ECDC-PPS 2016

Data Collection Forms and Flow Charts
Instructions

This should be printed full size on both sides of A4 paper.

Sheet 3. Ward sheet. One sheet needed per ward

Sheet 4. Grouped denominator data. 1 page per 10 patients (e.g. if a ward has 24 patients, 3 sheets required for the ward)

Sheet 5 and 6 if not using Sheet 4, this should be printed on both sides of an A4 sheet per patient surveyed (e.g. if not using Sheet 4, for a ward with 24 patients, needs 24 sheets)

Sheet 7 and 8 should be used if using Sheet 4, this should be printed on both sides of an A4 sheet per patient on antibiotics or with HAI (e.g. if using Sheet 4, for a ward with 24 patients, only need sheets for those on antibiotics or have active HAI)

Sheet 9-19 are flow charts. It is recommended that these are printed and laminated for use on the wards by the data collectors to assist with case definitions for HAI.
## Ward data

**Hospital code:** ____________  
**Ward name/unit ID¹:**  
**Survey date²:** __/__/______

### For 2015/2016 financial year (or most recent FY data)
This should be requested from hospital analysts and procurement team and be available before web data entry commences

<table>
<thead>
<tr>
<th>Number</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patient days*</td>
<td><strong>/</strong>_</td>
</tr>
<tr>
<td>Alcohol hand rub (AHR) consumption</td>
<td><strong>/</strong>_</td>
</tr>
<tr>
<td>Number of hand hygiene opportunities</td>
<td><strong>/</strong>_</td>
</tr>
</tbody>
</table>

* Provide data for same year as AHR consumption

### Please provide for all eligible³ patients

<table>
<thead>
<tr>
<th>Consultant/patient specialty (see codebook)</th>
<th>Number</th>
</tr>
</thead>
</table>

### Data to be reported at time of survey

<table>
<thead>
<tr>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of eligible³ patients on ward</td>
</tr>
<tr>
<td>Number of beds</td>
</tr>
<tr>
<td>Number of beds with AHR dispenser</td>
</tr>
<tr>
<td>Number of healthcare workers (HCWs)</td>
</tr>
<tr>
<td>Number of HCWs carrying AHR</td>
</tr>
<tr>
<td>Number of rooms</td>
</tr>
<tr>
<td>Number of single rooms</td>
</tr>
<tr>
<td>Number of single rooms with individual toilet and shower</td>
</tr>
<tr>
<td>Number of beds occupied at midnight the night before survey</td>
</tr>
</tbody>
</table>

### Is there a formal procedure (external to primary clinical team or ward pharmacy team) to review the appropriateness of an antimicrobial within 72 hours from the initial order in this ward (post-prescription review)?

- [ ] Yes  
- [ ] No  
- [ ] Unknown

### Comments/observations:

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1 Unique identifier for each unit (abbreviated ward name) within a hospital; this should remain identical between PPS years
2 Patients on the same ward should be included on a single day
3 Patients admitted to the ward before or at 8:00 AM and not discharged from the ward at time of survey
# Point Prevalence Survey 2016: healthcare-associated infections and antimicrobial use

## Ward handover form

To be completed for all eligible patients\(^1\) at time of survey

<table>
<thead>
<tr>
<th>Hospital code:</th>
<th>Ward name/unit ID(^2):</th>
<th>Survey date:</th>
<th></th>
</tr>
</thead>
</table>

| Initials | NHS no. | Hosp. no. | DoB | Gender M/F/U/O | Adm. date | Specialty\(^3\) If <3m or on NICU include birthwt too | Surgery\(^4\) (Non/Ult/Rap/Unk) | McCabe score | CVC Y/N/U | PVC Y/N/U | Urinary catheter Y/N/U | Intubated Y/N/U | Abx\(^5\) Y/N | HAI\(^6\) Y/N |
|----------|---------|-----------|-----|----------------|-----------|-------------------------------------------------|--------------------------------|--------------|-----------|----------------|----------------|----------|----------|
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |
|          |         |           |     |                |           |                                                 |                                |              |           |                |                |          |          |

\(^1\) Patients admitted to the ward before or at 8:00 AM and not discharged from the ward at time of survey

\(^2\) Unique identifier for each unit (abbreviated ward name) within a hospital

\(^3\) See codebook for patient specialty (the specialty of consultant looking after the patient)

\(^4\) Surgery since admission - No surgery / Minimal invasive/non-NHSN surgery/ Unknown If NHSN surgery \(\rightarrow\) specify

\(^5\) At the time of the survey, except for surgical prophylaxis 24h before 8:00 AM on the day of the survey; if yes, fill antimicrobial use data; if patient receives >5 antimicrobials, add a new form

\(^6\) [infection with onset \(\geq\) Day 3, OR SSI criteria met (surgery in previous 30d/90d), OR discharged from acute care hospital \(<\) 48h ago, OR CDI and discharged from acute care hospital \(<\) 28 days ago OR onset \(<\) Day 3 after invasive device/procedure on D1 or D2] \(\text{AND}\) [HAI case criteria met on survey day OR patient is receiving (any) treatment for HAI AND case criteria are met between D1 of treatment and survey day; if patient has >3 HAI, add a new form]
Collect for all eligible patients
NHS number: ________________
Hospital number: ________________
Date of birth: __/__/______ Gender: __________
Admission date: __/__/______
Consultant/patient specialty: _______________
Surgery since admission (most recent NHSN surgery)?
☐ No surgery ☐ Minimal invasive/non-NHSN surgery
☐ Unknown ☐ NHSN surgery → specify __________
McCabe score
☐ Non-fatal disease ☐ Ultimately fatal disease
☐ Rapidly fatal disease ☐ Unknown
If neonate, birthweight ________ grams (less than 3m/ NICU)

Presence of any of the following (at time of survey):
Central venous catheter: ☐ Yes ☐ No ☐ Unknown
Peripheral venous catheter: ☐ Yes ☐ No ☐ Unknown
Urinary catheter: ☐ Yes ☐ No ☐ Unknown
Intubation: ☐ Yes ☐ No ☐ Unknown

How many antimicrobials is the patient receiving? _____
If ≥ 1, complete antimicrobial usage data

How many active HAI's does the patient have? _____
If ≥ 1, complete HAI data form [over page]

1 Unique identifier for each unit (abbreviated ward name) within a hospital
2 See codebook
3 At the time of the survey, except for surgical prophylaxis 24h before 8:00 AM on the day of the survey; if yes, fill antimicrobial use data; if patient receives >5 antimicrobials, add a new form
4 [infection with onset ≥ Day 3, OR SSI criteria met (surgery in previous 30d/90d), OR discharged from acute care hospital <48h ago, OR CDI and discharged from acute care hospital < 28 days ago OR onset < Day 3 after invasive device/procedure on D1 or D2] AND [HAI case criteria met on survey day OR patient is receiving (any) treatment for HAI AND case criteria are met between D1 of treatment and survey day]; if patient has >3 HAI, add a new form

Point Prevalence Survey 2016: healthcare-associated infections and antimicrobial use
Patient data, antimicrobial usage

Antimicrobial (generic name)
Route| Dosage per day| Indication| Infection site| Reason documented in| Date AM started| AM changed?| (± reason)| Date AM started for this indication (not + reason)| Antibiotic Review?
---|---|---|---|---|---|---|---|---|---
P: parenteral, O: oral, R: rectal, I: inhalation; Dosage: Number of doses – OD, BD, TDS, QDS, 5 per day, 6 per day, every 18 hours, every 36 hours, every 48 hours, twice per week, three times per week, continuous infusion; Strength of dose in MU or mg (ie if in g convert to mg by x1000); Indication: treatment intention for community (CI), long-term care (LI) or acute hospital (HI) infection; surgical prophylaxis: SP1: single dose, SP2: one day, SP3: >1day; MP: medical prophylaxis; O: other; UI: Unknown indication; Infection site: see site list, only for CI-LI-HI; Reason in notes: Y/N; AM changed? (+ reason): N=no change; E=escalation; D=De-escalation; S=switch IV to oral; A=adverse effects; OU=changed, other/unknown reason; U=unknown; If changed, date 1st AM started given for the same indication; Antibiotic Review: C=Continue; I=IV to Oral Switch; CH=Change to another antimicrobial; O=OPAT; UNK =Unknown, not dedicated; NA=not applicable (i.e. treatment is less than 2 days)
Point Prevalence Survey 2016: healthcare-associated infections and antimicrobial use

HAI data

Hospital code: ____________ Ward name/unit ID1: ____________________________ Survey date: __/__/______

NHS number: ______________ Hospital number: __________ Date of birth: __/__/______ Gender: __________

<table>
<thead>
<tr>
<th>Infection type</th>
<th>HAI 1</th>
<th>HAI 2</th>
<th>HAI 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invasive device²</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
</tr>
<tr>
<td>Present on admission</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
</tr>
<tr>
<td>Date of onset³</td>
<td>/ /</td>
<td>/ /</td>
<td>/ /</td>
</tr>
<tr>
<td>Origin of infection</td>
<td>Current hospital ☐ Other hospital ☐ Other/ unknown ☐</td>
<td>Current hospital ☐ Other hospital ☐ Other/ unknown ☐</td>
<td>Current hospital ☐ Other hospital ☐ Other/ unknown ☐</td>
</tr>
<tr>
<td>HAI associated to current ward</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
<td>Yes ☐ No ☐ Unknown ☐</td>
</tr>
</tbody>
</table>

If BSI: source⁴

<table>
<thead>
<tr>
<th>Microorganism 1</th>
<th>AMR</th>
<th>PDR</th>
<th>MO code</th>
<th>AB⁵</th>
<th>SIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganism 2</td>
<td>AMR</td>
<td>PDR</td>
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<td>AB⁵</td>
<td>SIR</td>
</tr>
<tr>
<td>Microorganism 3</td>
<td>AMR</td>
<td>PDR</td>
<td>MO code</td>
<td>AB⁵</td>
<td>SIR</td>
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1 Unique identifier for each unit (abbreviated ward name) within a hospital
2 Relevant invasive device present (even intermittently) 48 hours before onset infection; intubation for pneumonia (PN); CVC/PVC for BSI; urinary catheter for UTI
3 Only for infections not present/active on admission (dd/mm/yyyy)
4 C-CVC (central venous catheter), C-PVC (peripheral venous catheter), S-PUL (pulmonary infection), S-UTI (urinary tract infection), S-DIG (digestive tract infection), S-SSI (surgical site infection), S-SST (skin/soft tissue infection), S-OTH (other), UO (none of the above, BSI of unknown origin, clinically asserted), UNK (unknown)
5 AB: tested antibiotic(s): STAAUR: OXA (includes oxacillin or other marker for MRSA such as cefoxitin, cloxacillin, dicloxacillin, flucloxacillin or methicillin) and GLY; Enterococci: GLY; Enterobacteriaceae: C3G and CAR; PSEAER and ACIBAU: CAR; SIR: S=sensitive, I=intermediate, R=resistant, U=unknown; PDR: Pan-drug resistant: N=No, P=Possible, C=Confirmed, U=Unknown
Antimicrobial usage data

<table>
<thead>
<tr>
<th>Antimicrobial (generic name)</th>
<th>Route</th>
<th>Dosage per day</th>
<th>Indication</th>
<th>Infection site</th>
<th>Reason documented in notes</th>
<th>Date this AM started</th>
<th>AM changed? (+ reason)</th>
<th>If antibiotic changed: Date AM started for this indication (not site)</th>
<th>Antibiotic Review? (b/n 48-72h after start)</th>
</tr>
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<tbody>
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**Point Prevalence Survey 2016: healthcare-associated infections and antimicrobial use**

**HAI data**

**Hospital code:**

**Ward name/unit ID:**

**Survey date:** __/__/____

<table>
<thead>
<tr>
<th>NHS number</th>
<th>Hospital number</th>
<th>Date of birth</th>
<th>Gender</th>
</tr>
</thead>
</table>

**HAI 1**

<table>
<thead>
<tr>
<th>Infection type</th>
<th>Invasive device²</th>
<th>Present on admission</th>
<th>Date of onset³</th>
<th>Origin of infection</th>
<th>HAI associated to current ward</th>
<th>If BSI: source⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ Yes ☐ No ☐ Unknown</td>
<td>☐ Yes ☐ No ☐ Unknown</td>
<td>/ /</td>
<td>☐ Current hospital ☐ Other hospital ☐ Other/ unknown</td>
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SSI: Surgical site infection

Infection occurs within 30 days after operation (no implant in place)

Infection involves only subcutaneous tissue of the incisions

AND

Purulent drainage with or without laboratory confirmation, from the superficial incision

OR

Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision

OR

At least one of the following signs or symptoms of infection: pain or tenderness, localised swelling, redness, or heat, and superficial incision is deliberately opened by surgeon, unless incision is culture-negative

OR

Diagnosis of superficial incisional SSI made by a surgeon or attending physician

SSI-S
Superficial incisional

Infection occurs within 90 days after operation (implant in place) AND infection appears to be related to operation

Infection involves deep soft tissue (e.g. fascia, muscle) of the incision

AND

Purulent drainage from the deep incision but not from the organ/space component of the surgical site

OR

A deep incision spontaneously dehisces or is deliberately opened by a surgeon when the patient has at least one of the following signs or symptoms: fever (> 38 °C), localised pain or tenderness, unless incision is culture-negative

OR

An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination

OR

Diagnosis of deep incisional SSI made by a surgeon or attending physician

SSI-D
Deep incisional

Infection involves any part of the anatomy (e.g. organs and spaces) other than the incision which was manipulated during the operation

AND

Purulent drainage from a drain that is placed through a stab wound into the organ/space

OR

Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space

OR

An abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination

OR

Diagnosis of organ/space SSI made by a surgeon or attending physician

SSI-O
Organ/space
PN: Pneumonia (includes VAP)

Patient has underlying cardiac or pulmonary disease?

YES

≥2 serial chest X-rays or CT-scans with a suggestive image of pneumonia*

AND

Fever > 38°C with no other cause

OR

Leukopenia (<4000 WBC/mm³) or leucocytosis (≥ 12 000 WBC/mm³)

≥ 1 definitive chest X-ray or CT-scan for pneumonia

New onset of purulent sputum, or change in character of sputum (color, odor, quantity, consistency)

OR

Cough or dyspnea or tachypnea

OR

Suggestive auscultation (rales or bronchial breath sounds), ronchi, wheezing

OR

Worsening gas exchange (e.g., O₂ desaturation or increased oxygen requirements or increased ventilation demand)

AND HAS THE FOLLOWING DIAGNOSTICS

Positive quantitative culture from minimally contaminated LRT specimen
- Broncho-alveolar lavage (BAL) with a threshold of > 10⁴ CFU/ml or ≥ 5% of BAL obtained cells contain intracellular bacteria on direct microscopic exam
- Protected brush (PB Wimberley) with a threshold of >10⁵ CFU/ml
- Distal protected aspirate (DPA) with a threshold of > 10³ CFU/ml

Quantitative culture from possibly contaminated LRT specimen (i.e. ETA)
- Quantitative culture of LRT specimen (e.g. endotracheal aspirate) with a threshold of 10⁶ CFU/ml

Alternative microbiology methods
- Positive BC not related to other source
- Positive growth in pleural fluid culture
- Pleural/ pulmonary abscess with positive needle aspiration
- Histologic pulmonary exam = pneumonia
- Positive detection of viral antigen or antibody from respiratory secretions
- Positive direct exam or positive culture from bronchial secretions or tissue
- Seroconversion
- Detection of antigens in urine

Positive sputum culture or non-quantitative LRT specimen culture

No positive microbiology

---

* One definitive chest X-ray or CT-scan for the current pneumonia episode may be sufficient in patients with underlying cardiac or pulmonary disease if comparison with previous X-rays is possible

^ ≥ 2 required if clinical pneumonia diagnostic PN4 and PN5
LRI: Lower respiratory tract infection, other than pneumonia

Patient has no clinical or radiographic evidence of pneumonia (or only 1 abnormal CXR when requires 2 abnormal CXR for PN)

At least 2 of the following:
- fever (>38°C)
- cough
- new increased sputum production
- rhonchi
- wheezing

AND

At least 1 of the following:
- positive culture obtained by deep tracheal aspirate or bronchoscopy
- positive antigen test on respiratory secretions

LRI-BRON
Bronchitis, tracheobronchitis, bronchiolitis, tracheitis, without evidence of pneumonia

Note: Do not report chronic bronchitis in a patient with chronic lung disease as an infection unless there is evidence of an acute secondary infection, manifested by change in organism.

Patient has at least one of the following:

Organisms seen on smear or cultured from lung tissue or fluid, including pleural fluid

OR

A lung abscess or empyema seen during a surgical operation or histopathologic examination

OR

An abscess cavity seen on radiographic examination of lung

LRI-LUNG
Other infections of the lower respiratory tract

Note: Report lung abscess or empyema without pneumonia as LRI-LUNG.
UTI: Urinary tract infection

Patient has a positive urine culture (MSU/CSU/suprapubic etc.) ≥10⁵ microorganisms per ml of urine and ≤2 species of microorganism

AND

Fever (>38°C) OR Urgency OR Frequency OR Dysuria OR Suprapubic tenderness

UTI-A
Microbiologically confirmed symptomatic UTI

AND

Positive dipstick for leukocyte esterase and/or nitrites

OR

Pyuria urine specimen with ≥10 WBC/ml or ≥ 3 WBC/high-power field of unspun urine

OR

Organisms seen on Gram stain of unspun urine

OR

At least two urine cultures with repeated isolation of the same uropathogen (Gram-negative bacteria or S. saprophyticus) with ≥ 10² colonies/ml urine in nonvoided specimens

OR

≤10⁵ colonies/ml of a single uropathogen (Gram-negative bacteria or S. saprophyticus) in a patient being treated with effective antimicrobial agent for a urinary infection

OR

Physician diagnosis of a urinary tract infection

OR

Physician institutes appropriate therapy for a urinary infection

UTI-B
Non-microbiologically confirmed symptomatic UTI

Note: Asymptomatic bacteriuria are not to be reported, but bloodstream infections secondary to asymptomatic bacteriuria are reported as BSI with source (origin) S-UTI.
BSI: Bloodstream infection

Patient has 1 positive blood culture for a recognised pathogen

Patient has 2 positive blood cultures for a common skin contaminant* (from 2 separate blood samples, usually within 48 hours)

\[ \text{AND} \]

Fever (>38°C) \text{ OR } Chills \text{ OR } Hypotension

BSI: Bloodstream infection
Report one of the following sources

- **Catheter-related**
  - Same micro-organism was cultured from the catheter or symptoms improve within 48 hours after removal of the catheter
  - C-PVC: Peripheral vascular catheter
  - C-CVC: Central vascular catheter

- **Secondary^**
  - To another infection: the same micro-organism was isolated from another infection site \text{ OR } strong clinical evidence exists that bloodstream infection was secondary to another infection site, invasive diagnostic procedure or foreign body.
  - S-PUL: Pulmonary
  - S-UTI: Urinary tract infection
  - S-DIG: Digestive tract infection
  - S-SSI: Surgical site infection
  - S-SST: Skin and soft tissue infection
  - S-OTH: Other

- **Unknown origin**
  - BSI of unknown origin (verified during survey and no source found)
  - UO: Unknown origin

- **Unknown**
  - No information available about the source of the BSI \text{ OR }
  - Information missing
  - UNK: Unknown

* Skin contaminants = coagulase-negative staphylococci, Micrococcus sp., Propionibacterium acnes, Bacillus sp., Corynebacterium sp.

^ Does not need to meet case definition for this to be noted. If the primary infection is an active HAI and meets a case definition, report both primary HAI and secondary BSI.

Note: Report C-CVC or C-PVC BSI as CRI3-CVC or CRI3-PVC respectively if microbiologically confirmed with positive tip culture
CRI: Catheter-related infection (CVC or PVC infections)

**Blood culture criteria**
- Positive blood culture (Meets BSI case definition)
  - Positive tip culture
  - Negative tip culture or tip culture not done
- Negative blood culture (or not done) (Does not meet BSI case definition)
  - Positive tip culture
  - Negative tip culture or tip culture not done

**Tip/insertion site culture criteria**
- Symptoms improve within 48 hours of removal
- Clinical signs improve within 48 hours of removal
- Pus or inflammation at tunnel site
- Purulent drainage at involved vascular site

**Other criteria**
- CRI3-CVC or CRI3-PVC
- BSI, origin C-CVC or C-PVC
- CRI2-CVC or CRI2-PVC
- CRI1-CVC or CRI1-PVC
- CVS-VASC

**Hierarchy**
**CRI: Catheter-related infection**

Central vascular catheter (CVC) or peripheral vascular catheter (PVC) infections

- CVC/PVC tip quantitative culture $\geq 10^3$ CFU/ml or semi-quantitative culture $>15$ CFU

- BSI occurring 48 hours before or after catheter removal

- Pus/inflammation at the insertion site or tunnel

- Clinical signs improve within 48 hours after catheter removal

- Quantitative culture $\geq 10^3$ CFU/ml or semi-quantitative culture $>15$ CFU with the same organism

- Positive culture with the same organism from pus from insertion site

- Quantitative blood culture ratio catheter blood sample/peripheral blood sample $>5$ with the same organism (CVC only)

- Differential delay of positivity of blood cultures: blood sample culture positive 2 hours or more before peripheral blood culture (blood samples drawn at the same time) with the same organism (CVC only)

**CRI1-CVC**

**CRI1-PVC**

**CRI2-CVC**

**CRI2-PVC**

**CRI3-CVC**

**CRI3-PVC**
CVS: Cardiovascular system infection

- Organisms cultured from arteries or veins removed during a surgical operation AND Blood culture not done or no organisms cultured from blood

- Organisms cultured from veins removed during a surgical operation AND Blood culture not done or no organisms cultured from blood

- Organisms cultured from valve or vegetation

- ≥ 2 of the following signs or symptoms with no other recognized cause: fever (>38°C), new or changing murmur, embolic phenomena, skin manifestations (i.e., petechiae, splinter hemorrhages, painful subcutaneous nodules), congestive heart failure, or cardiac conduction abnormality

- Evidence of arterial or venous infection seen during a surgical operation or histopathologic examination

- Organisms cultured from arteries or veins removed during a surgical operation AND Blood culture not done or no organisms cultured from blood

- Organisms cultured from ≥ 2 blood cultures

- Organisms seen on Gram’s stain of valve when culture is negative or not done

- Positive antigen test on blood (e.g., H. influenzae, S. pneumoniae)

- Abnormal ECG/EKG consistent with myocarditis or pericarditis

- Evidence of myocarditis or pericarditis on histologic examination of heart tissue

- Valvular vegetation seen during a surgical operation or autopsy

- Evidence of new vegetation seen on echocardiogram AND if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.

- Evidence of new vegetation seen on echocardiogram, CT scan, MRI, or angiography.

- Positive antigen test on blood or urine (e.g., H. influenzae, S. pneumoniae, N. meningitidis, or Group B Streptococcus)

- 4-fold rise in type-specific antibody with or without isolation of virus from pharynx or feces

- Pericardial effusion identified by echocardiogram, CT scan, MRI, or angiography.

- Evidence of new vegetation seen on echocardiogram, CT scan, MRI, or angiography.

- Positive antigen test on blood or urine (e.g., H. influenzae, S. pneumoniae, N. meningitidis, or Group B Streptococcus)

- Mediastinal widening on x-ray

- Organisms cultured from mediastinal tissue or fluid obtained during a surgical operation or needle aspiration

- Organisms cultured from ≥ 2 blood cultures

- Abnormal ECG/EKG consistent with myocarditis or pericarditis

- Positive antigen test on blood (e.g., H. influenzae, S. pneumoniae)

- Evidence of myocarditis or pericarditis on histologic examination of heart tissue

- Purulent discharge from mediastinal area

- Mediastinal widening on x-ray

- Organisms cultured from mediastinal tissue or fluid obtained during a surgical operation or needle aspiration

- Organisms cultured from ≥ 2 blood cultures

- Abnormal ECG/EKG consistent with myocarditis or pericarditis

- Positive antigen test on blood (e.g., H. influenzae, S. pneumoniae)

- Evidence of myocarditis or pericarditis on histologic examination of heart tissue

- Mediastinal widening on x-ray

- Organisms cultured from mediastinal tissue or fluid obtained during a surgical operation or needle aspiration

- Organisms cultured from ≥ 2 blood cultures

- Abnormal ECG/EKG consistent with myocarditis or pericarditis

- Positive antigen test on blood (e.g., H. influenzae, S. pneumoniae)

- Evidence of myocarditis or pericarditis on histologic examination of heart tissue

- Mediastinal widening on x-ray
**GI: Gastrointestinal system infection (also GI-GIT, GI-HEP, GI-HAB)**

*Clostridium difficile* infection must meet at least 1 of the following criteria:

- Diarrhoeal stools or toxic megacolon, and a positive laboratory assay for *C. difficile* toxin A and/or B in stools
- Pseudomembranous colitis revealed by lower gastrointestinal endoscopy
- Colonic histopathology characteristic of *C. difficile* infection (with or without diarrhoea) on a specimen obtained during endoscopy, colectomy or autopsy

**GI-CDI**
*Clostridium difficile* infection

*Note:* If clinical signs of *Clostridium difficile* infection appear in 28 days after hospital discharge period, GI-CDI must be defined as healthcare-associated infection

**Patient has an acute onset of diarrhea (liquid stools for more than 12 hours) with or without vomiting or fever (>38°C) and no likely noninfectious cause (e.g., diagnostic tests, therapeutic regimen other than antimicrobial agents, acute exacerbation of a chronic condition, or psychologic stress)**

- An enteric pathogen is cultured from stool or rectal swab
- An enteric pathogen is detected by routine or electron microscopy
- An enteric pathogen is detected by antigen or antibody assay on blood or feces
- Evidence of an enteric pathogen is detected by cytopathic changes in tissue culture (toxin assay)
- Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen

**GI-GE**
Gastroenteritis (excl. CDI)

**Patient has ≥ 2 of the following signs or symptoms with no other recognized cause: nausea, vomiting, abdominal pain, fever (>38°C), or headache**

- An enteric pathogen is cultured from stool or rectal swab
- An enteric pathogen is detected by routine or electron microscopy
- An enteric pathogen is detected by antigen or antibody assay on blood or feces
- Evidence of an enteric pathogen is detected by cytopathic changes in tissue culture (toxin assay)
- Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen
SST: Skin and soft tissue infection (also SST-BURN & SST-BRST)

**SST-SKIN: Skin infection**

- Purulent drainage, pustules, vesicles, or boils
- OR
- ≥ 2 of the following signs or symptoms with no other recognized cause: pain or tenderness, localized swelling, redness, or heat
- AND
- Organisms cultured from aspirate or drainage from affected site; if organisms are normal skin flora (ie, diphtheroids, Bacillus [not B. anthracis] spp, Propionibacterium spp, coagulase-negative staphylococci [including S. epidermidis], viridans group streptococci, Aerococcus spp, Micrococcus spp), they must be a pure culture
- OR
- Organisms cultured from blood
- OR
- Positive antigen test performed on infected tissue or blood (eg, herpes simplex, varicella zoster, H. influenzae, N. meningitidis)
- OR
- Multinucleated giant cells seen on microscopic examination of affected tissue
- OR
- Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen

**SST-ST: Soft tissue**

- Organsisms cultured from tissue or drainage from affected site
- OR
- Purulent drainage at affected site
- OR
- An abscess or other evidence of infection seen during a surgical operation or histopathologic examination
- OR
- ≥ 2 of the following signs or symptoms at the affected site with no other recognized cause: localized pain or tenderness, redness, swelling, or heat
- AND
- Organisms cultured from properly collected fluid or tissue*
- OR
- Organisms cultured from blood
- OR
- Positive antigen test performed on blood or urine (eg, H. influenzae, S. pneumoniae, N. meningitidis, Group B Streptococcus, Candida spp)
- OR
- Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen

**SST-DECU: Decubitus ulcer, including both deep and superficial infections**

- ≥ 2 of the following signs or symptoms with no other recognized cause: redness, tenderness, or swelling of decubitus wound edges
- AND
- Organisms cultured from properly collected fluid or tissue*
- OR
- Organisms cultured from blood
- OR
- Positive antigen test performed on blood or urine (eg, H. influenzae, S. pneumoniae, N. meningitidis, Group B Streptococcus, Candida spp)
- OR
- Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen

* Purulent drainage alone is not sufficient evidence of an infection. Organisms cultured from the surface of a decubitus ulcer are not sufficient evidence that the ulcer is infected. A properly collected specimen from a decubitus ulcer involves needle aspiration of fluid or biopsy of tissue from the ulcer margin.

**Note:**
- Report infected decubitus ulcers as SST-DECU
- Report infected burns as SST-BURN
- Report breast abscesses or mastitis as SST-BRST
- Report infection of deep pelvic tissues as SST-OREP
Disseminated infection is infection involving multiple organs or systems, without an apparent single site of infection, usually of viral origin, and with signs or symptoms with no other recognized cause and compatible with infectious involvement of multiple organs or systems.

**Note:**
- Use SYS-DI for viral infections involving multiple organ systems (eg, measles, mumps, rubella, varicella, erythema infectiosum). These infections often can be identified by clinical criteria alone.
- Report viral exanthems or rash illness as SYS-DI.
- **Do not** use SYS-DI for healthcare-associated infections with multiple metastatic sites, such as with bacterial endocarditis; only the primary site of these infections should be reported.
- **Do not** report fever of unknown origin (FUO) as SYS-DI.

Patient has ≥ 1 of the following:
- Clinical signs or symptoms with no other recognized cause
- Fever (38°C)
- Hypotension (systolic pressure <90 mm),
- Oliguria (20 cm³(ml)/hr)

**And**

- Blood culture not done or no organisms or antigen detected in blood
- No apparent infection at another site
- Physician institutes treatment for sepsis

**SYS-CSEP**
Treated unidentified severe infection