### Appendix 1: Original Surgical Quality Tool Piloted

<table>
<thead>
<tr>
<th>Category</th>
<th>IOM Measures</th>
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<tbody>
<tr>
<td><strong>Structure</strong></td>
<td>Morbidity and Mortality Conference, Provider Density, Travel time to hospital</td>
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<tr>
<td><strong>Process</strong></td>
<td>Safe Surgery Checklist use inc. patient name bands, pulse oximetry, Procedure Density, Use of informed consent, Time from ED presentation to non-elective abdominal surgery, Daily OR usage</td>
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<tr>
<td><strong>Outcomes</strong></td>
<td>Peri-operative mortality rate, Caesarean Section Rate, Patient Hospital Satisfaction Questionnaire, Follow up plan, Catastrophic Patient reported expenditure</td>
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<tr>
<th>Safe</th>
<th>Effective</th>
<th>Patient centered</th>
<th>Timely</th>
<th>Efficient</th>
<th>Equitable</th>
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<td>Comparative Median Income of patients served to catchment population</td>
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### Appendix 2: Modified Intra-Operative Checklist

**Date and Time of surgery**

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<th>yyyy-mm-dd</th>
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**Patient Age**

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**Surgery Performed**

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**Diagnosis**

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**Anesthesia**

- General
- Local
- IV Sedation
- Epidural
- Other regional

**Surgery Classification:**

- Elective
- Non-Elective
○ Emergency

World Health Organization Checklist Used

○ Yes
○ No

Pulse Oximetry Used

○ Yes
○ No

Identifying Name Band Used

○ Yes
○ No

Pre-operative Antibiotics Administered

○ Yes
○ No

Consent Form Signed

○ Yes
○ No

Date and time of hospital arrival

yyyy-mm-dd        hh:mm

Date and Time of Patient Admission
Supplementary material

Date and time of decision to operate the patient or OR reservation

Surgery Duration

Who was the most senior person operating

○ Year 1 resident
○ Year 2 resident
○ Year 3 resident
○ Year 4 resident
○ Surgeon

Number of OR rooms not in use

Anything Else
Appendix 3: Example of Patient discharge survey: The questions have been adapted from the HCHAPS patient satisfaction survey, the patient reported expenditure questionnaire developed by Anderson et al and maternal mortality questionnaire assessing the three delays in care (Anderson et al., 2017; Thaddeus & Maine, 1994). (Anderson et al., 2017; Thaddeus & Maine, 1994)

Patient Questionnaire

YOUR CARE FROM NURSES
1. During this hospital stay, how often did nurses treat you with courtesy and respect?
   - Never
   - Sometimes
   - Usually
   - Always

2. During this hospital stay, how often did nurses explain things in a way you could understand?
   - Never
   - Sometimes
   - Usually
   - Always

YOUR CARE FROM DOCTORS
During this hospital stay, how often were you seen by a doctor

   - Never
   - Less than half of days
   - More than half days
   - Daily

3. During this hospital stay, how often did doctors treat you with courtesy and respect?
   - Never
   - Sometimes
   - Usually
   - Always

4. During this hospital stay, how often did doctors explain things in a way you could understand?
   - Never
   - Sometimes
   - Usually
   - Always

THE HOSPITAL ENVIRONMENT
5. During this hospital stay, how often were your room and bathroom kept clean?
   - Never
   - Sometimes
   - Usually
   - Always

6. During this hospital stay, how often was the area around your room quiet at night?
   - Never
   - Sometimes
   - Usually
   - Always

YOUR EXPERIENCES IN THIS HOSPITAL
7. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom
or in using a bedpan?
Never     Sometimes     Usually     Always

8. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
Never     Sometimes     Usually     Always

9. During this hospital stay, did you need medicine for pain?
Yes    No → If No, Go to Question 15

10. During this hospital stay, how often was your pain well controlled?
Never     Sometimes     Usually     Always

11. During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?
Never     Sometimes     Usually     Always

12. Before giving any new medicine to you, how often did hospital staff describe the purpose and possible side effects in a way you could understand?
a. Never     Sometimes     Usually     Always

WHEN YOU LEFT THE HOSPITAL

13. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?
a. Yes    No

14. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?
a. Yes    No

OVERALL RATING OF HOSPITAL

15. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?
0 1 2 3 4 5 6 7 8 9 10

16. Would you recommend this hospital to your friends and family?
Definitely no    Probably no    Probably yes    Definitely yes

UNDERSTANDING YOUR CARE WHEN YOU LEFT THE HOSPITAL

17. Have you received a follow up appointment or a plan for how you will receive further care?
Yes    No

18. Do you think you will be able to attend this appointment?
Definitely no  Probably no  Probably yes  Definitely yes  Does not apply

**ADVERSE EVENTS**

19. Did you have a bad reaction to any medications that you were given in the hospital?

20. Did you have to return to the operating room for additional unplanned procedures after your initial surgery?

21. Did you fall while in the hospital?

**ABOUT YOU**

22. During this hospital stay, were you admitted to this hospital through the Emergency Room?
Yes  No

23. In general, how would you rate your overall health?
Excellent  Very good  Good  Fair  Poor

24. In general, how would you rate your overall mental or emotional health?
Excellent  Very good  Good  Fair  Poor

25. What is the highest grade or level of school that you have completed?
None  Primary- Incomplete  Primary- Complete  Secondary – Incomplete  Secondary - Complete  High School- Incomplete  High School- Complete  Graduate School- Incomplete  Graduate School - Complete

26. What is your ethnicity?
White  Mixed  Black  Oriental  Indian  Indigenous  Don’t want to declare

**TYPICAL MONTHLY INCOME**

*Instructions to the patient/guardian: These are a series of questions to understand the structure of your household and how much money you make per month? These questions are all based on an average month? If you cannot determine an average, tell us how much you made in the last month?*

27. What is your age?

28. What is your gender?
29. Where do you live (which municipality)?

30. How did you get to hospital? More than one can be selected
   Walk    Personal car   Shared car   Taxi    Ambulance
   Bus    Other

31. What is the size of your household, including yourself (how many members normally live in your house)?

32. What occupation is held by the person who makes the most money in your household (primary breadwinner)?

33. How much does your household earn in an average month?

**HOSPITALIZATION ASSOCIATED EXPENDITURES**

Instructions to the patient: This is a series of questions related to how much money your household spent during this hospitalization for this patient. If you did not spend anything on the item in question, please state zero.

34. What type of operation did you have?

35. How many days were you in the hospital?

36. How much money did your household spend to transport the patient to the hospital?

37. How long did it take for the patient to reach the hospital once you started traveling?

38. How much money in total did your household spend for (all)/the attendant(s) to come to the hospital?

39. How much money did your household spend on medications?

40. How much money did your household spend on bandages and dressing supplies?

41. How much money did your household spend on laboratory tests?

42. How much money did your household spend on imaging and x-rays?

43. How much money did your household spend on any other medical supplies?

44. Did you have to pay any fees or make any informal payments directly to healthcare workers or hospital employees for your surgery or hospitalization? If so, how much did you pay? Once again we want to emphasize that we are not recording your name, we do not need to know the name of anyone you paid money too, this is not for identification or blame. We are simply trying to understand how much patients have to pay for ALL types of costs.
45. Did your household pay anyone else to act as an attendant and take care of the patient during this hospitalization?

46. Did you have to pay any other fees to the hospital besides those we have already mentioned? If yes, how much?

47. Did your household have to borrow money to pay for this hospitalization? If yes, how much?

48. Did your household have to sell any land or possessions to pay for this hospitalization?

49. Did your household have to permanently stop sending any children to school or stop paying school fees in order to pay for this hospitalization?

50. How much did your household have to spend on food during this hospitalization?

51. How much in wages do you feel your household has lost due to this hospitalization?

52. Did you or anyone in your household permanently lose a job as a result of this hospitalization?

**DELAY IN DECISION TO SEEK CARE**

53. At what time did you realize that you might be having a health problem? Date and time?
DD / MM / YY Time

54. How long after realizing that you might have a health problem was it decided that you should go to the hospital? (*If immediately, go to Q56*)

________________________ circle one: hours / days

55. List reasons for the delay in deciding to go to the hospital:
________________________
________________________
________________________
________________________

56. Did you go to any other health facility prior to coming to this hospital?
☐ Yes - Name: ______________________ (Ask 58)
☐ No (Go to Q17)
57. How long did you spend travelling in each mode of transportation to get to the first facility?
   - On foot _______________________________ circle one: hours / days
   - In family’s personal vehicle ________________ circle one: hours / days
   - In neighbor’s/friend’s personal vehicle ________ circle one: hours / days
   - By a public transport (bus/train/taxi) ___________ circle one: hours / days
   - Other _________________________________ circle one: hours / days

58. For how long were you treated in the other health facility?
   ______________________________ circle one: hours / days

59. Did the prior facility refer you to this facility?
   - Yes (Ask Q60-61)
   - No (Go to Q62)

60. How long after the referral was it that you came to this hospital?
   __________ circle one: hours / days (If not immediately ask Q16)

61. List reasons for the delay in coming to this hospital after the referral:
   ______________________________
   ______________________________
   ______________________________
   ______________________________

DEAL IN REACHING CARE

62. How long did you spend travelling in each mode of transportation above?
   - On foot _______________________________ circle one: hours / days
   - In family’s personal vehicle ________________ circle one: hours / days
   - In neighbor’s/friend’s personal vehicle ________ circle one: hours / days
   - By a public transport (bus/train/taxi) ___________ circle one: hours / days
   - Other _________________________________ circle one: hours / days

63. Overall, how long did it take you after first realizing that you have health problem to get to this facility?
   ______________________________ circle one: hours / days
DELAY IN RECEIVING CARE

64. I am going to ask you some questions about the timeline of care you received at this hospital. Your comments will not be told to the staff (nurses and doctors here). What you say will not affect the care you receive here at all. We are only going to use this information to try to provide better services in the future.

65. How long did you wait before being examined by anyone?
_______________________ circle one: hours / days

66. How long did you wait before you were admitted to the hospital?
_______________________ circle one: hours / days

67. How long did you wait before getting the needed operation/treatment?
_______________________ circle one: hours / days

References: