# Assessing HAI Surveillance Data Quality
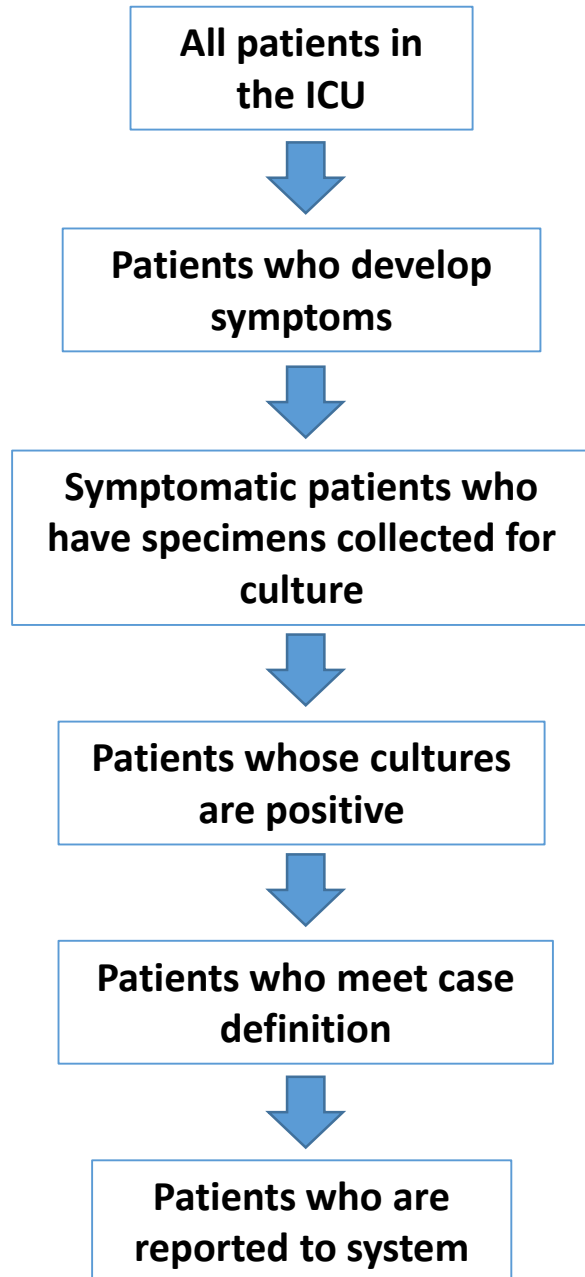
AIIMS/ICMR Site PI Meeting
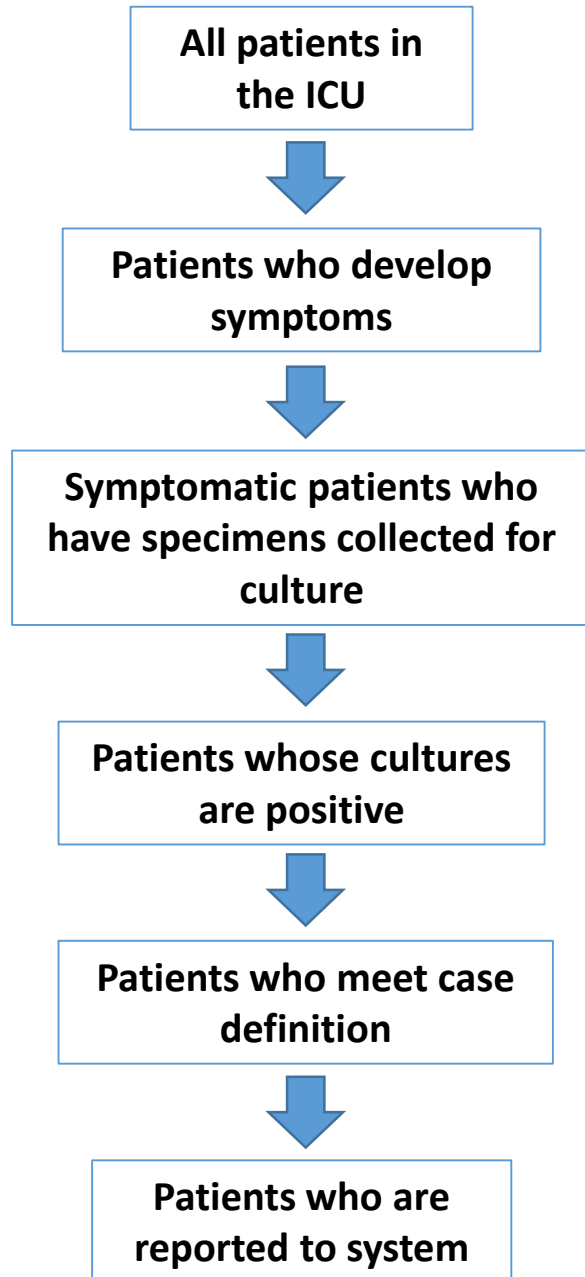
New Delhi

August 2018

# HAI Surveillance – Process Flow
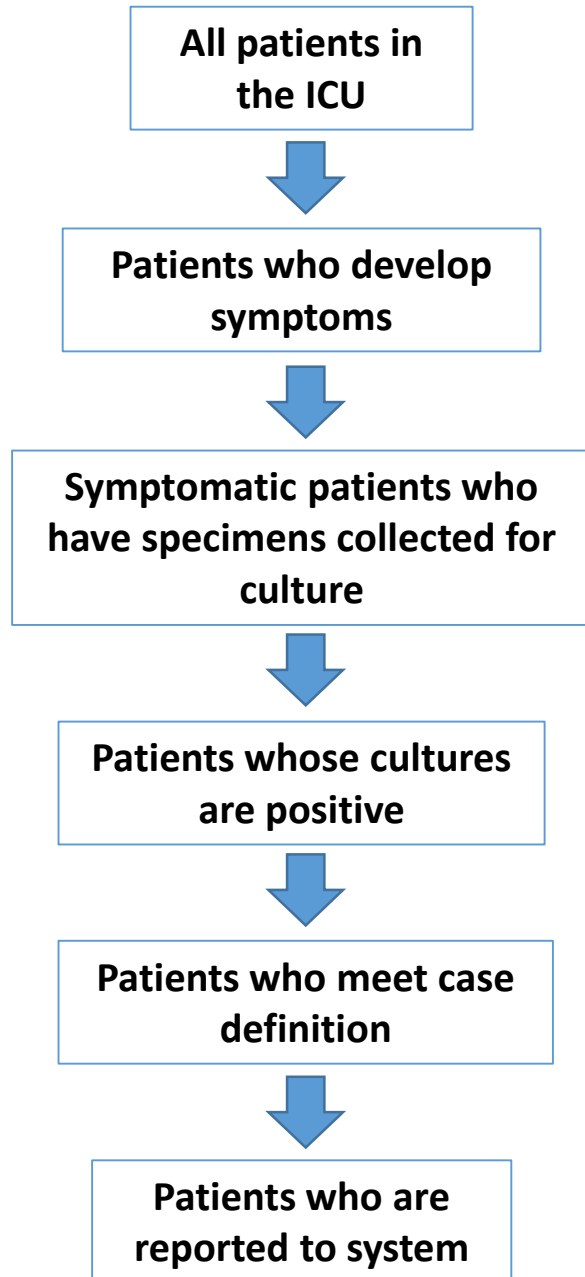
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┌─────────────────────┐
│   All patients in   │
│      the ICU        │
└─────────────────────┘
          ↓
┌─────────────────────┐
│  Patients who develop│
│      symptoms        │
└─────────────────────┘
          ↓
┌─────────────────────┐
│ Symptomatic patients who│
│ have specimens collected for│
│        culture          │
└─────────────────────┘
          ↓
┌─────────────────────┐
│  Patients whose cultures│
│     are positive     │
└─────────────────────┘
          ↓
┌─────────────────────┐
│  Patients who meet case│
│      definition      │
└─────────────────────┘
          ↓
┌─────────────────────┐
│   Patients who are   │
│  reported to system  │
└─────────────────────┘
```

# Potential Data Quality Issues

All patients in
the ICU

↓

Patients who develop
symptoms

↓

Symptomatic patients who
have specimens collected for
culture

↓

Patients whose cultures
are positive

↓

Patients who meet case
definition
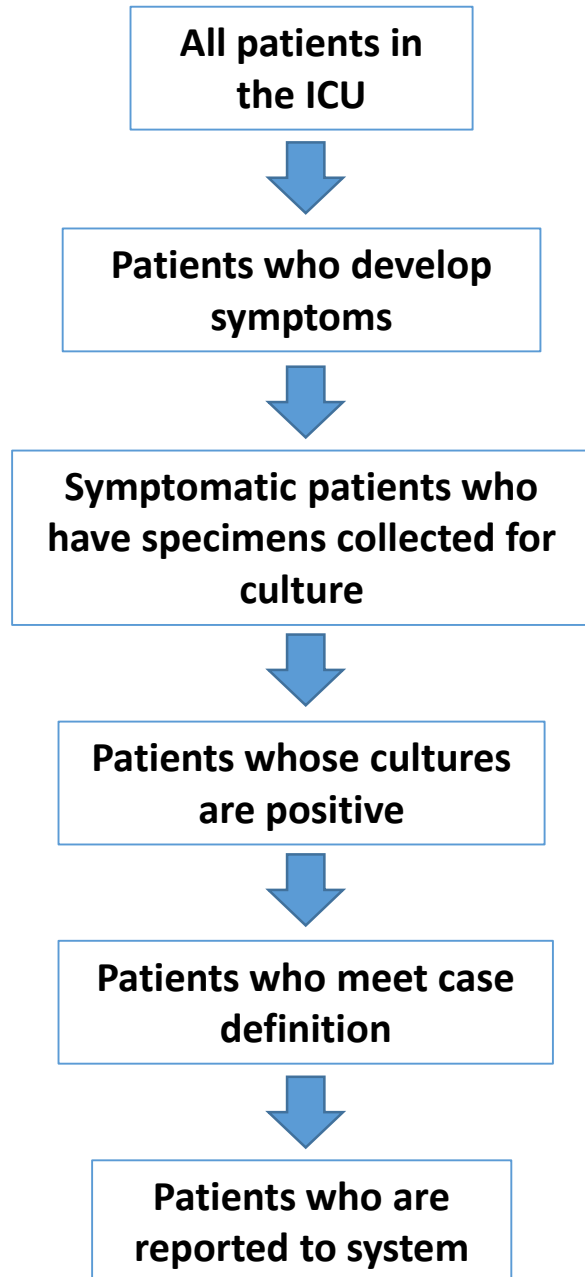
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Patients who are
reported to system

BSI and UTI case definitions require positive culture.  If symptomatic patients are not cultured, they will not meet case definition.
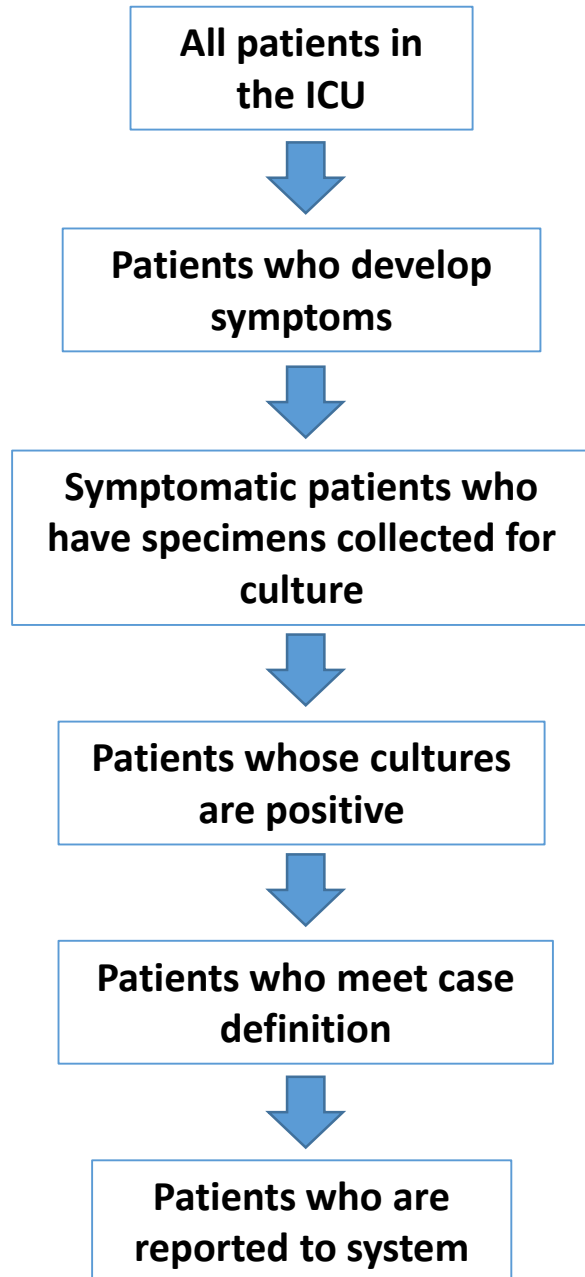
# Potential Data Quality Issues

All patients in the ICU

↓

Patients who develop symptoms

↓

Symptomatic patients who have specimens collected for culture

↓

Patients whose cultures are positive

↓

Patients who meet case definition

↓

Patients who are reported to system

Surveillance team must have access to all positive blood and urine cultures from surveillance units.

Potential Data Quality Issues

All patients in the ICU

↓

Patients who develop symptoms

↓

Symptomatic patients who have specimens collected for culture

↓

Patients whose cultures are positive

↓

Patients who meet case definition

↓

Patients who are reported to system

Case definition must be applied correctly and consistently.

# Potential Data Quality Issues

**All patients in the ICU**

↓

**Patients who develop symptoms**

↓

**Symptomatic patients who have specimens collected for culture**

↓

**Patients whose cultures are positive**

↓

**Patients who meet case definition**

↓

**Patients who are reported to system**

Data must be entered in the online reporting system accurately.

# Structured Data Quality Assessment

- CDC worked with JPNATC team to create standard tools for assessing potential HAI surveillance data quality issues

- Future support visits will focus on assessing data quality using these standard assessment tools

- Results can help to contextualize surveillance data and identify areas needing improvement at hospital and network levels

# HAI Surveillance Data Quality Tools

- Site visit discussion and feedback
  - Qualitative assessment that includes facility demographics, case finding practices and challenges, denominator collection practices, and analysis/use of surveillance data

- Tracking frequency of blood and urine culturing in febrile ICU patients
  - What proportion of patients with a "febrile episode" had blood and urine specimens sent for culture?
  - How does this align with the facility's culturing guidelines?

- Monitoring completeness of blood and urine culture data
  - Has the surveillance team received all positive blood and urine cultures from ICUs under surveillance?

# HAI Surveillance Data Quality Tools

- Assessing adherence to BSI and UTI case defintions
    - Have all positive blood and urine cultures been investigated to see if they meet the BSI/UTI case definitions?
    - Is the surveillance team applying the case definitions correctly?
    - Have they reported all episodes that meet the case definitions to the web-based reporting system?
    - What are the most common reasons why episodes do not meet the case definition?

- Ensuring accurate entry of HAI surveillance data
    - Are data entry operators correctly entering paper case report form data into the web-based reporting system?

# Next Steps for HAI Surveillance Data Quality

- Additional visits to pilot data quality tools in 2018
  - Goal – reach all centres who have not had a support visit by end of October

- Wider assessment of data quality in 2019
  - Allow all centres to reach at least 9-12 months of experience with surveillance system, then look at data quality across the network

- Discuss opportunities to develop surveillance indicators to report routinely
  - Perhaps easier to sustain compared to assessments conducted purely during support visits