [END TOOL]

8. When was maternal sepsis detected? [Please select one only]
   - During this admission
   - Post-discharge

9. Date of onset of maternal sepsis [dd/mm/yy]
   ____/______/____

10. Has sepsis occurred within 30 days of surgery?
    - Yes
    - No

11. a-f. Are one or more of the following organ dysfunction criteria present at a site remote from the site of the infection that are NOT considered to be chronic conditions? Note: in the case of bilateral pulmonary infiltrates the remote site stipulation is waived. [Please select all that apply]

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Measured</th>
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<tbody>
<tr>
<td></td>
<td>Met criteria</td>
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<td></td>
</tr>
<tr>
<td>11a. SBP &lt; 90 mmHg or</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please inform the patient’s surgical team. If suspicion of maternal sepsis (Q7) is present AND organ dysfunction is present (Q11a-f), the patient meets the criteria for SEVERE MATERNAL SEPSIS.

12. Is there a severe maternal sepsis? [Please select one only]

- Yes
- No [SKIP to 16]

13. When was the severe maternal sepsis detected? [Please select one only]

- During this admission
- Post-discharge
14. Date of onset of severe maternal sepsis [dd/mm/yy]

_____/_______/______

15. Are EITHER of the following criteria present?

☐ Lactate > 2 mmol/L
☐ Persistently hypotensive (SBP < 90 mmHg or MAP < 65 mmHg), or requiring vasopressors despite volume resuscitation
☐ None

Please inform the patient’s surgical team if the answer is yes, to both questions 12 and 15, septic shock is present.

16. Is there a septic shock? [Please select one only]

☐ Yes
☐ No [SKIP to 19]

17. When was septic shock detected? [Please select one only]

☐ During this admission
☐ Post-discharge

18. Date of onset of septic shock [dd/mm/yy]

_____/_______/______

19. Type of surgery [Please select one only and validate through WHO Surgical Safety Checklist Observation Tool]

☐ Elective
☐ Emergency
☐ Not applicable (only to be used if SVD)
20. Was there a history of trauma preceding the onset of maternal sepsis? [Please select one only]

☐ Yes (indicate “Yes” if the surgery took place due to a trauma)
☐ No

21. ASA Score [Please select one only]

Obtain ASA score retrospectively by clinical history and patient exam. Please note that pregnancy is at minimum ASA 2.

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ Unknown

22. Wound class [Please select one only]

Obtain retrospectively by patient history and clinical exam. Please note that C-section wounds are at least “clean-contaminated”.

☐ Clean
☐ Clean-contaminated
☐ Contaminated
☐ Dirty
☐ Unsure
☐ Not applicable

23. Wound closure [Please select one only]

☐ Open
☐ Closed
☐ Not applicable (only to be used if SVD)
24. Were pre-operative antibiotics given? [Please select one only and validate through patient chart]

☐ Yes
☐ No
☐ Not applicable (only to be used if SVD)

25. Were post-operative antibiotics given? [Please select one only and validate through patient chart]

☐ Yes
☐ No [SKIP to 29]
☐ Not applicable (only to be used if SVD)

26. Regarding post-operative antibiotics only, what was the indication for the first set of post-operative antibiotic therapy? [Please select one only and validate through the patient chart or provider interview]

☐ Prophylactic (select prophylactic ONLY if the antibiotics were given 1 hour before the incision and continued post-operatively up to 24 hours after the surgery)
☐ SSI
☐ Post-operative sepsis
☐ Maternal sepsis
☐ Other ______________(Please specify)

27. Which antibiotics were prescribed? [Please select all that apply and validate through the patient chart or provider interview]

☐ Ampicillin
☐ Gentamicin
☐ Cefotaxim
☐ Ceftriaxone
☐ Metronidazole
☐ Amoxicillin
☐ Ciprofloxacin
☐ Cloxacillin
☐ Other ______________(Please specify)
28. Please complete the table regarding post-operative antibiotics if given.

<table>
<thead>
<tr>
<th></th>
<th>1st Antibiotic:</th>
<th>2nd Antibiotic:</th>
<th>3rd Antibiotic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription dosage (mg)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Prescription route (i.v./i.m./oral)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription frequency (1x/2x/3x/4x/5x/6x)</td>
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<td>Duration (&lt;24 h or &gt;24 h)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

29. What is the functional status of the patient? [Please select one only]

- [ ] Independent
- [ ] Partially dependent
- [ ] Fully dependent

30. What is the patient parity, **not** including the current delivery? [Please select one only. Please ask patient if information is not provided in charts]

- [ ] 0
- [ ] 1
- [ ] ≥ 2

31. What is the patient’s marital status? [Please select one only. Please ask patient if information is not provided in charts]

- [ ] Married
- [ ] Single supported
- [ ] Single unsupported
- [ ] Divorced or separated

32. What are the patient’s characteristics? [Please select all that apply. Please ask patient if information is not provided in charts]
☐ Obese (BMI ≥ 30)
☐ Smoked during pregnancy
☐ Anemia
☐ Diabetes
☐ Any previous miscarriages
☐ History of sexually transmitted diseases
☐ HIV
☐ Other (please specify): ___________________________
☐ None

33. How many antenatal visits has the patient had? [Please select one only. Please ask patient if information is not provided in charts]

☐ None
☐ Less than 4
☐ 4 or more

34. Has POMR (premature rupture of membrane occurred)? [Please select one only and validate through the patient chart or provider interview]

☐ Yes
☐ No (if rupture of membranes did occur, but was not premature)
☐ Not applicable (if there was no rupture of membranes)

35. Has artificial rupture of membrane occurred? [Please select one only and validate through the patient chart or provider interview]

☐ Yes
☐ No
☐ Not applicable (if there was no rupture of membranes)
36. Did the patient have fever during labor? [Please select one only and validate through the patient chart or provider interview]

- Yes
- No

37. Was the rupture of membrane prolonged? [Please select one only and validate through the patient chart or provider interview]

- Prolonged ruptured of membrane (>24hrs)
- Not prolonged
- Not applicable (Select “Not applicable” if there was no rupture of membranes)

38. Was the rupture of membrane pre-term? [Please select one only and validate through the patient chart or provider interview]

- Yes (< 37 weeks of gestation)
- No
- Not applicable (Select “Not applicable” if there was no rupture of membranes)

39. Type of labor [Please select one only and validate through the patient chart or provider interview]

- Spontaneous
- Induced
- None

40. Was the labor prolonged? [Please select one only and validate through the patient chart or provider interview]

- Prolonged labor (>20 hours for primi, >14 hours for multi)
- Not prolonged
- Not applicable (if patient was not in labor)
41. Did the patient take antibiotics during labor? [Please select one only and validate through the patient chart or provider interview]

- [ ] Yes
- [ ] No
- [ ] Not applicable (if patient was not in labor)

42. Was episiotomy performed?

- [ ] Yes
- [ ] No
- [ ] N/A (if patient was not in labor)

43. Was there a perineal tear (of any degree?)

- [ ] Yes
- [ ] No
- [ ] N/A (if patient was not in labor)

44. Type of delivery ([Please select one only])

- [ ] Spontaneous vaginal [END TOOL]
- [ ] Assisted vaginal [END TOOL]
- [ ] Caesarean section [Continue to 45]
- [ ] Not applicable [END TOOL]

45. What was the indication of Cesarean section? [Please select one only]

- [ ] Cephalopelvic disproportion
- [ ] Previous Cesarean section
- [ ] Prolonged or ineffective labor
- [ ] Cervical incompetence
- [ ] Medical conditions
- [ ] Fetal factors
- [ ] Placental factors
☐ Not applicable

46. Was the patient in labor?

☐ Yes
☐ No

Adapted from the Maternal Assessment of Sepsis Tool, Surviving Sepsis Campaign, 2013
Surgical Safety Checklist Observation Tool

Date of Procedure: _____/_____/_______

Hospital Name: ______________________

Patient Age: _______ Patient Gender: O M F

Patient Name: ________________________  Patient File Number: _________________________

Study ID: ____________

Observer Name: _____________________

---

**Procedure Information**

Time of Incision: _____:_____   AM/PM

Urgent case (requiring same-day surgery):   O Yes   O No

Surgical end time: _____:_____   AM/PM

Surgery Completed: O Yes   O No   If no, provide reason why? ________________

Procedure performed: _____________________

Patient disposition:

O Inpatient (patient had to stay at the facility for at least one night)

O Outpatient (patient went home after the surgery, i.e. did not spend the night at health facility)

Patient’s ASA Score (physical status of patients before the administration of anesthesia):

O 1 (a normal healthy patient; healthy, non-smoking, etc.)

O 2 (patient with mild systemic disease without substantive functional limitations; e.g. current smoker, social alcohol drinker, pregnancy, etc.)

O 3 (patient with severe systemic disease, i.e. substantive functional limitations; e.g. poorly controlled diabetes mellitus, chronic obstructive pulmonary disease, etc.)

O 4 (patient with severe systemic disease that is a constant threat to life; e.g. recent (<3 months) myocardial infarction, cerebrovascular accident, etc.)

O 5 (moribund patient who is not expected to survive; e.g. ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleeding with mass effect, etc.)
O Unknown (patient’s ASA score could not be identified)

(Obtain ASA Score by patient history and clinical exam. Please note that pregnancy is at minimum ASA 2.)

Patient’s Wound Class:
O Clean (Uninfected, no inflammation. Respiratory, gastrointestinal (GI), genitourinary (GU) tracts not entered. Closed primarily)
O Clean-contaminated (Respiratory, gastrointestinal, genitourinary tracts entered, controlled. No unusual contamination.)
O Contaminated (Open, fresh, accidental wounds. Major break in sterile technique. Gross spillage from GI tract. Acute nonpurulent inflammation.)
O Dirty (Old traumatic wounds, devitalized tissue. Existing infection or perforation. Organisms present BEFORE procedure)
O Unsure (The wound classification is impossible to detect.)
O N/A* (When there is no incision)

(Obtain retrospectively by patient history and clinical exam. Please note that most C-section wounds are at least “clean-contaminated”.)

### Sign In (Before Induction of Anesthesia)

1. Were all operating team members present?
   1a. For C-S, was newborn provider present? (Select N/A if there was no C-S)
   O Yes  O No

2. Was the level of urgency for surgery discussed?
   O Yes  O No

3. Was patient identity, procedure(s), and consent verified verbally with patient?
   O Yes  O No
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Did a member of the surgical team discuss sterility of equipment and instruments?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5</td>
<td>Was the anesthesia machine and medication check completed?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>(Anesthesia safety check is understood to be a formal inspection of the anesthetic equipment, breathing circuit, medications and patient’s anesthetic risk before each case. For sites without an anesthesia machine, only medication check is OK. You as a data collector will then specify under Q39 that the site did not have an anesthesia machine.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Was pulse oximeter on the patient and functioning verified?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7</td>
<td>Was patient allergy discussed out loud?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8</td>
<td>Was antibiotic prophylaxis given 15-60 minutes before expected skin incision?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>9</td>
<td>Was antacid prophylaxis given?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>(Antacid prophylaxis should be given for caesarian sections, laparotomies and all emergency surgeries. Select N/A for all other procedures)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Was patient risk for airway difficulty or aspiration risk discussed out loud?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>10a</td>
<td>Did patient have risk for airway difficulty or aspiration?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>10b</td>
<td>If there was risk, was equipment/assistance available?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td><em>(Only answer 10b if 10a was yes. Select N/A if there was no airway difficulty/aspiration risk)</em></td>
<td>O</td>
<td>N/A</td>
</tr>
<tr>
<td>11</td>
<td>Was patient risk for blood loss (&gt;500ml, &gt;1000ml if C/S, &gt;7ml/kg in children) discussed out loud?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>11a</td>
<td>Did patient have risk for blood loss (&gt;500ml, &gt;1000ml if C/S, &gt;7ml/kg in children)?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td><em>(Select N/A if blood loss was not discussed out loud)</em></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>11b</td>
<td>If there was risk, was adequate IV access and fluids planned?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td><em>(Select N/A if there was no risk for blood loss)</em></td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
### 11c. If there was risk, was blood available?  
(Select N/A if there was no risk for blood loss)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
<td>O N/A</td>
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</table>

### 12. Were patient’s hemoglobin results verified out loud?

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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
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</table>

### 13. Were patient’s other critical lab results verified out loud?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
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</table>

### 14. Was patient’s blood group/Rh verified out loud?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
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</table>

### 15. For C-S, were newborn resuscitation equipment and assistance available?  
(Select N/A if there was no C-section)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
<td>O N/A</td>
</tr>
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</table>

### Time Out (Before Skin Incision)

### 16. Did team members introduce themselves by name and role (e.g., “Lynn, the anesthesiologist.”)?

16a. If no, was this team established (i.e. introductions performed earlier the same day or facility has a small surgical team where providers know each other)?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
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</tbody>
</table>

### 17. Did the team verify patient’s name, correct site and correct procedure out loud?  
(Each of the three components need to be verified out loud in order to select Yes)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
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</tbody>
</table>

### 18. Did the team verify written consent on the chart out loud?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
</tr>
</tbody>
</table>

### 19. Before incision, was all necessary equipment available?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
</tr>
</tbody>
</table>

### 20. Before incision, was the operative site cleaned with Chlorohexidine-alcohol or iodine-based solution?  
(‘Cleaned’ defined as skin prep with Chlorhexidine-alcohol or iodine-based solution for 2 consecutive 30-second applications separated by a period sufficiently long to allow for dryness. Dryness based on data collector’s medical judgement)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
</tr>
</tbody>
</table>

### 21. Before incision, was appropriate vaginal cleansing performed with povidone-iodine (only if C-S and ruptured membranes and/or in labor)?  
(Select N/A if there was no C-section)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O Yes</td>
<td>O No</td>
<td>O N/A</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
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</tr>
<tr>
<td>22. Before incision, did the surgical provider discuss anticipated critical or unexpected steps?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>23. Before incision, did the surgical provider discuss anticipated procedure level of difficulty and duration?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>24. Before incision, did the surgical provider discuss anticipated blood loss?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>25. Before incision, did the surgical provider discuss any patient-specific concerns?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>26. Before incision, did the surgical provider verify out loud that essential imaging is displayed?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>(Select N/A if no essential imaging was needed for the surgical case)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Before incision, did the anesthesia provider discuss any patient-specific concerns?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>28. Before incision, did the anesthesia provider discuss ASA score?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>29. Before incision, did the newborn provider discuss any newborn-specific concerns (for C-sections)?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>(Select N/A if there was no C-section)</td>
<td></td>
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</tbody>
</table>

**Sign Out (Before Patient Leaves Operating Room)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Before the patient left the OR, did the team verify the name of the procedure out loud?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>31. Before the patient left the OR, did the team verify out loud that instrument, sponge, and needle counts are correct?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>(Please note that sponge count has to take place for every package of sponges opened)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Before the patient left the OR, did the team discuss specimen labeling and form completion per protocol?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>(Select N/A if there was no pathological specimen obtained during the surgery)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Before the patient left the OR, did the team discuss equipment/instrument problems that arose?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>34. Before the patient left the OR, did the team discuss where patient will be immediately recovered for post-op care?</td>
<td>O Yes</td>
<td>O No</td>
<td></td>
</tr>
<tr>
<td>35. Before the patient left the OR, did the surgical provider, anesthetic provider and nurse including newborn provider for C-S discuss any key concerns for recovery and management of patient?</td>
<td>O Yes</td>
<td>O No</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Data**

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>36. Was a checklist used during this surgery?</td>
<td>O Yes</td>
<td>O No</td>
</tr>
<tr>
<td>37. Were the checklist items read aloud, without reliance on memory? (Select No if checklist was done by memory)</td>
<td>O Yes</td>
<td>O No</td>
</tr>
<tr>
<td>38. Did the circulating nurse leave the OR repeatedly (1 or more time) to find instruments or equipment?</td>
<td>O Yes</td>
<td>O No</td>
</tr>
<tr>
<td>39. Were instruments and equipment available and functioning throughout the case? If NO, please describe difficulties on the back of this form (be sure to specify equipment or instruments that are missing or not working including anaesthesia machines, pulse oximeters).</td>
<td>O Yes</td>
<td>O No</td>
</tr>
</tbody>
</table>
40. Was a potential error or omission averted by the checklist? *(Choose N/A if checklist is not used in the hospital.)*
   - **If YES**, please describe the event on the back of this form

<table>
<thead>
<tr>
<th></th>
<th>O Yes</th>
<th>O No</th>
<th>O N/A</th>
</tr>
</thead>
</table>

41. Was there significant blood loss (>500ml, >1000ml if C/S, >7ml/kg in children)?
   - **If YES**, answer 41 a, b, and c – otherwise choose N/A to the following.

<table>
<thead>
<tr>
<th></th>
<th>O Yes</th>
<th>O No</th>
</tr>
</thead>
</table>

41a. If there was significant blood loss, was a type and cross sent?
   - *(Choose N/A if there was no significant blood loss)*

<table>
<thead>
<tr>
<th></th>
<th>O Yes</th>
<th>O No</th>
<th>O N/A</th>
</tr>
</thead>
</table>

41b. If there was significant blood loss, were blood products available?
   - *(Choose N/A if there was no significant blood loss)*

<table>
<thead>
<tr>
<th></th>
<th>O Yes</th>
<th>O No</th>
<th>O N/A</th>
</tr>
</thead>
</table>

41c. If there was significant blood loss, was adequate IV access obtained?
   - *(Choose N/A if there was no significant blood loss)*

<table>
<thead>
<tr>
<th></th>
<th>O Yes</th>
<th>O No</th>
<th>O N/A</th>
</tr>
</thead>
</table>

* N/A = Not Applicable

Please use the back of this form to provide further comments.

Data Quality Assessment

**Patient Demographic/Characteristics**

1. Region [Insert]
2. Facility Name [Insert]
3. Specific diagnosis (Maternal sepsis/surgical site infection/post-op sepsis)
4. PGSSC study ID [insert]
5. Patient age [insert]
6. Sex (M/F)
7. Type of procedure [insert]
8. Admission date [insert]
9. Discharge date [insert]
10. Readmits (Yes/No/Not applicable)
11. Death (Yes/No/Not applicable)

**Patient file assessment**

1. Patient file present (Yes/No)
2. Is the patient file physically intact? (Yes/No)
3. Are demographic details included specifically name, age, and sex (Yes/No/Not applicable)
4. Is patient history included? Please note for obstetric patients this would be the obstetric admission sheet that is used (Yes/No/Not applicable)
5. Were daily progress notes written on all days of admission? (Yes/No/Not applicable)
6. Were operative notes written with operative findings and diagnosis included? (Yes/No/Not applicable)
7. Are the doctor’s orders documented everyday patient was in the ward? (Yes/No/Not applicable)
8. Was ASA class documented correctly in the OR logbook? Please note this will be compared with either the external data collectors’ tool or their clinical assessment of the patient (Yes/No/Not applicable)

9. Was wound class documented correctly in OR logbook? Please note this will be compared with either the external data collectors’ tool or their clinical assessment of the patient (Yes/No/Not applicable)

10. Was the partogram utilized? (Yes/No/Not applicable)

11. Was the indication for C-section documented? (Yes/No/Not applicable)

12. Discharge details present? (Yes/No/Not applicable)

13. Was there a specific mention of SSI or wound infection in the patient file? (Yes/No/Not applicable)

14. Was 1 or more diagnostic criteria for SSI recorded – this includes heat, redness, localized tenderness, purulent drainage, spontaneous dehiscence, operative findings indicative of infection? (Yes/No/Not applicable)

15. Was there specific mention of sepsis? (Yes/No/Not applicable)

16. Which vitals were documented:
   a. Was altered mental state recorded? (Yes/No/Not applicable)
   b. Was temperature recorded? (Yes/No/Not applicable)
   c. Was the heart rate recorded? (Yes/No/Not applicable)
   d. Was the BP recorded? (Yes/No/Not applicable)
   e. Was the respiratory rate recorded? (Yes/No/Not applicable)

17. Was vaginal tear/episiotomy documented? (Yes/No/Not applicable)

18. Any discrepancies between patient file and external data collector? [insert]

Referral-out assessment

1. What is the name of the health facility? [insert]

2. Was the referral letter present? (Yes/No/Not applicable)

3. Was the patient file number included? (Yes/No/Not applicable)

4. Was the referral date included? (Yes/No/Not applicable)

5. Was the patient condition documented? Please note we are looking for either elective or emergent. (Yes/No/Not applicable)
6. Were any reasons for referral included? (Yes/No/Not applicable)
   a. If yes, please list the reason [insert]

7. Was the facility the patient was referred to documented? (Yes/No/Not applicable)
Safe Surgery 2020 – Tanzania

Baseline questions

Background
1. What is your position at the hospital/health center?
   
   Prompts
   a. How long have you been with the hospital/health center?
   b. What are your main responsibilities at this hospital/health center?

Vision for surgery
2. What is your vision for surgical services at your hospital/health center?
   
   Prompts
   a. How would you like to see surgical services improve at your hospital/health center?
   b. How might these improvements affect surgical outcomes?
   c. Is surgery a high priority at your hospital/health center? Why or why not?
3. Tell us what it is like to work in this hospital in general. How would you characterize the organizational culture, the way people interact, what it feels like to be in this facility?

Safe Surgery 2020 initiative
5. In your opinion, how do you see this initiative affecting your surgical services here?
6. What is your facility’s plan for implementing the Safe Surgery 2020 interventions at your hospital/health center? (When will you start, how will the work be organized? Who will be involved?)
7. Which factors do you feel will be most helpful in your surgical team’s efforts to improve the quality of surgical services in your facility?
8. Which factors do you feel might hinder your surgical team’s efforts to improve the quality of surgical services in your facility?

Quality improvement projects
9. I would like to ask you about the quality improvement project(s) that you and your team have chosen to work on as part of the leadership course you participated in.
   a. Can you describe the quality improvement project(s) you selected to work on?
   b. How were these quality improvement projects identified?
   c. What outcomes are you hoping to achieve through the quality improvement projects?
   d. Is there commitment within the hospital/health center for this work?

Prompts
   i. Is the leadership (CEO, Medical Director) committed to this work?
   ii. Who on the surgical team is committed? How motivated are they to make the changes required?
   iii. Do you have a champion to lead this work?
   e. How will you approach your work (structure, who will be involved, how will you go about your work)?
   f. What are the factors that will help facilitate the success of your work?
   g. What challenges do you anticipate? How are you planning to address these challenges?

Surgical Safety Checklist

10. As part of the SS2020 initiative, your hospital/health center will be implementing the SSC. What are your thoughts on how the SSC will affect surgery in your hospital/health center?
   a. How do you think the SSC will affect how surgery is performed by the surgical team?
   b. Can you describe how you think the SSC will affect the outcomes of surgery?

11. How committed is the leadership and surgical team to implementing the checklist?

12. What will be your approach to implementing the SSC?

13. What do you think are factors that will facilitate the implementation of the SSC in your hospital/health center?

14. What challenges do you anticipate in successfully implementing the SSC?

15. What would make the implementation of the SSC a success at your facility?

Mentoring
16. In your own words, can you describe what the mentoring intervention is and how it is structured?
   a. In what ways is mentoring different from traditional supervision?
17. What areas of mentoring would help strengthen surgical services at your facility?
18. What current barriers or challenges could mentors help surgical staff overcome?
19. What are your expectations of your mentors? The mentor program?
   
   Prompts
   a. Clinical mentoring expectations
   b. Mentor-mentee relationship expectations
   c. Communication expectations

Data Quality Improvement

20. Can you describe what the data quality improvement intervention is?
21. How has your understanding about the importance of accurate, complete and timely data for surgical services changed since the training?
22. What are your plans for strengthening data collection and reporting at your facility for SSIs/sepsis and for referrals out?
23. Do you feel supported by your hospital leadership in these improvement interventions? How?
24. What will be the most helpful to your accomplishments (e.g., training, resources provided by the project, cultural changes, learning orientation, operational changes)?
25. What will be the most challenging aspects of your efforts to strengthen data collection and reporting at your facility? How will you get around these challenges?

Leadership and Development training

26. Did the surgical team participate in the leadership training? What were your most important takeaways from the training?
27. In what ways do you think the leadership training will influence your facility?
28. What are your next steps following the leadership training?

SPECT and Anesthesia

29. How important is equipment sterilization in creating an environment for safe surgery?
   a. What kinds of processes do you currently use to sterilize equipment?
b. Are there ways in which your sterilization processes could be improved?

30. What barriers do you have in providing safe anesthesia?

c. Are there ways in which your current anesthesia practices could be improved?

Closing

31. What is the most important message you want us to take away from this interview?

32. Is there any other subject or topic you think we need to discuss to better understand how to successfully implement the Safe Surgery 2020 initiative in your facility?

Thank you for your time and participation in this interview.
Safe Surgery 2020 – Tanzania

Midline Interview Questions

Background

1. What is your position at the hospital/health center? How long have you been with the hospital/health center?

Safe Surgery 2020

1. What are your priorities for improving surgery at your facility?

2. How is the suite of safe surgery interventions helping you to achieve these priorities?
   a. Are there aspects or components of this initiative that seem more or less beneficial to your facility than you thought/hoped?

3. What impact has the Safe Surgery 2020 project had on your hospital?
   a. Are there things you are doing differently now than you were before you started the project?
   b. What has been the impact on providers, if any?
   c. What has been the impact on patients, if any?

Quality Improvement Project

4. I would like to ask you about the quality improvement project that you and your team chose to work on as part of the leadership course you participated in. Can you describe the project(s) you chose?

5. What outcomes are you hoping to achieve through the project?

6. Tell us about the work you have done over the past year on your quality improvement project to improve [outcome].
   a. How was the work organized?
   b. Who is involved (To what extent has the project engaged the surgical team and other physicians and staff at the hospital? How have project mentors been involved?)
   c. What specific activities are ongoing or have been completed as a result of the project?
d. What kinds of changes do you believe are still required for you to achieve your outcome?

7. What has been most helpful to your accomplishments (e.g. leadership support, surgical team buy-in, training provided, perceived importance/relevance of project, accountability & feedback mechanisms, resources provided by the project, cultural changes, learning orientation, etc.)

8. What have been the most challenging aspects of your efforts to improve [outcome]? (e.g. lack of leadership support, lack of buy-in, provider resistance to change, low relevance, lack of customization of intervention to local context, lack of culture for change, skepticism about the benefits of the project, lack of accountability, infrastructure challenges, etc.)

Surgical Safety Checklist

9. The last time we spoke, we discussed the Surgical Safety Checklist. What have you done to date towards implementing the checklist?

a. How did you go about its implementation?

b. How has checklist usage worked so far?

c. How have your practices changed as a result of this initiative?

d. What are the factors that have facilitated implementation of the surgical safety checklist in your facility?

e. What are the biggest obstacles you have faced? How did you address them?

Interventions

Leadership training

10. Do you feel that you learned any lasting lessons from the leadership training? If so, what were they?

11. What are some of the changes you’ve seen/implemented as a result of this training?

Mentorship
12. What are the areas that you have received support in so far? Of the areas of mentoring discussed, which would you say are the most and least valuable and why?

13. In what ways do you think the mentoring program will contribute to the strengthening surgical and anesthetic services? (e.g. facility benefits, provider skill benefits)

14. What changes have been made as a result of the mentoring program? (e.g. changes in your professional practice, changes at the facility level)

15. Can you describe your overall experience with the mentorship program?
   a. General attitude around adopting the mentoring program in your facility
   b. Relationship and communication with mentor
   c. Characteristics and traits of mentor

**Data strengthening intervention**

16. What actions, if any, have you taken to improve data collection and record keeping? If no, why not?

17. From your perspective, how has the new OR logbooks, which were added earlier this year, affected data collection for surgical patients? What are the advantages and disadvantages of the way you are currently collecting data for surgical patients?

18. What challenges, if any, are you facing in implementing the recommendations provided at the clinical training session or during mentorship for collecting and using data at your facility? How are you addressing them?

19. What support, if any, are you receiving from leadership to improve data collection and record keeping?

**SPECT training**

20. How have your sterilization practices changed as a result of sterilization training?

**WFSA training**

21. How have your anesthesia practices changed as a result anesthesia training?

**Facilitators/barriers**
22. What has been most helpful to your accomplishments (e.g., resources provided by the project, leadership training, cultural changes, learning orientation, operational changes)?

23. What have been the most challenging aspects of your efforts to strengthen surgical services at your hospital/health center? Given the barriers that you faced, why do you think you were successful?

24. What are the most important lessons we can learn about successfully implementing surgical strengthening initiatives? If you were giving advice to another hospital in another region, what would you tell them?

Thank you for your time and participation in this interview.
Safe Surgery 2020 – Tanzania
Endline Interview Questions

Background
33. What is your position at the hospital/health center?

Prompts
a. How long have you been with the hospital/health center?

b. What are your main responsibilities at this hospital/health center?

Safe Surgery 2020
34. When we spoke at the beginning, you described your vision for surgery.

a. How much progress have you made to achieving that vision?

b. Has the Safe Surgery initiative helped you in achieving that vision? If yes, how?

c. Are there aspects or components of Safe Surgery 2020 that seem more or less beneficial to your facility than you thought/hoped?

Quality Improvement Project
35. I would like to ask you about the quality improvement project that you and your team chose to work on as part of the leadership course you participated in.

a. What outcomes are you trying to achieve through the project?

b. What specific activities are ongoing or have been completed?

a. How would you assess your progress to date relative to where you thought you might be when you began your project?

b. What kinds of changes do you believe are still required for you to achieve your outcome?

c. Which of these do you intend to undertake in the near term?

36. What has been most helpful to your accomplishments (e.g., resources provided by the project, leadership training, cultural changes, learning orientation, operational changes)?
37. What have been the most challenging aspects of your efforts to improve [outcome]? The most surprising?

38. Do you feel supported by your hospital leadership in these improvement interventions?

**Surgical Safety Checklist**

39. How is the implementation of the checklist going today?

40. What do you think are the factors that have facilitated implementation of the surgical safety checklist in your hospital/health center? (e.g. education, training, leadership support, SSC champion, data feedback, tailoring of SSC, coaching, etc.)

41. What were the biggest obstacles you faced in implementing the checklist? (E.g. lack of medical drugs, supplies or equipment, checklist barriers (E.g. lack of medical drugs, supplies or equipment, checklist barriers (design issues, items not appropriate for Tz context, etc.), lack of leadership support, lack of provider buy-in, approach to implementation, lack of education and training, etc.)

42. Given the barriers you faced, why do you think you were successful?

43. If you could improve checklist use, what would you try to improve?

44. In comparison to before implementation of the checklist, how would you describe your safety practices in the operating room? What about teamwork?

45. If you were coaching another hospital/health center about surgical safety checklist implementation, what are the key things that you would recommend to them?

46. How active, if at all, would you say senior leadership (e.g. hospital administrator, medical director) were in the checklist implementation process? Was there a champion? What was your role in implementation of the checklist?

**SSIs, sepsis and maternal sepsis**

47. What outcomes were you trying to achieve?

48. What progress have you made?

49. What has helped you achieve that progress?

50. What are some of the barriers that you have faced?
**Impact**

51. Do you feel this suite of interventions, all of these trainings we’ve talked about, have addressed some of your challenges with regards to surgery? How? (SPECT, WFSA, FAF, Touch Surgery, Project ECHO, Leadership, mentorship, clinical training)

52. What impact has the Safe Surgery 2020 project had on your hospital? Are there things you are doing differently now than you were before you started the project?

53. What has been the impact on providers, if any (culture, teamwork, communication, roles, satisfaction, OR space, equipment, satisfaction, sterilization procedures, anesthesia, surgical skills, etc.)?

54. What has been the impact on patients, if any (e.g. patient/staff interaction, SSI rates, sepsis rates, volume, referrals, etc.)? Do you have any stories of patient outcomes that were directly affected/changed by what you learned?

**Facilitators/barriers**

55. What has been most helpful to your accomplishments (e.g., resources provided by the project, leadership training, cultural changes, learning orientation, operational changes, skills training, remaking surgical or sterilization spaces,)?

56. What have been the most challenging aspects of your efforts to improve [outcome]? The most surprising?

57. What are some interventions or processes you’d like to see changed to improve surgery that haven’t yet?

**Lessons learned**

58. In your opinion what are the most important lessons we can learn as SS2020 about successful implementation of surgical strengthening initiatives in Tanzania?

   a. If you were giving advice to another hospital seeking to do the same, what would you tell them?

   b. If you were leading a strengthening initiative in another hospital, what major elements would you be sure to incorporate?
c. What advice would you give the people who designed and implemented these programs about how to make it effective in hospitals like this one? (Probe for successful implementation approaches).

d. In your opinion how can we make these programs more effective in the future?

Closing

59. What is the most important message you want us to take away from this interview?

60. We are trying to understand the experience and impact of the Safe Surgery 2020 initiative on your hospital; is there anything we should have asked to understand this issue better?

Thank you for your time and participation in this interview.