Cesarean Section Surgical Site Infection Surveillance Initiative (CS-SIMPI)

Facility Implementation Training

Surgical Safety Checklist (First Edition)

World Health Organization

Before induction of anaesthesia ▸▸▸▸▸▸▸▸▸	Before skin incision ▸▸▸▸▸▸▸▸▸▸▸▸▸▸	Before patient leaves operating room
SIGN IN	**TIME OUT**	**SIGN OUT**
☐ PATIENT HAS CONFIRMED • IDENTITY • SITE • PROCEDURE • CONSENT ☐ SITE MARKED/NOT APPLICABLE ☐ ANAESTHESIA SAFETY CHECK COMPLETED ☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING DOES PATIENT HAVE A: KNOWN ALLERGY? ☐ NO ☐ YES DIFFICULT AIRWAY/ASPIRATION RISK? ☐ NO ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)? ☐ NO ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED	☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM • PATIENT • SITE • PROCEDURE ANTICIPATED CRITICAL EVENTS ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS? ☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS? ☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS? HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES? ☐ YES ☐ NOT APPLICABLE IS ESSENTIAL IMAGING DISPLAYED? ☐ YES ☐ NOT APPLICABLE	NURSE VERBALLY CONFIRMS WITH THE TEAM: ☐ THE NAME OF THE PROCEDURE RECORDED ☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE) ☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME) ☐ WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

20_AIIMS_IPC Project_SSI aims, kochi - Last Modified: Yesterday at 9:20 AM

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NAME OF FACILITY____________ Unit Number: ______

SURGICAL SAFETY CHECKLIST& SURVEILLANCE FORM

Date: DD/MM/YYYY

Patient Name: ______________________________ **Patient ID**: ______________________________

Sex: ☐ Female ☐ Male **DOB**____________ **Age**: __________

Telephone: ____________________

Birth Companion Name: ____________________ **Birth Companion Telephone**:________________

Surgeon/OG Team: ____________________________

Prior to procedure:

Surfaces and Environment cleaned: ☐ Yes ☐ No/Inadequate

Hand Hygiene Performed: ☐ Yes ☐ No/Inadequate

☐ antimicrobial soap and water ☐ alcohol-based hand rub

Patient Skin Preparation: ☐ chlorhexidine ☐ betadine ☐ other

Antibiotic Prophylaxis ☐ Yes ☐ No ☐ NA

☐ Cefazolin ☐ Cefuroxime ☐ Other ____________________

Procedure: ☐ C-Section ☐ Other ____________________ ☐ Elective ☐ Emergent

Wound Class: ☐ Clean ☐ Contaminated ☐ Dirty

Supply Problems:[1] ☐ No ☐ Yes: ____________________

[Infection Surveillance]

	First Check	Discharge	Final Check
Days after procedure	_______Days	_______Days	_______Days
Purulent Drainage / Abscess	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Wound Reopened	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Redness	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Swelling	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Increased Wound Pain	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Infection was Diagnosed:	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

[1] Supply problems may include equipment (IV pump, lighting,) or availability of needed sterile or clean supplies.

What is a Surgical Site Infection?

An infection related to an operative procedure that occurs at or near the surgical incision within 30 days of the procedure.

What are Some Common Causes of Surgical Site Infections?

1. Contamination before the surgery (traumatic injuries)
2. Contamination from the patient (normal/skin flora)
3. Contamination during the procedure (staff and equipment)

Why are SSI important?

- Surgical site infections of **the most common** healthcare-associated infections (HAIs) in India
- Surgical site infections cause substantial morbidity (**death**) and mortality (**suffering**)
- Surgical site infections are costly (**waste resources**)
- Many surgical site infections are **preventable** with adherence to recommended infection prevention and control strategies and good surgical practice

How Can SSIs Be Prevented?

Good Infection Prevention and Control (hand hygiene, environmental cleaning, sterilization of equipment, patient preparation, wound care)

Good Surgical Practice (maintain aseptic technique, limited access to theatre, antibiotic prophylaxis)

What is SSI surveillance?

The careful following of a plan or protocol for the collection, management, analysis and interpretation of data relevant to surgical infections

AS WELL AS the use of surveillance results to guide prevention action and interventions

SIMPI Results

What we expect and How you can use it

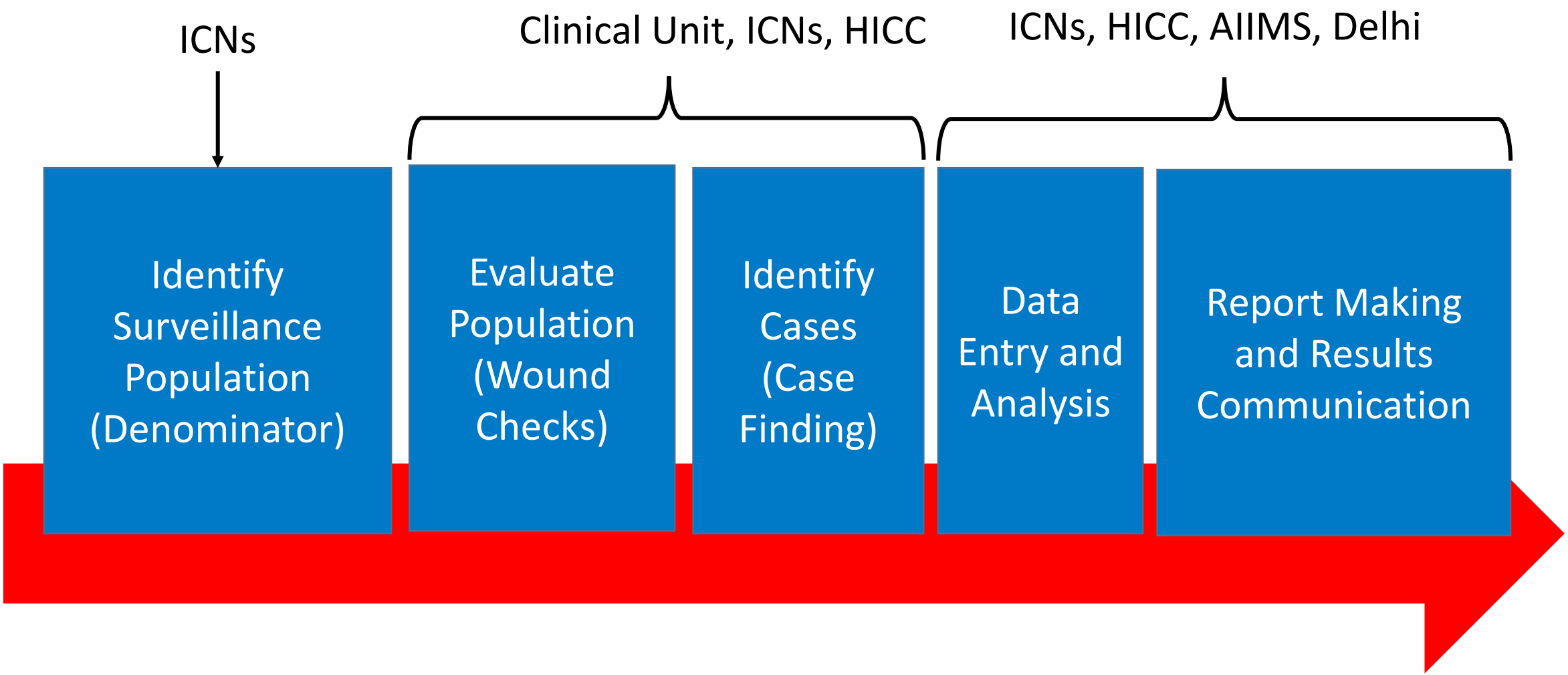
Expect Results:

- **SSI rates over time**
- Counts of procedures performed
- Description of patient characteristics
- Discharge disposition rates
- Measures of select surgical safety items (checklist)

Use:

- **Facilitate IPC and SSI prevention efforts (practice change)**
- Describe and quantify SSI rates at select healthcare facilities
- Inform state and national IPC and surgical guidelines for India
- Inform additional HAI/SSI surveillance initiatives

SSI Surveillance Takes a TEAM:
Basic Roles and Responsibilities



SIMPI Steps:

Getting Surveillance Done!

1. Surgical / HICC Team completes the Surgical Safety Checklist / Surveillance Form for every C-section patients (denominator - surveillance population)
2. Day-3 (first) wound check – record findings on Surgical Safety Checklist/Surveillance Form
3. Discharge wound check – record findings on Surgical Safety Checklist/Surveillance Form
4. File Surgical Safety Checklist/Surveillance Form
5. Contact patient on or around day 30 for interview and record findings on Surgical Safety Checklist/Surveillance Form

SIMPI Steps:
Getting Surveillance Done!

6. Collect all completed Surgical Safety Checklist/Surveillance Forms
7. Enter data from completed Surgical Safety Checklist/Surveillance Forms into surveillance database
8. Review data in the surveillance database to find errors and/or missing information
9. When possible, fix data errors
10. Analyze data (calculate rates)
11. Report results

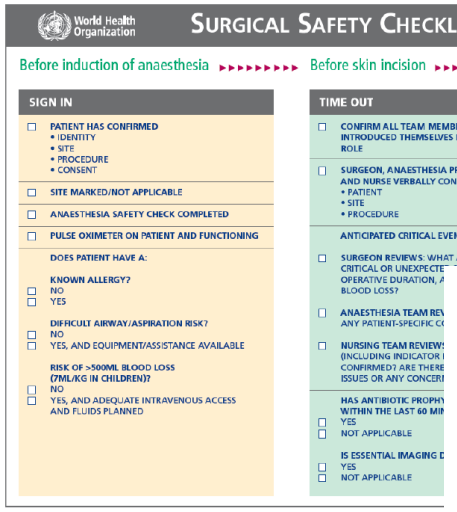
The Surgical Safety Checklist and Surveillance Form

A single form acting as a **checklist & record of important safe surgical practices** as well as the SIMPI **SSI Surveillance data collection form**

Surveillance Methods
Surgical Safety and Checklist and Surveillance Form

Five Areas of Data Collection:

- Demographics
- Clinical Checks: Before Anesthesia
- Clinical Checks: Before Incision
- Clinical Checks: After Wound Closure
- Infection Surveillance



World Health Organization

SURGICAL SAFETY CHECKLIST (FIRST EDITION)

Before induction of anaesthesia ▸▸▸▸▸▸▸▸▸ Before skin incision ▸▸▸▸▸▸▸▸▸▸▸▸▸ Before patient leaves operating room

SIGN IN

- ☐ PATIENT HAS CONFIRMED
  - IDENTITY
  - SITE
  - PROCEDURE
  - CONSENT
- ☐ SITE MARKED/NOT APPLICABLE
- ☐ ANAESTHESIA SAFETY CHECK COMPLETED
- ☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING
- DOES PATIENT HAVE A:
- KNOWN ALLERGY?
  - ☐ NO
  - ☐ YES
- DIFFICULT AIRWAY/ASPIRATION RISK?
  - ☐ NO
  - ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE
- RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?
  - ☐ NO
  - ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

TIME OUT

- ☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
  - PATIENT
  - SITE
  - PROCEDURE
- ANTICIPATED CRITICAL EVENTS
- ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTE… OPERATIVE DURATION, … BLOOD LOSS?
- ☐ ANAESTHESIA TEAM REV… ANY PATIENT-SPECIFIC C…
- ☐ NURSING TEAM REVIEWS (INCLUDING INDICATOR … CONFIRMED? ARE THERE … ISSUES OR ANY CONCERN…
- HAS ANTIBIOTIC PROPHY… WITHIN THE LAST 60 MI…
  - ☐ YES
  - ☐ NOT APPLICABLE
- IS ESSENTIAL IMAGING D…
  - ☐ YES
  - ☐ NOT APPLICABLE

SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

- ☐ THE NAME OF THE PROCEDURE RECORDED
- ☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- ☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
- ☐ WHETHER THERE ARE ANY EQUIPMENT …

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOC…

NAME OF FACILITY_____ Unit Number: _____
SURGICAL SAFETY CHECKLIST& SURVEILLANCE FORM

Date: DD/MM/YYYY

Patient Name: _____ Patient ID: _____

Sex: ☐ Female ☐ Male DOB_____ Age: _____

Telephone: _____

Birth Companion Name: _____ Birth Companion Telephone:_____

Surgeon/OG Team: _____

Prior to procedure:

Surfaces and Environment cleaned: ☐ Yes ☐ No/Inadequate

Hand Hygiene Performed: ☐ Yes ☐ No/Inadequate
☐ antimicrobial soap and water ☐ alcohol-based hand rub

Patient Skin Preparation: ☐ chlorhexidine ☐ betadine ☐ other

Antibiotic Prophylaxis ☐ Yes ☐ No ☐ NA
☐ Cefazolin ☐ Cefuroxime ☐ Other _____

Procedure: ☐ C-Section ☐ Other _____ ☐ Elective ☐ Emergent

Wound Class: ☐ Clean ☐ Contaminated ☐ Dirty

Supply Problems:[1] ☐ No ☐ Yes: _____

[Infection Surveillance]

	First Check	Discharge	Final Check
Days after procedure	_____Days	_____Days	_____Days
Purulent Drainage / Abscess	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Wound Reopened	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Redness	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Swelling	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Increased Wound Pain	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Infection was Diagnosed:	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

[1] Supply problems may include equipment (IV pump, lighting,) or availability of needed sterile or clean supplies.

Case Definition:

Uniform criteria used to define a disease for public health surveillance

A patient within 30 days of the surgical procedure with the following observed or reported:

A purulent (pus) discharge in, or coming from, the wound (including evidence of an abscess)

OR

Evidence of fever with painful, spreading erythema surrounding the surgical site

OR

Any reopening of the surgical wound

Frequently Asked Questions

FAQ

Why focus on C-section procedures?

- C-sections procedures have a **low procedure-level risk** of infection (CLEAN Wound Type)
- Women having a C-section are generally healthy with a **low patient-level risk** of infection
- **Most** surgical site infections after C-section are **preventable**
- Mothers and their infants are an important and **vulnerable patient population**

Why does the SIMPI protocol and case definition not include laboratory findings?

- The diagnosis of wound infection does not require bacteriology / laboratory confirmation
- Because multiple organisms are often found in a single infected wound, it is often unclear which caused the infection
- While often valuable for patient care, bacteriology is expensive and difficult – for SSI surveillance this added expense is not justified

To be used for surveillance, bacteriologic lab results must be of reliable and consistent quality – some clinical labs available are not quality assured

Cesarean Section Surgical Site Infection Surveillance Initiative (CS-SIMPI)

Prepared by:
All India Institute of Medical Sciences, New Delhi
Indian Council of Medical Research
CDC, India

World Health Organization — SURGICAL SAFETY CHECKLIST (FIRST EDITION)

Before induction of anaesthesia ▸▸▸▸▸▸▸▸▸ Before skin incision ▸▸▸▸▸▸▸▸▸▸▸▸▸▸ Before patient leaves operating room

SIGN IN

- ☐ PATIENT HAS CONFIRMED
  - IDENTITY
  - SITE
  - PROCEDURE
  - CONSENT
- ☐ SITE MARKED/NOT APPLICABLE
- ☐ ANAESTHESIA SAFETY CHECK COMPLETED
- ☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY?
- ☐ NO
- ☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK?
- ☐ NO
- ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?
- ☐ NO
- ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

TIME OUT

- ☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
  - PATIENT
  - SITE
  - PROCEDURE

ANTICIPATED CRITICAL EVENTS
- ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?
- ☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?
- ☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?

HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?
- ☐ YES
- ☐ NOT APPLICABLE

IS ESSENTIAL IMAGING DISPLAYED?
- ☐ YES
- ☐ NOT APPLICABLE

SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:
- ☐ THE NAME OF THE PROCEDURE RECORDED
- ☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- ☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
- ☐ WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

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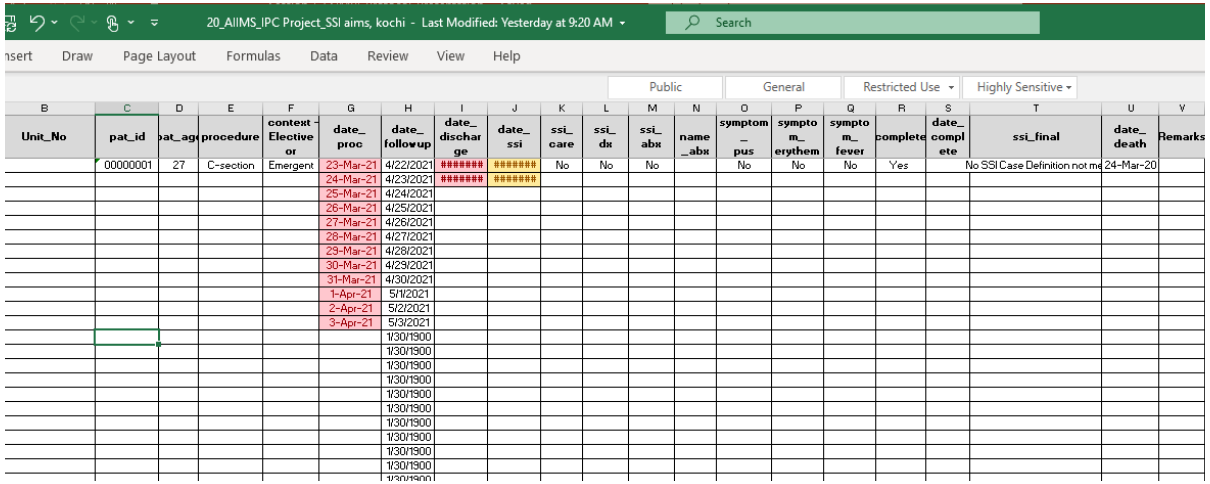

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NAME OF FACILITY____________ Unit Number: ______

Date: DD/MM/YYYY

SURGICAL SAFETY CHECKLIST& SURVEILLANCE FORM

Patient Name: ______________________________ Patient ID: ______________________________

Sex: ☐ Female ☐ Male DOB_____________ Age: ___________

Telephone: _____________________

Birth Companion Name: ______________________ Birth Companion Telephone:_________________

Surgeon/OG Team: _____________________________

Prior to procedure:

Surfaces and Environment cleaned: ☐ Yes ☐ No/Inadequate

Hand Hygiene Performed: ☐ Yes ☐ No/Inadequate

☐ antimicrobial soap and water ☐ alcohol-based hand rub

Patient Skin Preparation: ☐ chlorhexidine ☐ betadine ☐ other

Antibiotic Prophylaxis ☐ Yes ☐ No ☐ NA

☐ Cefazolin ☐ Cefuroxime ☐ Other ____________________

Procedure: ☐ C-Section ☐ Other ____________________ ☐ Elective ☐ Emergent

Wound Class: ☐ Clean ☐ Contaminated ☐ Dirty

Supply Problems:[1] ☐ No ☐ Yes: ____________________

[Infection Surveillance]

	First Check	Discharge	Final Check
Days after procedure	________Days	________Days	________Days
Purulent Drainage / Abscess	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Wound Reopened	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Redness	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Swelling	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Increased Wound Pain	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Infection was Diagnosed:	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

[1] Supply problems may include equipment (IV pump, lighting,) or availability of needed sterile or clean supplies.

Purpose of this Presentation

- Highlight elements of protocol for surgical site infection (SSI) surveillance in order to:
  - Provide the opportunity to actively discuss elements of surveillance

Situational Analysis
SSI Surveillance in India (Fall 2019)

- Lack of standardized patient charting / record keeping
  - Limits use of existing patient data for surveillance
- Role of Infection Prevention and Control Focal Persons not clearly defined
  - Capacity for SSI surveillance limited by other important duties
- Recognition of IPC improvements
  - Staff able to identify relevant IPC areas (often multiple areas) that need improvement

Surveillance Objectives

1. Provide a cost-effective methodology for the systematic collection, analysis, and presentation of actionable information on the occurrence of SSIs
2. Provide data to implement targeted infection prevention and control (IPC) activities
3. Provide a platform for measuring the impact of IPC activities
4. Provide a safer surgical context for patients

Surveillance Settings

Surveillance of surgical patients will occur in inpatient and/or outpatient settings where C-sections are performed.

- Each facility should review the resources available for surveillance
- Designate a dedicated staff nurse to lead the SSI surveillance in the healthcare facility, a ICN will be preferable.
- Have an engaged healthcare facility administration and a HICC
- Have an IPC Program that can take action based on surveillance results would be an added advantage.

* Sites should preferably have a written policy of single dose of prophylactic antibiotic prior to the C-section/ or recognized alternative based on relevant locally developed antibiograms/antibiotic policy.

Case Definition:

The case definition is for the purpose of surveillance and is not meant to serve as a clinical definition

* Sites, based on capacity, may also collect bacteriology culture and sensitivity results to aid with the clinical diagnosis of SSI, but this information will not be included as part of this surveillance protocol

A patient within 30 days of the surgical procedure with the following observed or reported:

A purulent (pus) discharge in, or coming from, the wound (including evidence of an abscess)

OR

Evidence of fever with painful, spreading erythema surrounding the surgical site

OR

Any reopening of the surgical wound

Surveillance Methods

Wound Assessments

Infection Surveillance Section – Surgical Safety Checklist and Surveillance Form

[Infection Surveillance]

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Infection was Diagnosed:	□ Yes □ No	□ Yes □ No	□ Yes □ No

Surveillance Methods
Page 6-7

1. **Baseline Infection Control Assessment**

   Identify relevant gaps in infection control policies and practices before surveillance started

2. Identify Surveillance Population

   Patients undergoing a surgical procedures of interest

   - C-section

Surveillance Methods
Surgical Safety and Checklist and Surveillance From

- The surveillance population is established when the surgical team starts the Surgical Safety Checklist and Surveillance Form

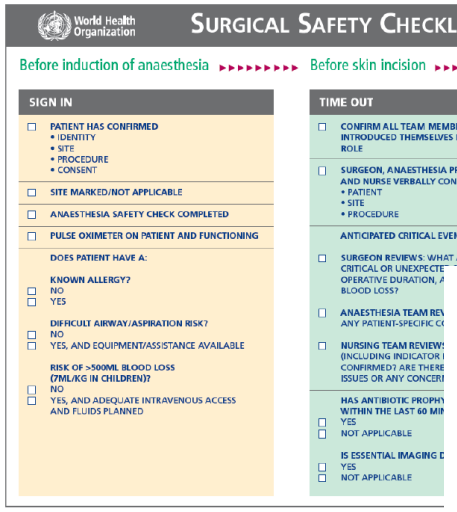
  - This form will be maintained throughout the follow-up period and will be used to document case finding and establish denominators

  - Designed as a combined clinical checklist (patient safety) and surveillance form:

Surveillance Methods
Surgical Safety and Checklist and Surveillance Form

Five Areas of Data Collection:

- Demographics
- Clinical Checks: Before Anesthesia
- Clinical Checks: Before Incision
- Clinical Checks: After Wound Closure
- Infection Surveillance



World Health Organization

SURGICAL SAFETY CHECKLIST (FIRST EDITION)

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  - SITE
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- ☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING
- DOES PATIENT HAVE A:
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- DIFFICULT AIRWAY/ASPIRATION RISK?
  - ☐ NO
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  - ☐ YES
  - ☐ NOT APPLICABLE
- IS ESSENTIAL IMAGING D…
  - ☐ YES
  - ☐ NOT APPLICABLE

SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

- ☐ THE NAME OF THE PROCEDURE RECORDED
- ☐ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- ☐ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
- ☐ WHETHER THERE ARE ANY EQUIPMENT …

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOC…

NAME OF FACILITY_____ Unit Number: _____
SURGICAL SAFETY CHECKLIST& SURVEILLANCE FORM

Date: DD/MM/YYYY

Patient Name: _____ Patient ID: _____

Sex: ☐ Female ☐ Male DOB_____ Age: _____

Telephone: _____

Birth Companion Name: _____ Birth Companion Telephone:_____

Surgeon/OG Team: _____

Prior to procedure:

Surfaces and Environment cleaned: ☐ Yes ☐ No/Inadequate

Hand Hygiene Performed: ☐ Yes ☐ No/Inadequate
☐ antimicrobial soap and water ☐ alcohol-based hand rub

Patient Skin Preparation: ☐ chlorhexidine ☐ betadine ☐ other

Antibiotic Prophylaxis ☐ Yes ☐ No ☐ NA
☐ Cefazolin ☐ Cefuroxime ☐ Other _____

Procedure: ☐ C-Section ☐ Other _____ ☐ Elective ☐ Emergent

Wound Class: ☐ Clean ☐ Contaminated ☐ Dirty

Supply Problems:[1] ☐ No ☐ Yes: _____

[Infection Surveillance]

	First Check	Discharge	Final Check
Days after procedure	_____Days	_____Days	_____Days
Purulent Drainage / Abscess	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Wound Reopened	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Redness	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Wound Swelling	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Fever & Increased Wound Pain	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Infection was Diagnosed:	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

[1] Supply problems may include equipment (IV pump, lighting,) or availability of needed sterile or clean supplies.

Surveillance Methods
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3. Case finding

Clinical and/or surveillance staff shall systematically evaluate all hospitalized patients (in-patient) in the surveillance population as possible cases and document findings for surveillance as described.

Existing clinical assessment and documentation for post-surgical patients can remain unchanged

Methods for in-patient case finding may include:

- **<u>Surgical wound assessment (Day 3 and at Discharge),</u>**
- Review of surgery notes/records (if available/feasible)
- Review of nurses/physicians' notes (if available/feasible)
- Verbal review with the clinical/surgical care team

Surveillance Methods

Wound Assessments

Infection Surveillance Section – Surgical Safety Checklist and Surveillance Form

[Infection Surveillance]

	First Check	Discharge	Final Check
Days after procedure	_____Days	_____Days	_____Days
Purulent Drainage / Abscess	□ Yes □ No	□ Yes □ No	□ Yes □ No
Wound Reopened	□ Yes □ No	□ Yes □ No	□ Yes □ No
Fever & Wound Redness	□ Yes □ No	□ Yes □ No	□ Yes □ No
Fever & Wound Swelling	□ Yes □ No	□ Yes □ No	□ Yes □ No
Fever & Increased Wound Pain	□ Yes □ No	□ Yes □ No	□ Yes □ No
Infection was Diagnosed:	□ Yes □ No	□ Yes □ No	□ Yes □ No

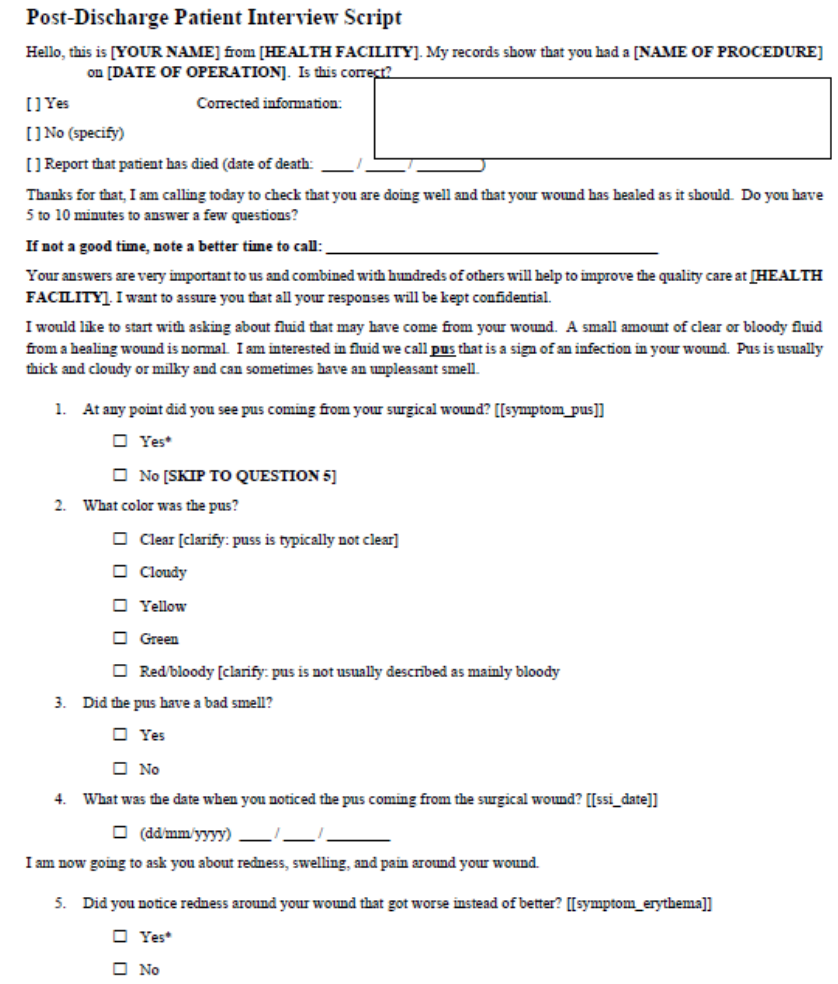
Surveillance Methods
Page 7

Post-discharge Case Finding: Telephone Interview The method of post-discharge case fining recommended is:

- **Telephone interview with patients**

All patients are be contacted at least once (on or around day 30) and interviewed to determine if the case definition has been met.

An example script for post-discharge case finding interviews are provided as Appendix 2 of the protocol.



Post-Discharge Patient Interview Script

Hello, this is **[YOUR NAME]** from **[HEALTH FACILITY]**. My records show that you had a **[NAME OF PROCEDURE]** on **[DATE OF OPERATION]**. Is this correct?

[ ] Yes Corrected information:

[ ] No (specify)

[ ] Report that patient has died (date of death: ____ / ____ / _____)

Thanks for that, I am calling today to check that you are doing well and that your wound has healed as it should. Do you have 5 to 10 minutes to answer a few questions?

If not a good time, note a better time to call: _____

Your answers are very important to us and combined with hundreds of others will help to improve the quality care at **[HEALTH FACILITY]**. I want to assure you that all your responses will be kept confidential.

I would like to start with asking about fluid that may have come from your wound. A small amount of clear or bloody fluid from a healing wound is normal. I am interested in fluid we call **pus** that is a sign of an infection in your wound. Pus is usually thick and cloudy or milky and can sometimes have an unpleasant smell.

1. At any point did you see pus coming from your surgical wound? [[symptom_pus]]
   - ☐ Yes*
   - ☐ No **[SKIP TO QUESTION 5]**
2. What color was the pus?
   - ☐ Clear [clarify: puss is typically not clear]
   - ☐ Cloudy
   - ☐ Yellow
   - ☐ Green
   - ☐ Red/bloody [clarify: pus is not usually described as mainly bloody
3. Did the pus have a bad smell?
   - ☐ Yes
   - ☐ No
4. What was the date when you noticed the pus coming from the surgical wound? [[ssi_date]]
   - ☐ (dd/mm/yyyy) ____ / ____ / _____

I am now going to ask you about redness, swelling, and pain around your wound.

5. Did you notice redness around your wound that got worse instead of better? [[symptom_erythema]]
   - ☐ Yes*
   - ☐ No

FAQ - If the Surveillance Team finds an SSI before 30 days, do we still need to call the patient at 30 days?

- No

- If a surgical site infection is noted during the suture removal or during the follow up visit before 30 days, then the case forms will be closed as a case of SSI.

FAQ - If the Surveillance Team is unable to contact a patient after discharge how should the case be recorded?

- If post-discharge case finding is not being done or is lost to follow-up (e.g. patient phone number not reachable or patient moved to a different state)
- The discharge assessment will be the final wound assessment
  - For example - If there was no evidence of a SSI at discharge, then the case will be recorded as No SSI.

Surveillance Methods
Page 8

4. Denominator Data

First Day of Surveillance Period	Last Day of Surveillance Period	Number of **ALL** Procedures* Performed	Number of **Emergent** Procedures* performed	Number of **Elective** Procedures* Performed
DD/MM/YYYY	DD/MM/YYYY			
DD/MM/YYYY	DD/MM/YYYY			
DD/MM/YYYY	DD/MM/YYYY			
DD/MM/YYYY	DD/MM/YYYY			

Surveillance Methods
Page 8

6. Case reporting will be done through completion of the Surgical Safety Checklist and Surveillance Form. No additional documentation will be needed.
7. Data Management and Analysis
   - Regularly enter surveillance patient data and denominator data into a surveillance database
   - Periodically submitted data to public health authority (MOH/NIPCU) via a secure tablet computers
   - Public health authority: Data cleaning, validation, analysis and dissemination of surveillance reports

Surveillance Methods

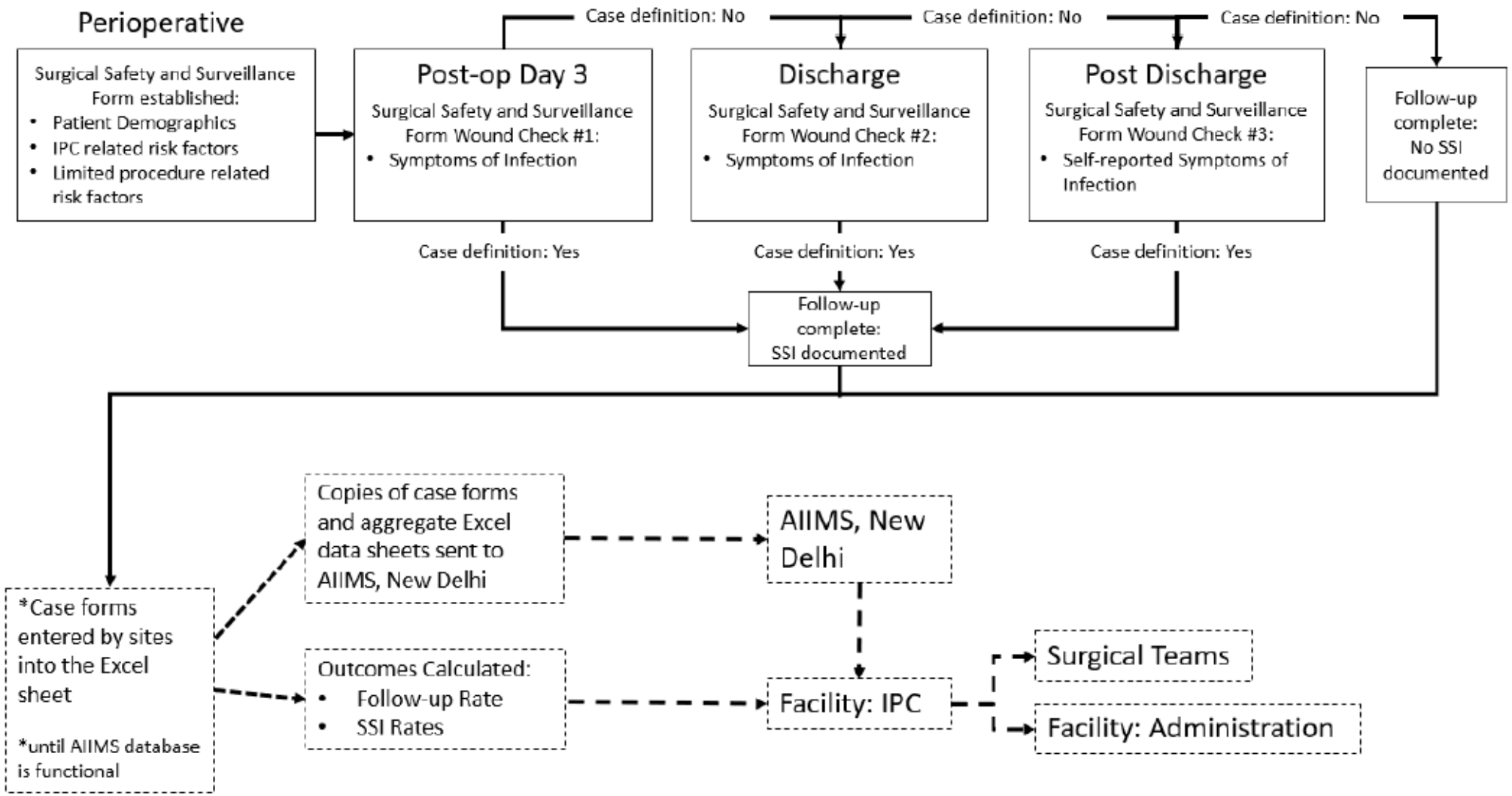
Data Analysis

SSI rate: SSI per 100 procedures. Divide the total number of SSI recorded by the number of procedures performed and then multiply by 100.

Surveillance Methods
Page 8

8. Monitoring and Evaluation
9. Data Usage and Ownership
    - Data generated as part of this surveillance are intended for internal use within sites and AIIMS to define the scope and magnitude of SSI/HAIs.
    - Facility-level data may be used to implement infection control and as quality improvement measures at individual facilities.
    - Data ownership will reside at sites and AIIMS

Figure 2: Recommended data flow of C-Section SSI surveillance System



Solid Lines: Physical/Form data flow
Broken lines: Digital information flow

Roles and Responsibilities
Participating Hospitals (page 12)

1. Site PIs:
   - Will oversee implementation of the SSI protocol and ensure results are reported and used to improve patient outcomes.
2. Infection Control Nurse or staff nurse focal point:
   - Work with surgical staff to ensure completion of surveillance Form
   - Follow-up to reconcile missing or conflicting data
   - Disseminating surveillance reports to relevant stakeholders
3. Clinical units: One investigator from the obstetrics department
   - Will coordinate with the Microbiology department and ICN to facilitate identification and reporting of SSIs.

Roles and Responsibilities Participating Hospitals (page 12)

4. AIIMS, New Delhi Trauma Center Team and CDC Staff :

   Will provide technical assistance

   Assist with creation of summary reports .

   May participate in initial facility practice/surveillance assessments

   Can provide access to subject matter expertise on SSI/HAI surveillance and prevention.

Ethical Consideration and Review
Page 12

- This protocol describes a public health surveillance activity, which is considered public health practice and not research.
- Individual patient consent will not be collected as a prerequisite of collecting necessary data to monitor SSI incidence.