It's a Bird, It's a Plane
No---It's a Primary Bloodstream Infection

Review of Primary Bloodstream Infection Surveillance and Case Studies

March, 26 2019

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Objectives

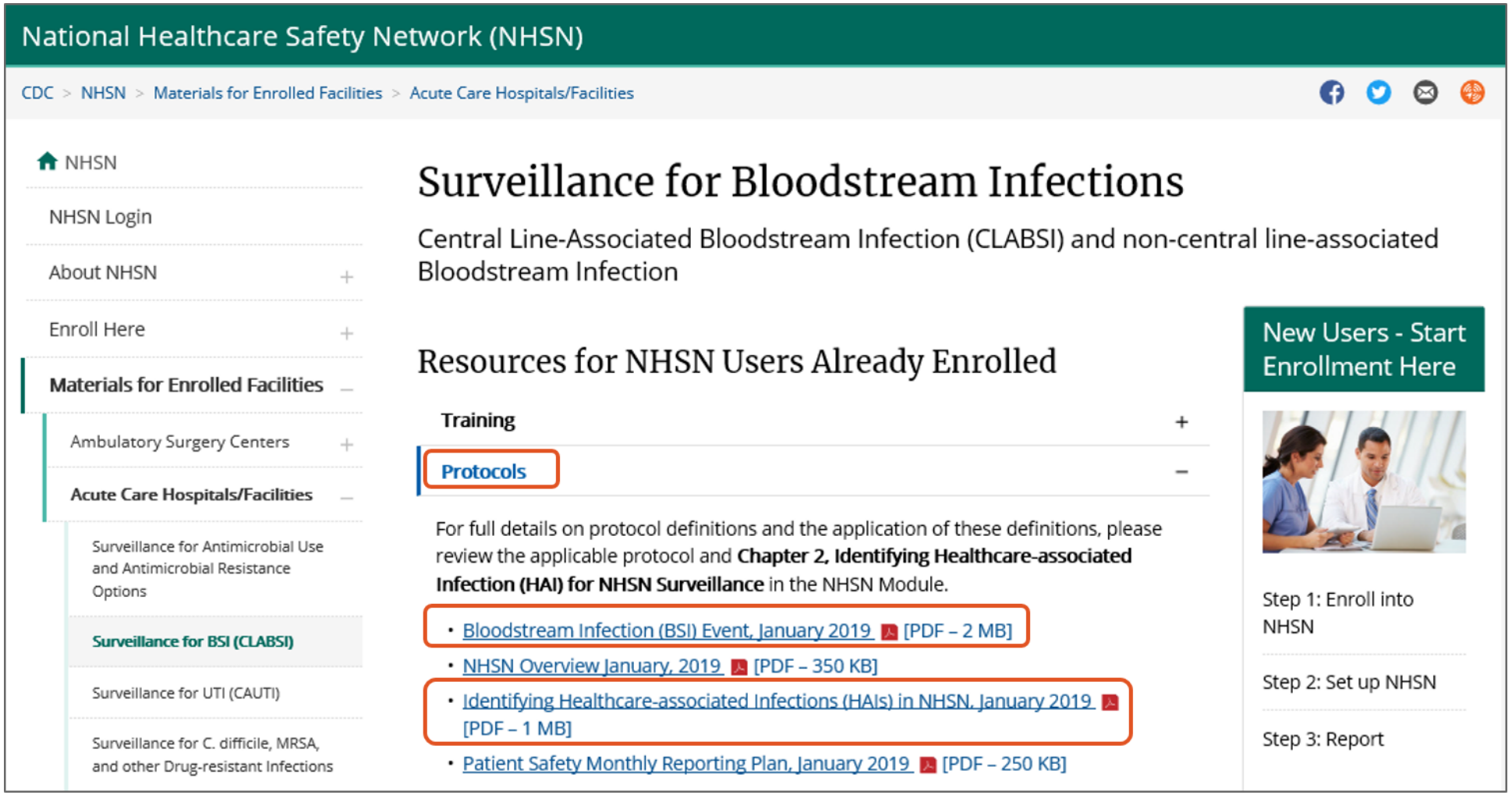
- Provide an overview of the training resources, protocol, and supporting materials
- Define key terms for device-associated infections specifically CLABSI
- Discuss device-associated infection surveillance changes for 2019
- Provide an overview of the data collection process for mapped NHSN locations (Numerator & Denominator)
- Assess current BSI knowledge through case studies

2017 National and State Healthcare-Associated Infections Progress Report

- Working toward the elimination of HAIs is a CDC priority
- The infection data are reported to CDC's National Healthcare Safety Network (NHSN)
- U.S. hospitals reported a significant decrease in CLABSIs between 2016 and 2017
- This report provides national- and state-level data about HAI incidence during 2016
- Provides a summary of select HAIs across four healthcare settings: acute care hospitals (ACHs), critical access hospitals (CAHs), inpatient rehabilitation facilities (IRFs) and long-term acute care hospitals (LTACHs)

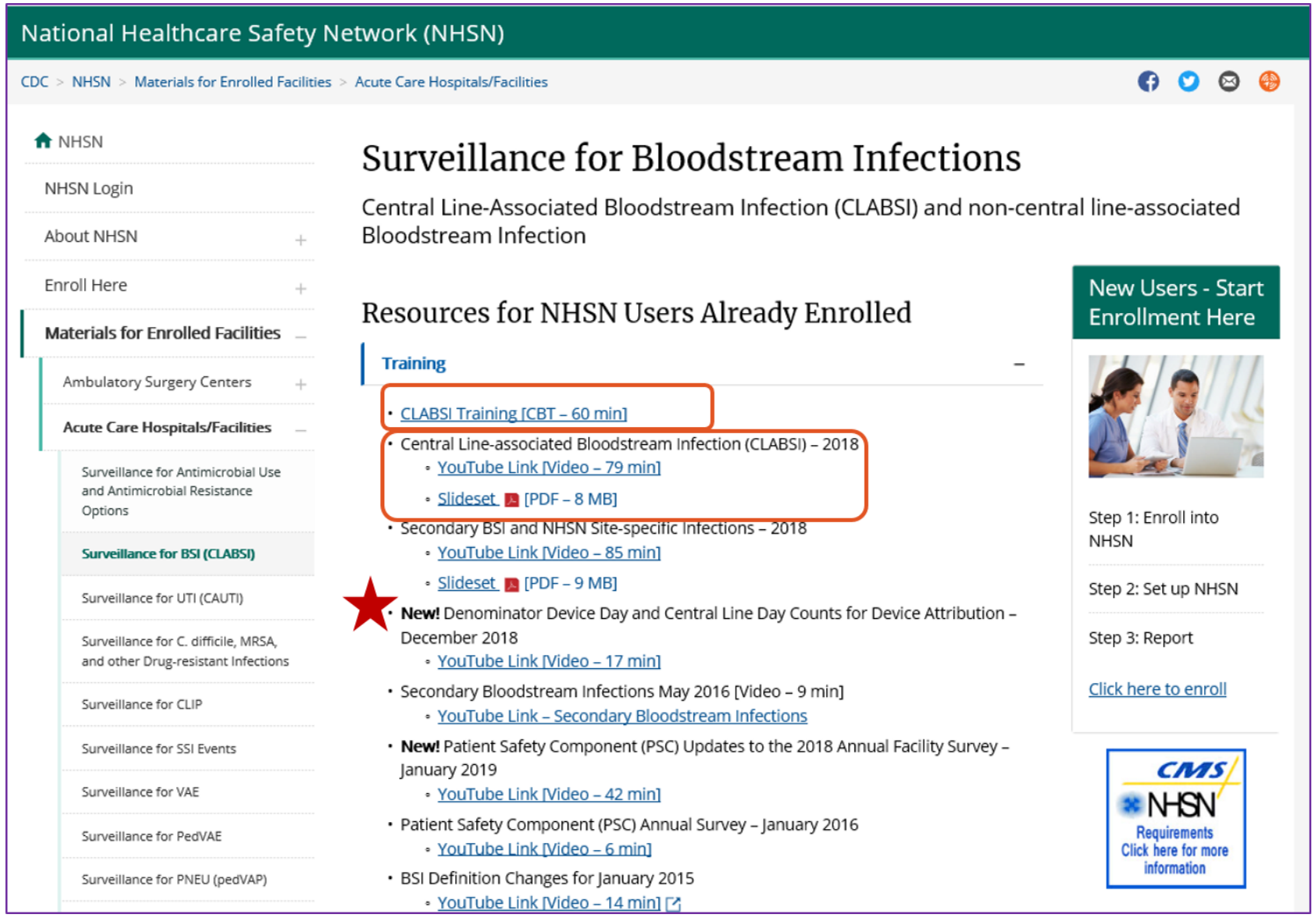
Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)
Division of Healthcare Quality Promotion (DHQP)
Retrieved from https://www.cdc.gov/hai/data/portal/progress-report.html

Where Can I Find the BSI Surveillance Protocol



https://www.cdc.gov/nhsn/acute-care-hospital/clabsi/index.html

Where Can I Find the BSI Training Resources



https://www.cdc.gov/nhsn/acute-care-hospital/clabsi/index.html

Where Can I Find the Frequently Asked Questions?

National Healthcare Safety Network (NHSN)

CDC > NHSN > Materials for Enrolled Facilities > Acute Care Hospitals/Facilities

- NHSN
- NHSN Login
- About NHSN +
- Enroll Here +
- **Materials for Enrolled Facilities** –
  - Ambulatory Surgery Centers +
  - **Acute Care Hospitals/Facilities** –
    - Surveillance for Antimicrobial Use and Antimicrobial Resistance Options
    - **Surveillance for BSI (CLABSI)**
    - Surveillance for UTI (CAUTI)
    - Surveillance for C. difficile, MRSA, and other Drug-resistant Infections
    - Surveillance for CLIP

Surveillance for Bloodstream Infections

Central Line-Associated Bloodstream Infection (CLABSI) and non-central line-associated Bloodstream Infection

Resources for NHSN Users Already Enrolled

Training +

Protocols +

Frequently Asked Questions –

New! 2019 FAQs:

- FAQs: Bloodstream Infection Event (Central Line- Associated Bloodstream Infection and Non-central line-associated Bloodstream Infection)
- FAQs: Analysis
- FAQs: Annual Surveys
- FAQs: Locations
- FAQs: Miscellaneous
- FAQs: CDA

New Users - Start Enrollment Here

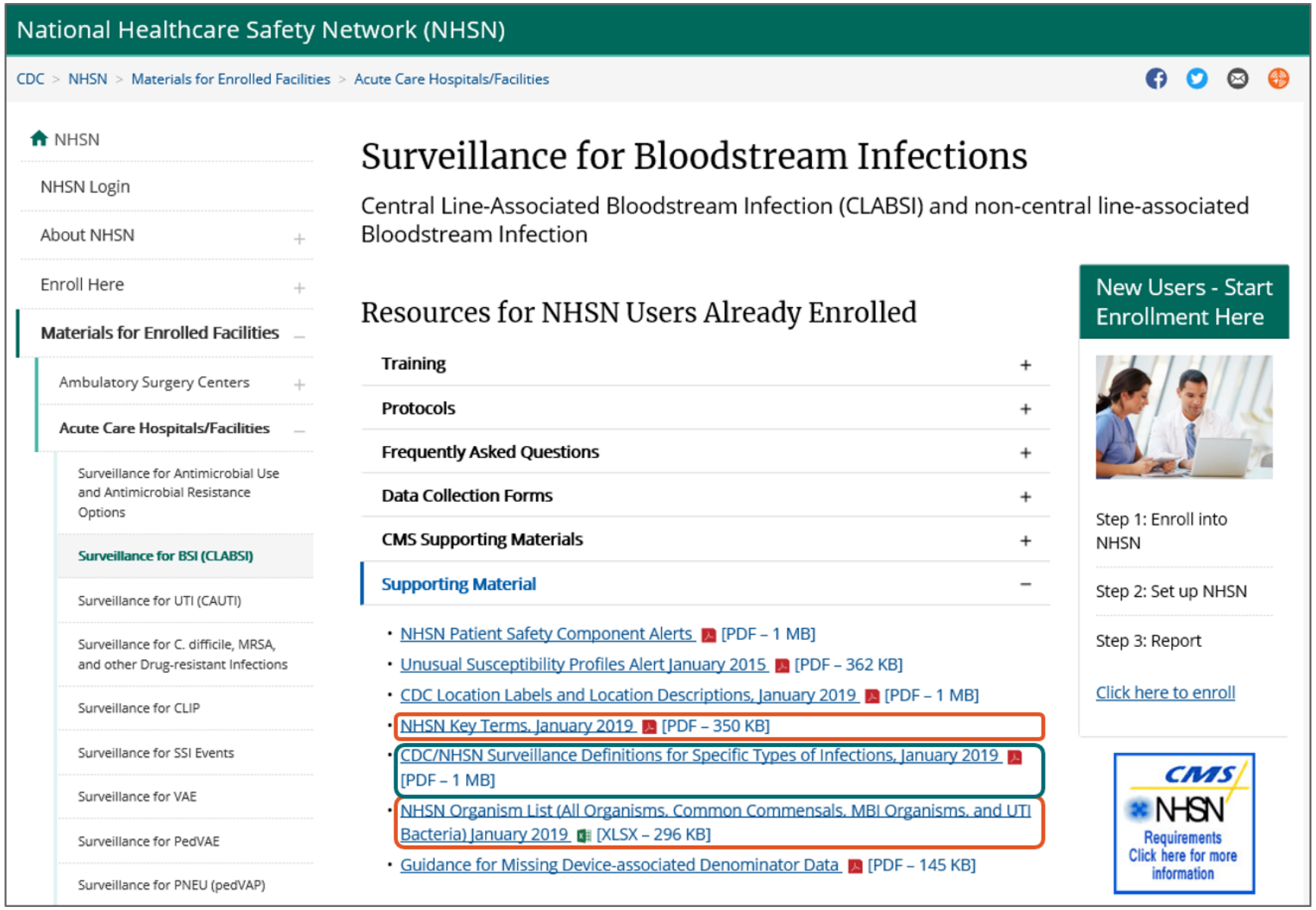
Step 1: Enroll into NHSN

Step 2: Set up NHSN

Step 3: Report

Click here to enroll

Where Can I Find BSI Supporting Material



Definitions Specific to BSI / CLABSI Surveillance

BSI / CLABSI Definitions

Infection Window Period (IWP)

The 7-day period: in which all site-specific infection criterion must be met. It includes the **date of collection of the first blood specimen** which identifies an organism in the blood, **3 calendar days before** and **3 calendar days after**

Date of Event (DOE)

LCBI 1: **DOE** will always be the **date of the blood specimen collection** which identifies an organism in the blood (will always be a recognized pathogen) ***No symptom required***

LCBI 2 or 3: **DOE** will always be the **first date an element** that is used to meet the LCBI 2 or 3 criteria (symptom or the first of 2 cultures with matching CC) occurs within the BSI IWP
Symptom required

BSI / CLABSI Definitions

Laboratory Confirmed Bloodstream Infection (LCBI)

Primary BSI: Organism cultured from the blood that is **not** related to an infection at another site. LCBI 1, LCBI 2, LCBI 3

Primary BSIs will create a 14 day BSI Repeat infection Timeframe (RIT)

Secondary BSI

Bloodstream infection that is not reported as an LCBI because it is associated with a site-specific infection at another body site which has seeded the bloodstream

Secondary BSI's do not create a BSI RIT

NOTE: Site-specific infection will create a site-specific RIT

Site-specific infection will create a Secondary BSI Attribution Period

BSI / CLABSI Definitions

Secondary BSI Attribution Period (SBAP)

The period in which a blood specimen must be collected for a secondary BSI attributed to a primary site of infection

SBAP = IWP + RIT

14-17 days depending on DOE

Eligible BSI Organism

Any organism eligible to meet LCBI or MBI-LCBI criteria, does not include excluded organism

BSI / CLABSI Definitions

Central Line

An intravascular catheter that *terminates at* or *close to the heart* or *in one of the great vessels* which is used for infusion, withdrawal of blood, or hemodynamic monitoring

Great Vessels for CLABSI Reporting

- Aorta
- Pulmonary artery
- Superior vena cava
- Inferior vena cava
- Brachiocephalic veins
- Internal jugular veins
- Subclavian veins
- External iliac veins
- Common iliac veins
- Femoral veins
- Umbilical artery/vein (neonate)

Once deemed a central line, it stays a central line until removed.

BSI / CLABSI Definitions

Central Line Access

Line placement, needle into the port, infusion or withdrawal through the line, flushes, hemodynamic monitoring

Access = an eligible line for CLABSI events

Eligible Central Line

A central line (CL) that has been in place > 2 consecutive calendar days following the *first access* of the central line, in an inpatient location, during the current admission

NOTE: Eligible for CLABSI events until the day after removal from the body or patient discharge, whichever comes first

Central Line Types: What's in a Name

Types of Central Lines

- **Temporary**: A non-tunneled, non-implanted catheter
- **Permanent:** A Tunneled (including certain dialysis) catheters or implanted port
- **Umbilical catheter:** Inserted through the umbilical artery or vein in a neonate

Central Line Types: What's in a Name

- Devices that are NOT considered central lines for NHSN reporting

- Arterial Catheters
- Arteriovenous fistula
- Arteriovenous graft
- Atrial catheters (also known as transthoracic intra-cardiac catheters)
- Extracorporeal membrane oxygenation (ECMO)

- Hemodialysis reliable outflow (HERO) dialysis catheters
- Intra-aortic balloon pump (IABP) devices
- Ventricular Assist Devices (VAD)
- Peripheral IV's

Introducer

A Note on Excluded Organisms

Excluded from LCBI Criteria

- *Campylobacter spp.*
- *C. difficile*
- *Enterohemorrhagic E. coli*
- *Enteropathogenic E. coli*
- *Salmonella spp.*
- *Shigella spp.*
- *Listeria spp.*
- *Yersinia spp.*
- *Vibrio spp.*
- *Viruses*
- *Parasites*

New!

Excluded from ALL NHSN Definitions

- *Blastomyces*
- *Histoplasma*
- *Coccidioides*
- *Paracocidioide*
- *Cryptococcus*
- *Pneumocystis*

Group B Strep:

Excluded for the first 6 days of life.

Considered an LCBI that creates an RIT but is **NOT** a CLABSI.

Recap of 2018 Revision: Denominator Device Day Counts and Central Line Day Counts

Recap: Denominator Device Day Counts and Central Line Day Counts

- Denominator Device Day Counts
  - –Count will begin on the 1st day the central line is present
- Central Line Day Counts for Making a CLABSI Determination
  - – Count will begin on the 1st day of access on an inpatient unit

Denominator Device Day Counts

Table 7
Page 4-22

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
Patient A:	Inpatient Location ICU CL inserted	ICU CL in	ICU CL in	ICU CL in	ICU CL in	ICU CL in	ICU CL in
Denominator Day Counts for Device Days	Day 1*	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Date	**31-Mar**	**1-Apr**	**2-Apr**	**3-Apr**	**4-Apr**	**5-Apr**	**6-Apr**
Patient C:	Inpatient Location ICU CL in place at time of admission	ICU CL in	ICU **CL in/ CL out**	ICU CL in	ICU CL in	**ICU CL in/ CL out**	ICU No device
Denominator Device Day Count	Day 1	Day 2	Day 3*	Day 4	Day 5	Day 6*	-
Date	**31-Mar**	**1-Apr**	**2-Apr**	**3-Apr**	**4-Apr**	**5-Apr**	**6-Apr**
Patient E:	Inpatient Location ICU **Patient admitted with non-accessed port**	Inpatient Location ICU Port not accessed	ICU Port not accessed	ICU Port accessed	ICU Port accessed	ICU Port accessed	ICU Port accessed
Denominator Device Day Count	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7

Recap: Denominator Device Day Counts and Central Line Day Counts

- Denominator Device Day Counts
  - –Count will begin on the 1st day the central line is present
- Central Line Day Counts for Making a CLABSI Determination
  - – Count will begin on the 1st day of access on an inpatient unit

Examples of Associating the Use of Central Lines to BSI Events (CLABSI)

Central Line-Associated BSI (CLABSI)

A laboratory-confirmed bloodstream infection where an **eligible BSI organism** is identified and an **eligible central line** is present on the LCBI DOE or the day before

Table 4
Page 4-17

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-A
Patient A: Port Status	Port in	Port in	Port in	Port in	Port in	Port in	Port in
Accessed	No	No	Yes	Yes	Yes De-accessed*	No	No
Eligible for CLABSI event	No	No	No CL Day 1	No CL Day 2	Yes-eligible CL CL Day 3	Yes-eligible CL CL Day 4	Yes-eligible CL CL Day 5

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
Patient B: CL Status	CL in	CL in	CL in	CL in	CL in / CL out	No device	No device
Accessed	No	No	Yes	Yes	Removed	-	-
Eligible for CLABSI event	No -	No -	No CL Day 1	No CL Day 2	Yes-eligible CL CL Day 3	Yes-eligible CL -	No -

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
Patient C: CL Status	CL in	CL in	CL in/ CL out	CL in	CL in	CL in/ CL out	No device
Accessed	Yes	Yes	Removed	Placed	Yes	Removed	-
Eligible for CLABSI event	Yes CL Day 3	Yes CL Day 4	Yes CL Day 5	Yes CL Day 6	Yes CL Day 7	Yes CL Day 8	Yes -

New Changes and Revisions 2019: CLABSI Exclusions

I See What's Happening Here: Can We ExcludeThis CLABSI?

- Presence of extracorporeal life support (ECMO)

  - Device must be in place **> 2 consecutive calendar days on the BSI DOE and is still in place on the DOE or day before.**

- Ventricular assist device (VAD)

  - Device must be in place **> 2 consecutive calendar days on the BSI DOE and is still in place on the DOE or day before.**

NOTE: Data Field Required in 2019

I See What's Happening Here: Can We Exclude This CLABSI?

- IVDA's - observed or suspected injection into their vascular access
  - Documentation must occur within the BSI IWP
- Epidermolysis bullosa (EB)
  - Documentation must occur during current admission
- Munchausen Syndrome by Proxy (MSBP) or "Factitious Disorder Imposed on Another"
  - Documentation during current admission of confirmed or suspected MSBP

NOTE: Optional – 2019 – Required 2020

I See What's Happening Here: Can We Exclude This CLABSI?

- Pus at the Vascular Access Site
  - **All of the following elements are needed:**
    - Eligible central line
    - Another vascular access device
    - Pus at the site of the vascular access device
    - Specimen collected during the BSI IWP from the vascular access site with at least one matching organism to an organism identified in blood

NOTE: Optional – 2019 – Required 2020

I See What's Happening Here: Can We Exclude This CLABSI?

Vascular access devices included in this exception are limited to:

- Arterial catheters
- Arteriovenous fistulae
- Arteriovenous grafts
- Atrial catheters (also known as transthoracic intra-cardiac catheters, those catheters inserted directly into the right or left atrium via the heart wall)
- Hemodialysis reliable outflow (HERO) dialysis catheters
- Intra-aortic balloon pump (IABP) devices
- Non-accessed CL (those neither inserted nor used during current admission)
- Peripheral IV or Midlines

Summary of 2019 CLABSI Exclusions

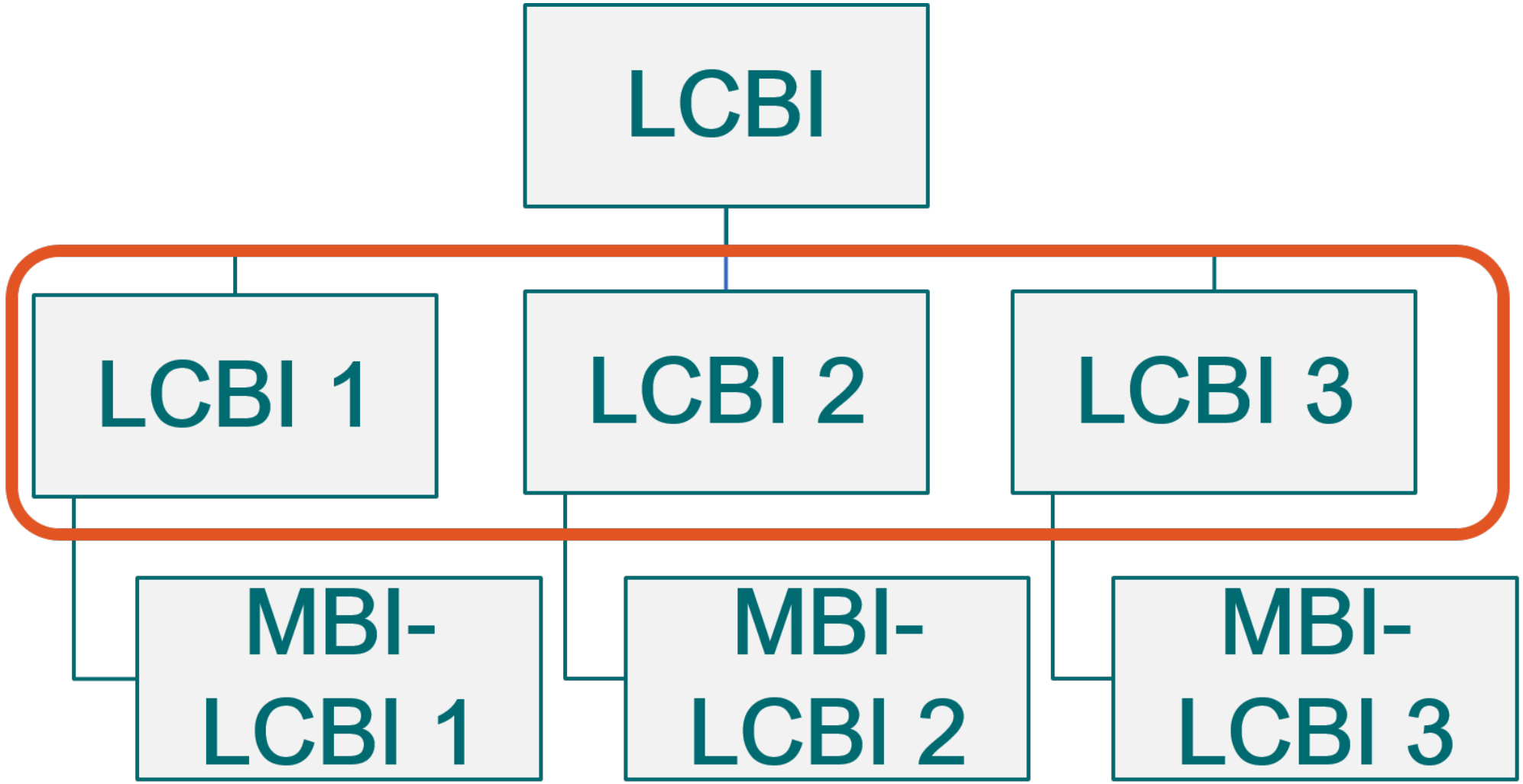
CLABSI Exclusions	Exclusion Field Marked Yes or No	Central Line Field Marked Yes or No	Exclusion Reporting Requirement in 2019
Extracorporeal membrane oxygenation (ECMO)	-	-	-
• ECMO present >2 days on BSI DOE and in place on the DOE or the day before	**Y**	**Y**	**Required**
• NOT present > 2 days on BSI DOE, or NOT present on DOE or day before	**N**	**Y**	**Required**
Ventricular assist device (VAD)	-	-	-
• VAD present >2 days on BSI DOE and in place on the DOE or the day before	**Y**	**Y**	**Required**
• NOT present > 2 days on BSI DOE, or NOT present on DOE or day before	**N**	**Y**	**Required**
Epidermolysis Bullosa (EB)	**Y**	**N**	**Optional**
Munchausen's syndrome by proxy (MSBP)	**Y**	**N**	**Optional**
Patient self-injection	**Y**	**N**	**Optional**
Pus at vascular site	**Y**	**N**	**Optional**
Group B Streptococcus BSI- 1st 6 days of life	**Y**	**N**	**Optional**

Table 3
Page 4-13

A CLABSI determination includes a LCBI with an eligible organism and an eligible CL present on the DOE or day before. Therefore, Table 3 implies there is an ***eligible CL*** in place in all of the following scenarios.

LCBI – The Criteria

Laboratory Confirmed Bloodstream Infection



Investigating a Positive Blood Specimen: Where Do I Begin

Infection is suspected based on + blood specimen

1. Determine the IWP
2. Determine elements present in IWP
3. Consider the organism & determine DOE
4. Determine if POA or HAI
   - If POA-stop, nothing to report
5. If an HAI determine device association & location of attribution
6. Determine RIT
7. Determine if another site specific source of infection present
   - If secondary, stop-no LCBI to report-go to secondary BSI
8. If not secondary: determine LCBI 1, LCBI 2 or LCBI 3 based on organism & symptom if required

LCBI-1 Criterion:

- Patient of any age **has a recognized bacterial or fungal** pathogen not included on the NHSN common commensal list, identified from one or more blood specimens obtained by a culture or non-culture based microbiologic testing methods

AND

- Organism(s) identified in blood is not related to an infection at another site

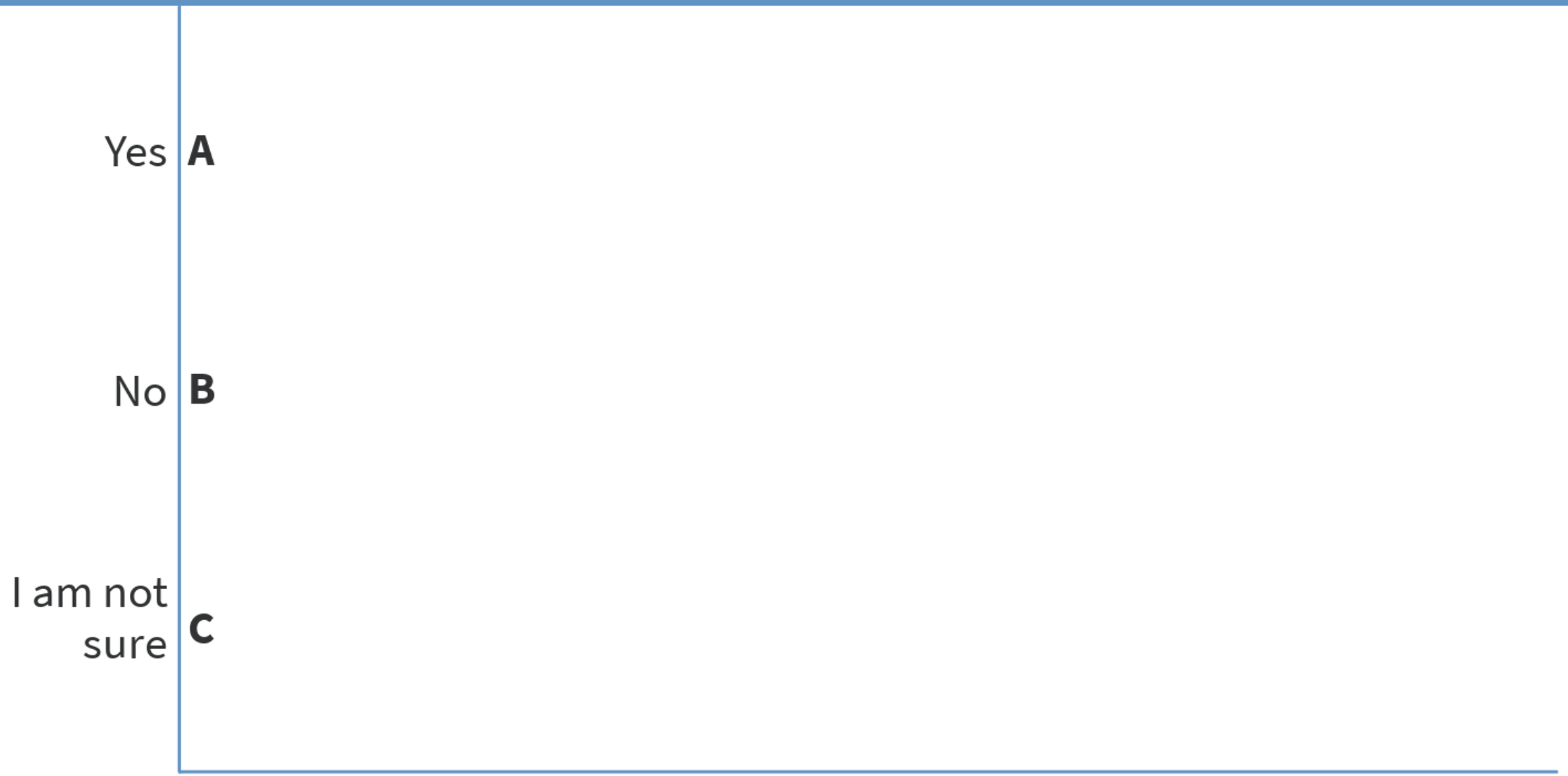
Primary BSI's do **NOT** have a secondary BSI attribution period

Knowledge Checks

Mr. OnEdge

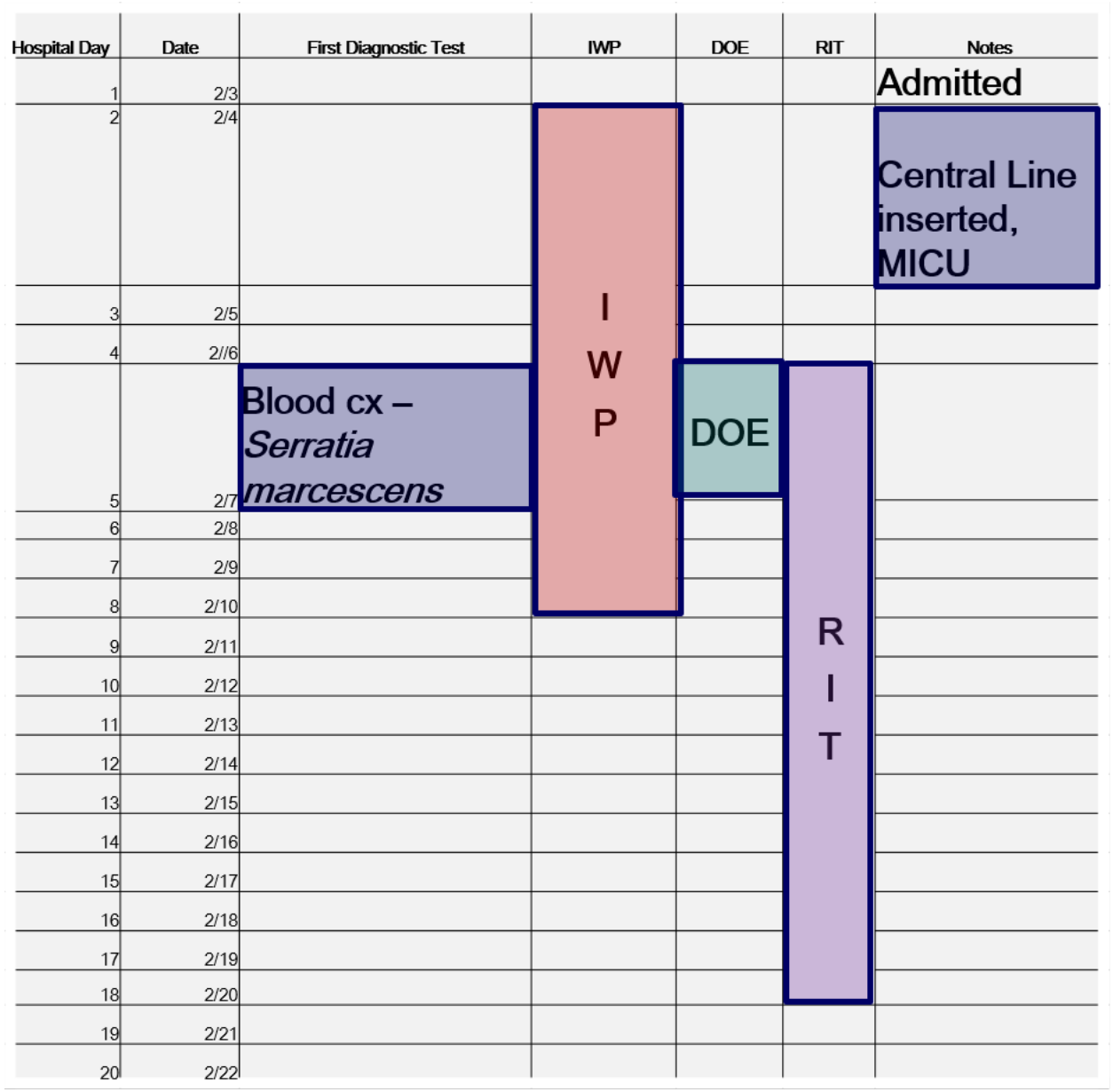
- **February 3rd**: Mr. OnEdge was admitted to MICU after having a heart attack
- **February 4th**: A central line was placed in MICU
- **February 7th**: A blood culture was collected due to fever and chills
  - Culture positive for *Serratia marcescens* (recognized pathogen)
- No other source of infection was identified

Is this an LCBI for Mr. On Edge?



Mr. OnEdge Rationale

- HAI LCBI 1 *S. marcescens* attributed to MICU
- Date of Event – 2/7
- Infection Window Period (IWP): 2/4 - 2/10
- BSI RIT: 2/7 – 2/20
- Central line-associated bloodstream infection
  - Central line in place > 2 calendar days on the day of event and still in place.



LCBI- Criteria 2 & 3

LCBI 2: **Any age** patient have at least one: **fever (>38.0° C), chills, or hypotension**

LCBI 3: A patient **≤ 1 year of age** have at least one: **fever (>38.0° C), apnea hypothermia, bradycardia**

AND

- Organism(s) identified from blood is not related to an infection at another site (See Appendix B: Secondary BSI Guide).

AND

- the same NHSN common commensal is identified from **two or more blood specimens** drawn on separate occasions by a culture or non-culture based microbiologic testing method.

Do These Organisms Really Match

If the organism is less definitively identified in one culture than the other, the identifications must be complementary

- Ex: A blood culture growing *CNS* and a blood culture growing *S. epidermidis* are considered a **match** because *S. epidermidis is a CNS*
- Ex: A blood culture growing *CNS* and a blood culture growing *Staphylococcus* are NOT considered matching because *Staphylococcus can be either CNS or CPS*

How to Report Speciated & Un-Speciated Results

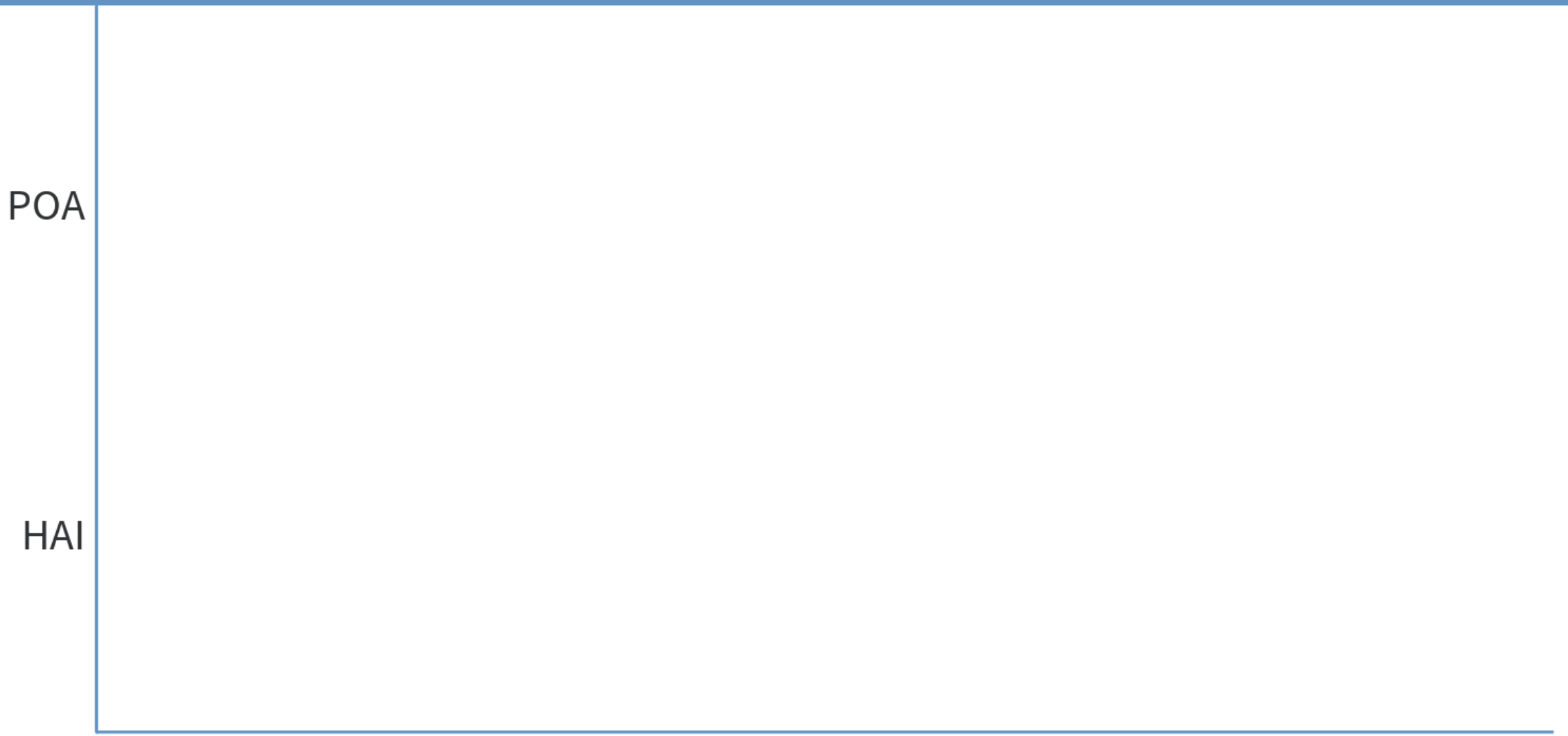
Table found on page 4-20 of the BSI protocol

Culture Report	Companion Culture Report	Report as…
Coagulase-positive staphylococci	*S. aureus*	*S. aureus*
S. epidermidis	Coagulase-negative staphylococci	*S. epidermidis*
Enterococcus spp.	*E. faecium*	*E. faecium*
Bacillus spp. (not *anthracis*)	*B. cereus*	*B. cereus*
S. salivarius	Strep viridans	*S. salivarius*

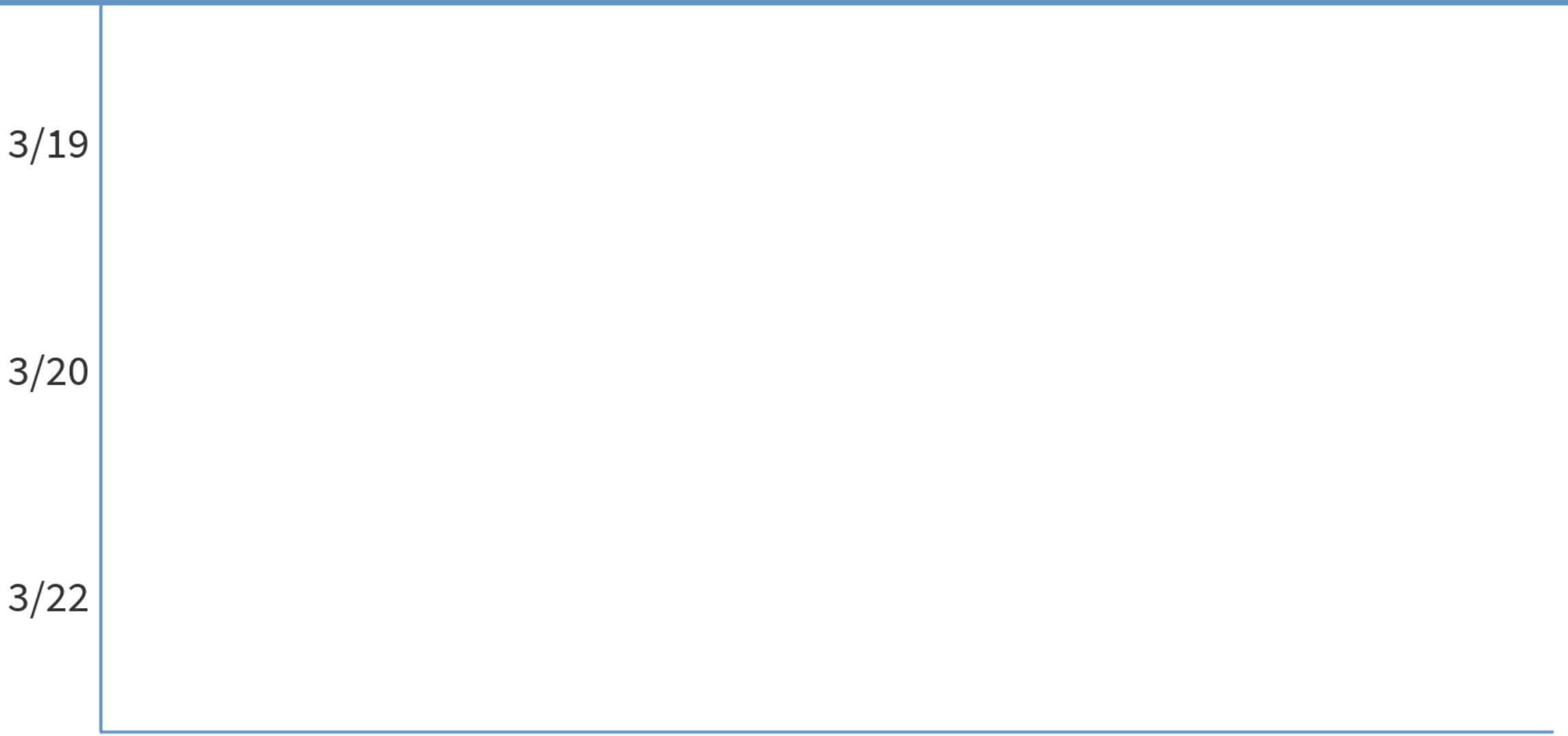
Ms. Positive Polly

- March 18: Ms. Positive Polly was admitted to the Oncology ward and a port was placed for chemotherapy.
- March 19: She developed a fever (102^{o} F)
- March 21: Blood cultures were collected that grew *Coagulase-negative Staphylococcus (CNS)* x2
- March 22: Repeat blood cultures collected grew *CNS*
- No other source of infection was identified

Is this a POA or HAI Bloodstream Infection?

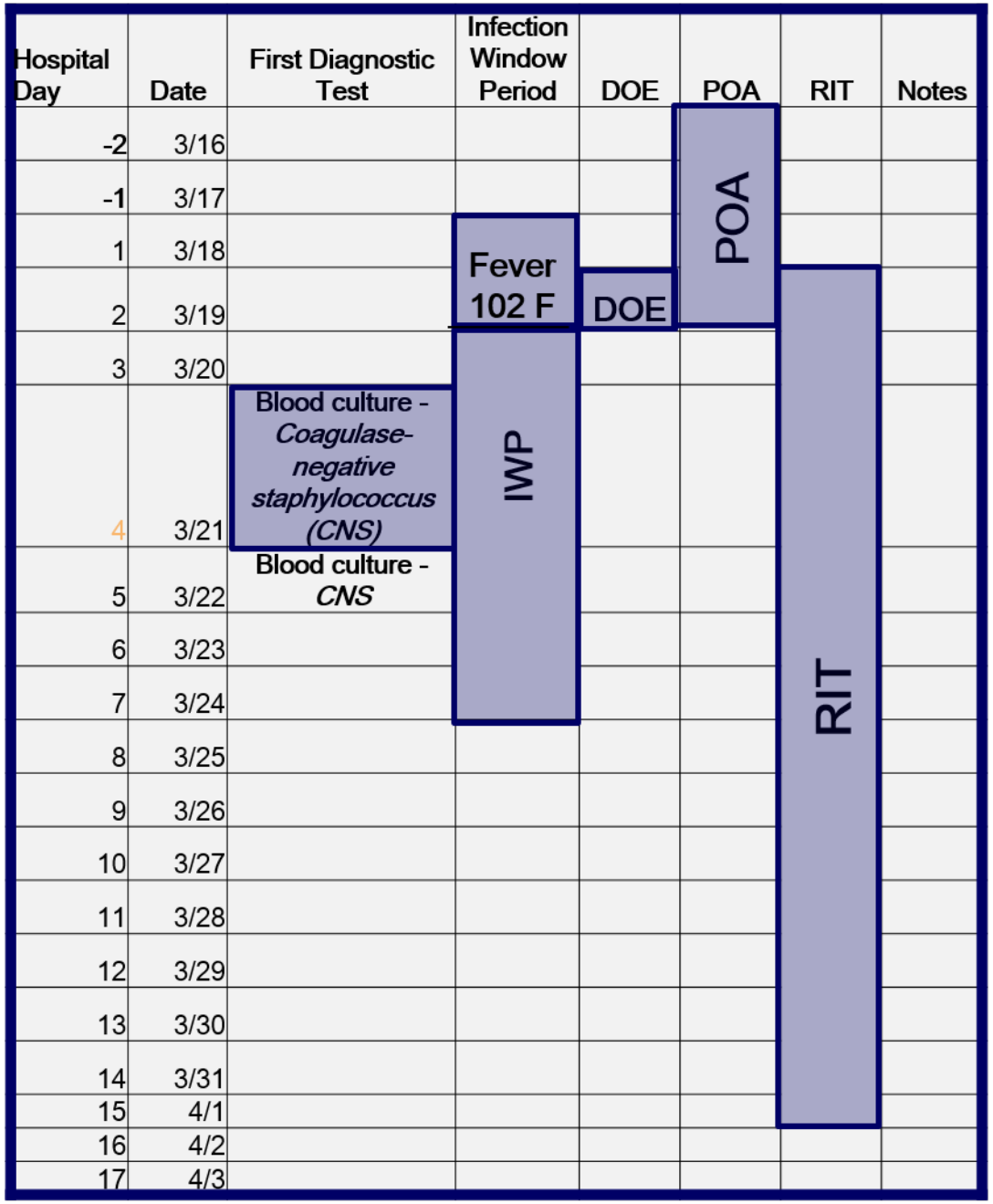


What is the Date of Event?



Ms. Positive Polly's Rationale

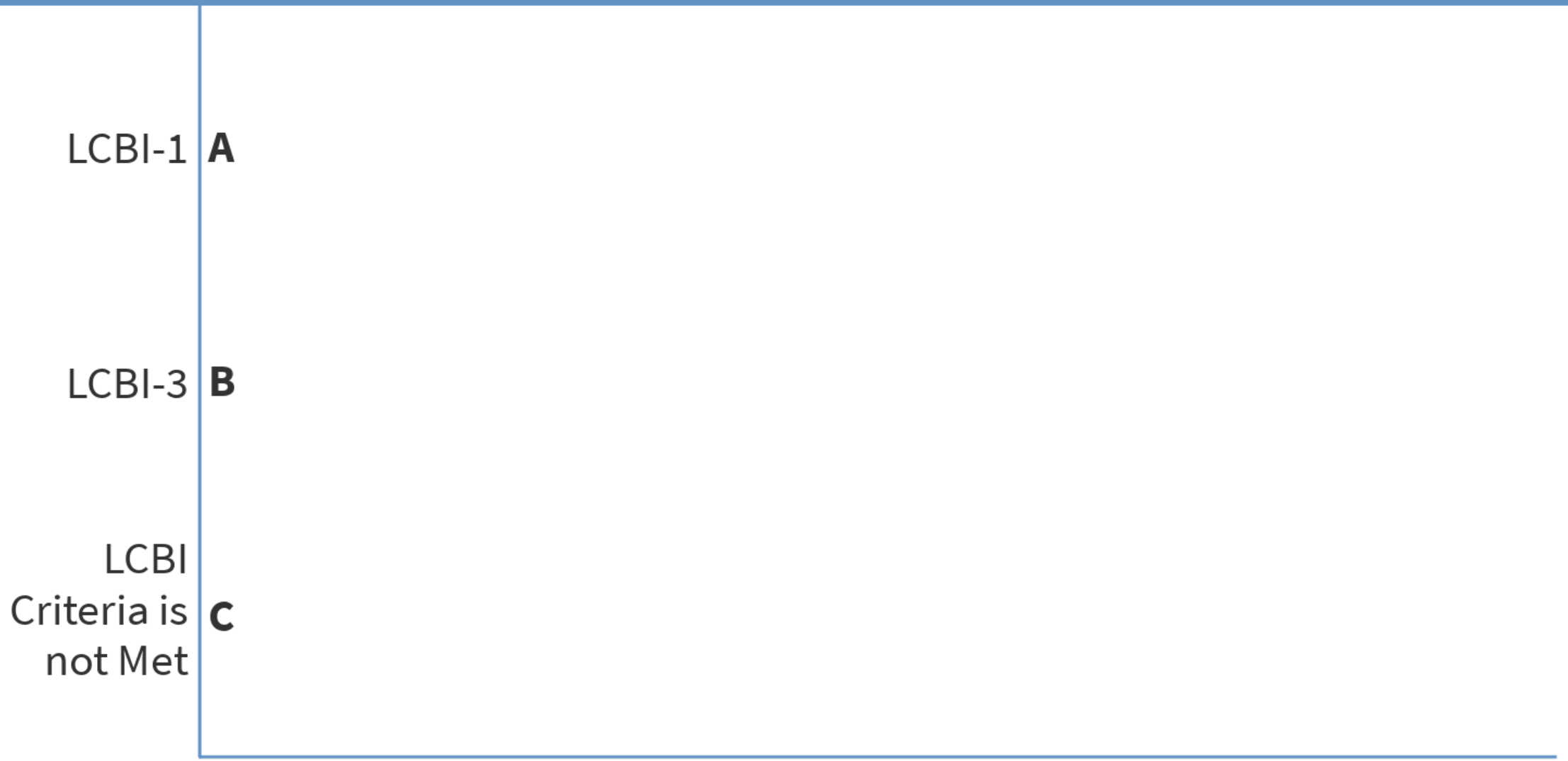
- Date of Event is **3/19**, date first element identified in the IWP.
- The Date of Event occurred during the 3/16 – 3/19 POA timeframe.
  - 2 days before, day of and 1 day after admission.



Scenario for LCBI 2 or 3

- April 1st – 4 mo. old Baby Gray was admitted Afebrile with no symptoms of an infection
- April 2nd - He developed a fever and periods of bradycardia
  - Two blood cultures were collected.
  - One specimen grew **Micrococcus**

What LCBI Criteria is Met by Baby Gray?



Baby Gray
What LCBI Criterion is Met?

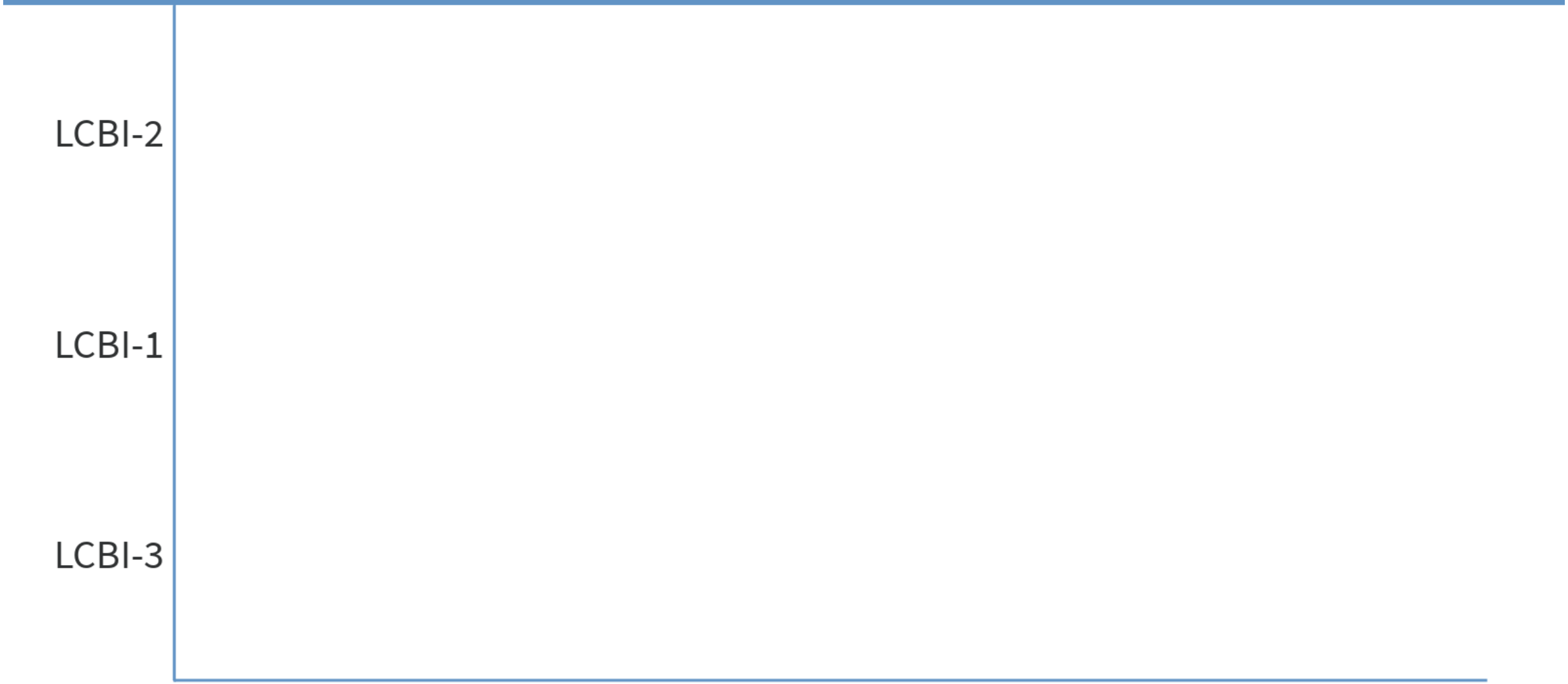
- Baby Gray was admitted with no signs or symptoms
- Hospital day 2 he developed fever and periods of bradycardia
- A single common commensal was identified

Baby Gray does not meet either LCBI 2 or LCBI 3 criteria

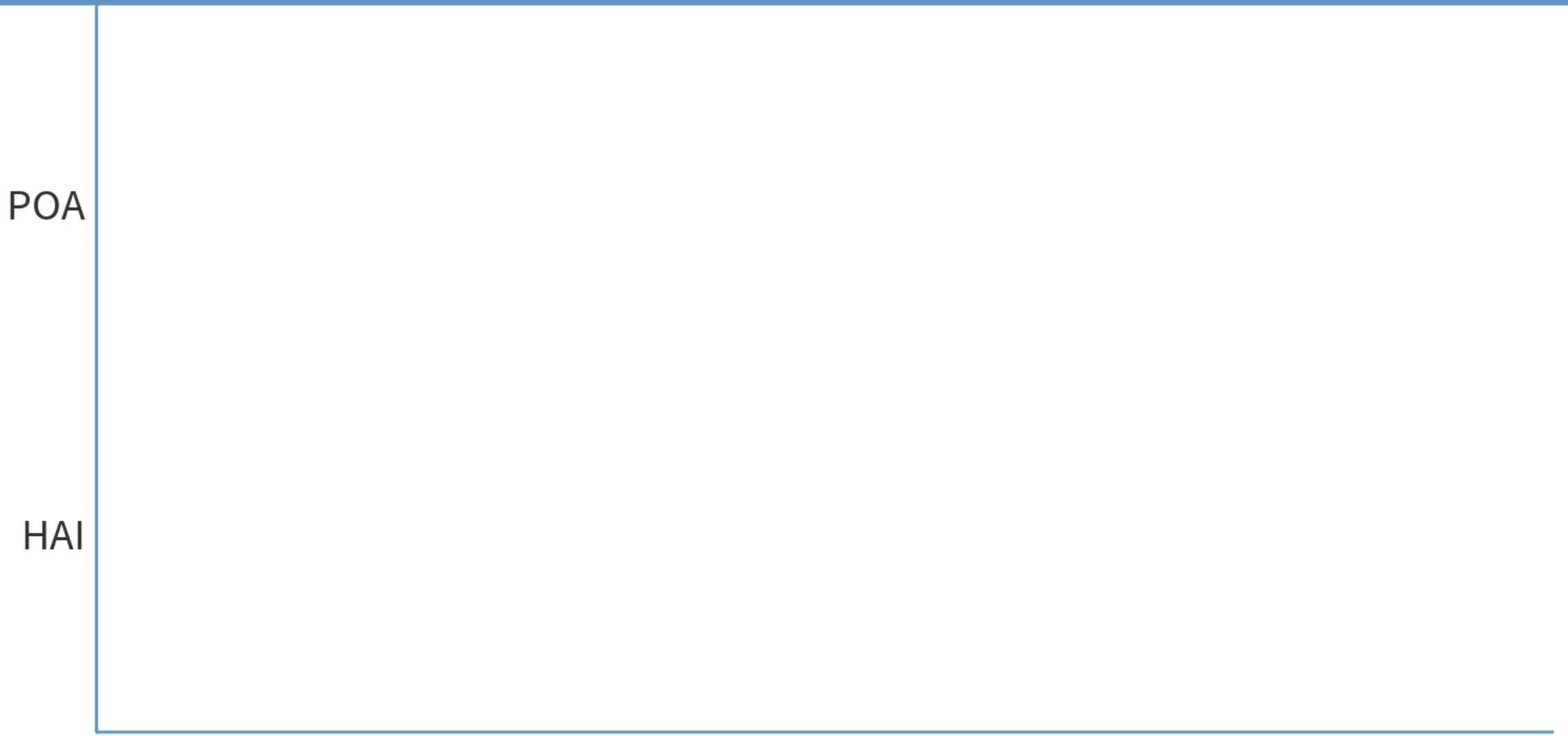
Baby Girls Belle and Bella

- 5/5: Baby Girls Belle and Bella were admitted to NICU after being born 1 mo. premature
- 5/8: New onset apnea
    - A central line was placed
- 5/9: Both developed a low grade fever of 100ºF and 2 sets of blood cultures were drawn separately both growing *Staphylococcus hominis*
- No other source of infection identified

What LCBI Criterion is Met by Baby Girls Belle and Bella?



Is this a POA or HAI Bloodstream Infection?

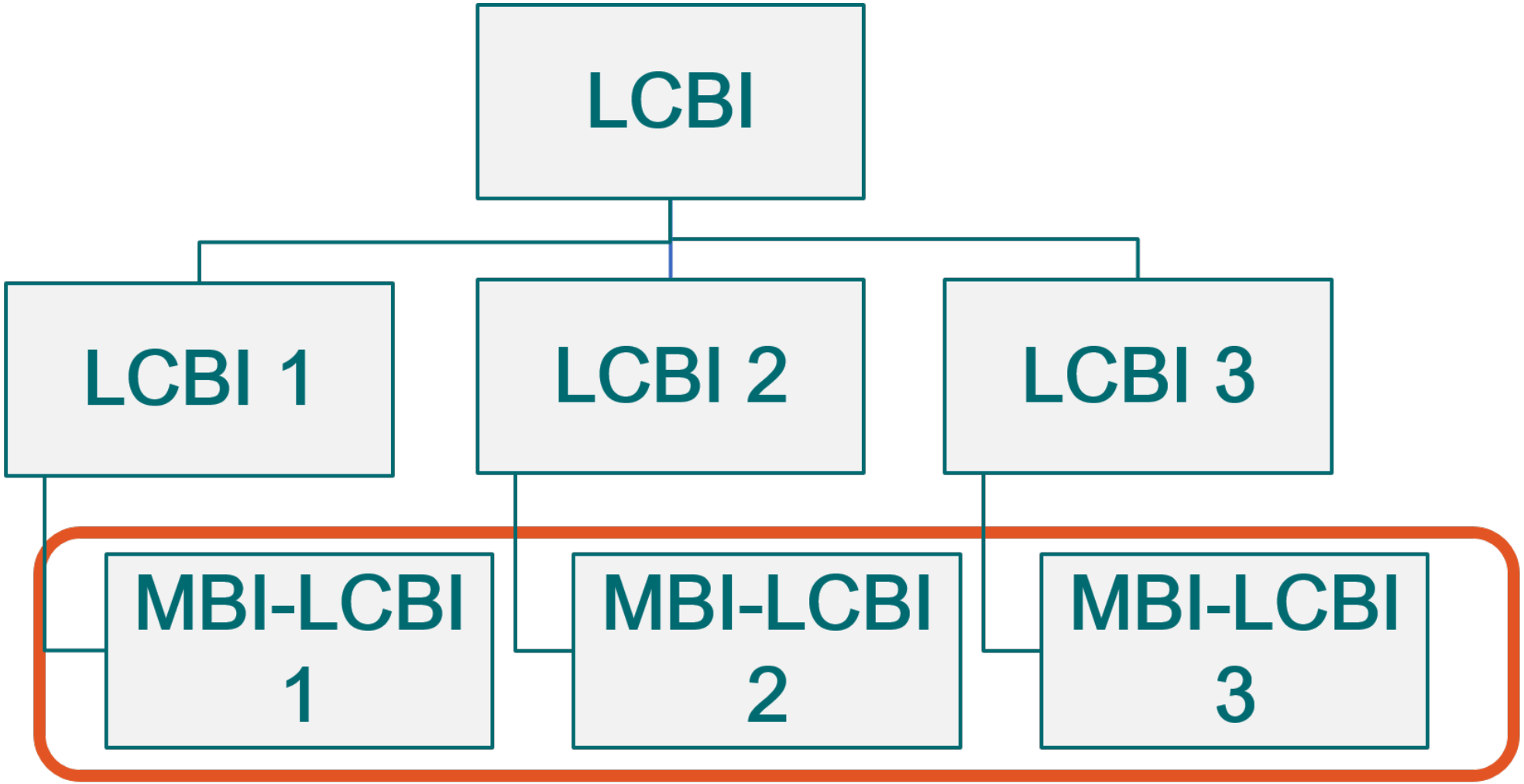


Baby Girls Belle and Bella Rationale

- 5/9 *S. hominis* blood cultures create 5/6 – 5/12 IWP
- Date of Event is 5/8, date first element (apnea), identified in the IWP
- HAI LCBI 3, 5/8

Hospital Day	Date	First Diagnostic Test	IWP	DOE	RIT	Notes
1	5/5					
2	5/6		Apnea			
3	5/7					
4	5/8			DOE		Central line inserted
5	5/9	Blood cx - *Staphylococcus hominis X2*	IWP		RIT	
6	5/10					
7	5/11					
8	5/12					
9	5/13					
10	5/14					
11	5/15					
12	5/16					
13	5/17					
14	5/18					
15	5/19					
16	5/20					
17	5/21					
18	5/22					
19	5/23					
20	5/24					

Mucosal Barrier Injury-LCBI (MBI-LCBI)



MBI-LCBI Table

Table 2: Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infection (MBI-LCBI)
Must meet **one** of the following MBI-LCBI criteria

An MBI-LCBI is a subset of the LCBI criteria; therefore, a BSI event must fully meet an LCBI criterion before evaluating for the corresponding MBI-LCBI criteria.

The MBI-LCBI DOE will always be the date the prerequisite LCBI criteria was met. Abnormal ANC and WBC values reflect risk factors for acquiring an MBI-LCBI, not symptoms of infection and therefore are not used in DOE determinations.

MBI-LCBI 1	MBI-LCBI 2	MBI-LCBI 3
Patient of **any age** fully meets LCBI 1 criteria	Patient of **any age** fully meets LCBI 2 criteria	Patient ≤**1 year of age** fully meets LCBI 3 criteria
with at least **one** blood specimen	with at least **two** blood specimens	
identified by culture or non-culture based microbiologic testing method		
with **ONLY intestinal organisms** from the NHSN MBI organism list*	with **ONLY Viridans Group *Streptococcus*** or ***Rothia spp.*** but no other organisms	

AND

Patient meets at least *one* of the following:

1. Is an allogeneic hematopoietic stem cell transplant recipient within the past year with one of the following documented during same hospitalization as positive blood specimen:
   a. Grade III or IV gastrointestinal graft versus host disease [GI GVHD]
   b. ≥1-liter diarrhea in a 24-hour period (or ≥20 mL/kg in a 24-hour period for patients <18 years of age) with onset on or within the 7 calendar days before the date the positive blood specimen was collected.
2. Is neutropenic, defined as at least two separate days with ANC† and/or WBC values <500 cells/mm^3 collected within a 7-day time period which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after (See Table 6).

Table 2
Page 4-10

Mucosal Barrier Injury - LCBI Criterion 1

Patient of any **age meets LCBI-1 criterion** with at least one blood specimen identified by a culture or non-culture based microbiologic testing method, with ONLY intestinal organisms from the MBI Organism List AND **Patient meets at least one of the following:**

1. Is an allogeneic **hematopoietic stem cell transplant recipient** within the past year with one of the following documented during same hospitalization as positive blood culture:
   a. Grade III or IV gastrointestinal graft versus host disease (GI GVHD)
   b. ≥1 liter diarrhea in a 24 hour period (or ≥20 mL/kg in a 24 hour period for patients <18 years of age) with onset on or within 7 calendar days before the date the positive blood culture is collected.
2. Is **neutropenic, defined as at least 2 separate days** with values of absolute neutrophil count (ANC) or total white blood cell count (WBC) <500 cells/mm^3 within a 7 day period which includes the date the positive blood culture was collected (Day 1), the 3 calendar days before and the 3 calendar days after.

MBI-LCBI Neutropenia Criteria

Table 5: Examples Illustrating the MBI-LCBI Criteria for Neutropenia

		Day -7	Day -6	Day -5	Day -4	Day -3	Day -2	Day -1	Day 1*	Day 2	Day 3	Day 4
Pt. A	WBC	100	800	400	300	ND	ND	320	400 + BC* w/ *Candida* spp. x1	ND	550	600
Pt. B	ANC	ND	410	130	ND	ND	120	110	ND +BC* w/ viridans strep x2 and fever >38°C	110	300	320
Pt. C	WBC	100	800	400	300	ND	ND	ND	600 + BC* w/ *Candida* spp. x1	230	ND	400

*ND = not done; *Day the positive blood specimen was collected*

Qualifying ANC/WBC timeframe (7 days) includes the
Day of the + blood specimen, 3 days before and 3 days after

Calculating Absolute Neutrophil Count

Calculating Absolute Neutrophil Count (ANC)

- The ANC is not always reported directly in the chart
- The WBC in the chart is usually reported in terms of thousand cell/mm^3

ANC = Absolute Segs + Absolute Bands

OR

$$ANC = WBC \times \frac{(\%Segs + \%Bands)}{100}$$

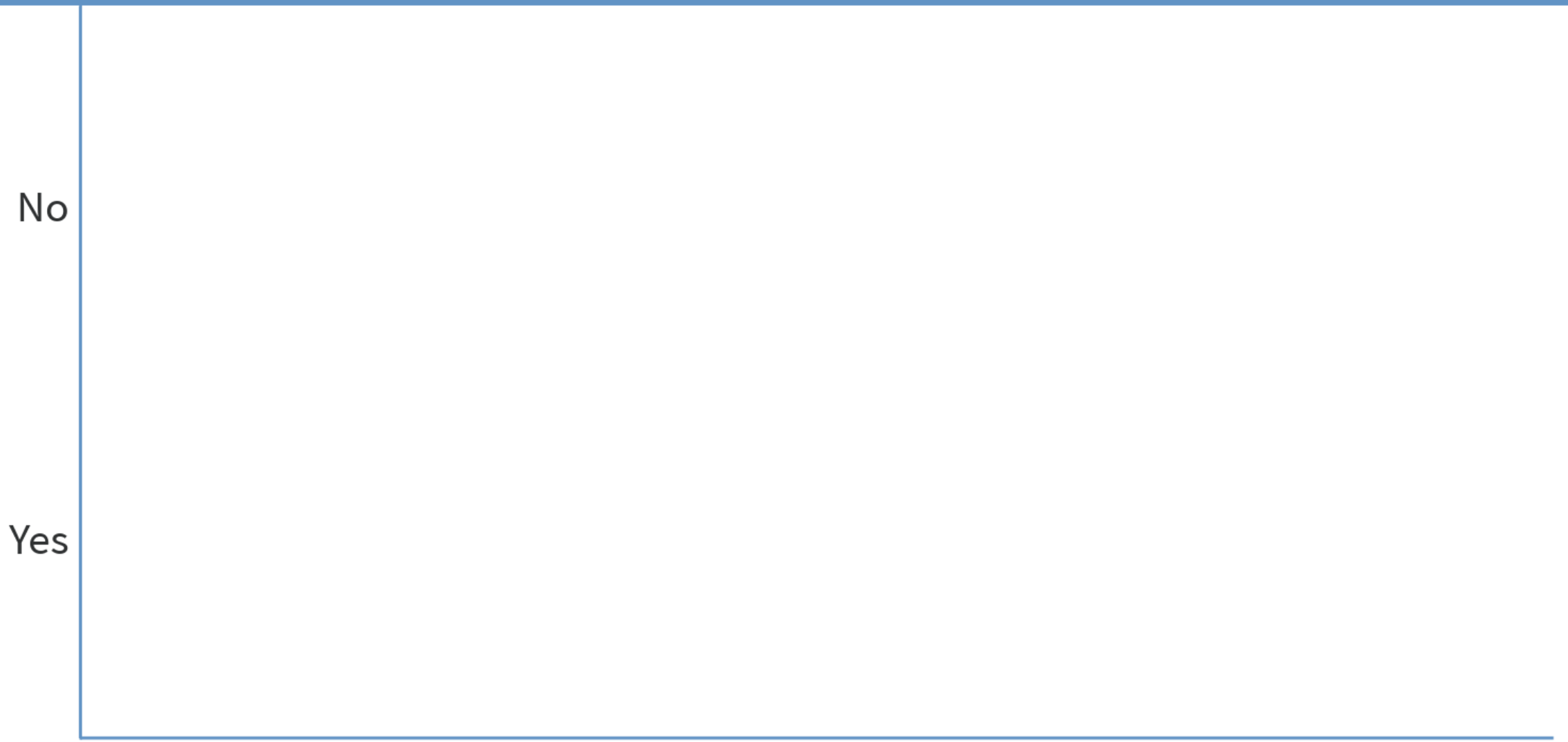
EXAMPLE:

WBC:	Segs:	Bands:	
2 K/mm^3	20%	20%	ANC = 2000 X (20+20)/100 = 800cells/mm^3

Ms. Petty Patty

- **June 13th: Ms. Patty** had a central line inserted on admission
- **June 16th:** she had an ANC level of 400 cells/mm^3
- **June 17th:** two BC's drawn + *Enterococcus faecalis*
- **July 19th:** WBC level 210 cells/mm^3
- No other source of infection was identified

Did Ms. Petty Patty meet MBI LCBI-1 Criterion?



Petty Patty Rationale

- HAI CLABSI
- MBI-LCBI 1, 6/17
- Risk Factors (neutropenia)
  - ANC: 400
  - WBC: 200

Hospital Day	Date	First Diagnostic Test	IWP	DOE	ANC or WBC values	Notes
1	6/13					Admitted. Central Line inserted
2	6/14		IWP			
3	6/15					
4	6/16				ANC – 400 cells/mm^3	
5	6/17	Blood culture- E. coli		DOE		
6	6/18					
7	6/19				WBC – 200 cells/mm^3	
8	6/20					
9	6/21					
10	6/22					
11	6/23					
12	6/24					
13	6/25					

Mucosal Barrier Injury - LCBI 2 & 3

MBI-LCBI 2 Patient of any age meets criterion 2 for LCBI
MBI-LCBI 3 Patient ≤ 1 year of age meets criterion 3 for LCBI

with at least two blood specimens identified by a culture or non-culture based microbiologic testing method, with ***viridans group strep or Rothia spp.*** and no other organisms.

AND

Patient meets at least one of the following:

1. Is an allogeneic hematopoietic stem cell transplant recipient within the past year with one of the following documented during same hospitalization as positive blood culture:
    a. Grade III or IV gastrointestinal graft versus host disease (GI GVHD)
    b. ≥1 liter diarrhea in a 24 hour period (or ≥20 mL/kg in a 24 hour period for patients <18 years of age) with onset on or within 7 calendar days before the date the positive blood culture is collected.
2. Is neutropenic, defined as at least 2 separate days with values of absolute neutrophil count (ANC) or total white blood cell count (WBC) <500 cells/mm^3 within a 7 day period which includes the date the positive blood culture was collected (Day 1), the 3 calendar days before and the 3 calendar days after.

MBI-LCBI 2 Criteria- Example

Day #	-7	-6	-5	-4	-3	-2	-1	1	2	3	4
ANC	Not tested	✗	✗	Not tested	Not tested	120	110	+ BC* w/ *viridans group strep X2 and fever >38.1° C*	110	300	320

MBI-LCBI 2

What information is needed to assist with a primary BSI or secondary BSI determination?

New FAQ for 2019

If investigating a positive blood culture:

- Admission date
- Central line insertion date
- Central line discontinuation date *if applicable*
- Date(s) and results of any positive blood cultures

What information is needed to assist with a primary BSI or secondary BSI determination?

If investigating a positive blood culture:

New FAQ for 2019

- All organisms identified in the blood culture(s)
- Signs/symptoms and *associated dates* if evaluating LCBI-2/3 criteria
- Date of first access in an inpatient location (if patient is admitted with a central line in place)
- MBI LCBI risk factors (if evaluating MBI LCBI criteria)

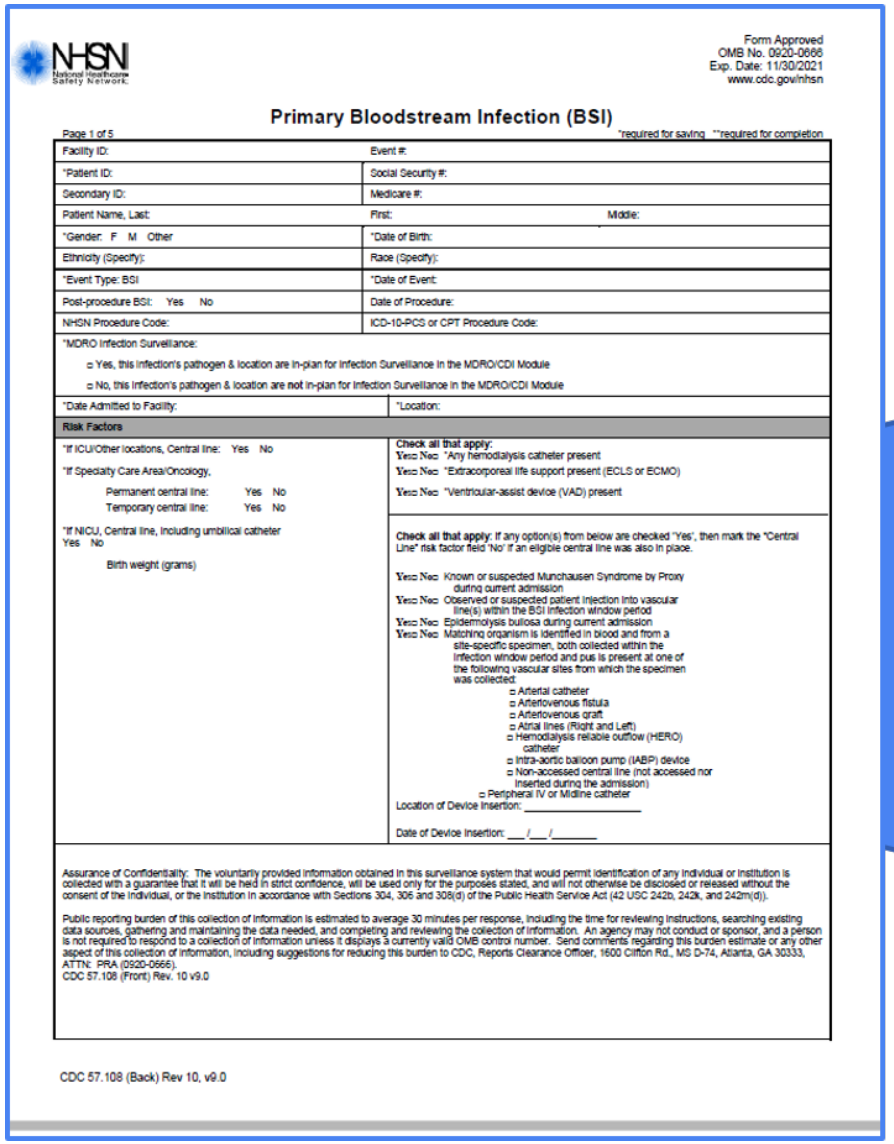
Data Collection

CLABSI Data Accuracy

The accuracy of NHSN data is dependent on the accuracy of surveillance determinations, data collection and entry

- Accurate numerators
  - Strict Adherence to the Definitions & Reporting Instructions
- Accurate denominators
  - Mapping Accuracy (see NHSN online training)
  - Collection Accuracy
    - Specific Requirements by Location Type
    - Validation of Electronic Collection

BSI Event Data Collection Form: Manual



NHSN
National Healthcare Safety Network

Form Approved
OMB No. 0920-0666
Exp. Date: 11/30/2021
www.cdc.gov/nhsn

Primary Bloodstream Infection (BSI)

Page 1 of 5 *required for saving **required for completion

Facility ID:	Event #:
*Patient ID:	Social Security #:
Secondary ID:	Medicare #:
Patient Name, Last:	First: Middle:
*Gender: F M Other	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
*Event Type: BSI	*Date of Event:
Post-procedure BSI: Yes No	Date of Procedure:
NHSN Procedure Code:	ICD-10-PCS or CPT Procedure Code:

*MDRO Infection Surveillance:

- ▫ Yes, this infection's pathogen & location are in-plan for Infection Surveillance in the MDRO/CDI Module
- ▫ No, this infection's pathogen & location are not in-plan for Infection Surveillance in the MDRO/CDI Module

*Date Admitted to Facility:	*Location:

Risk Factors

*If ICU/Other locations, Central line: Yes No

*If Specialty Care Area/Oncology,

Permanent central line: Yes No
Temporary central line: Yes No

*If NICU, Central line, including umbilical catheter
Yes No

Birth weight (grams)

Check all that apply:
Yes▫ No▫ *Any hemodialysis catheter present
Yes▫ No▫ *Extracorporeal life support present (ECLS or ECMO)
Yes▫ No▫ *Ventricular-assist device (VAD) present

Check all that apply: If any option(s) from below are checked 'Yes', then mark the "Central Line" risk factor field 'No' if an eligible central line was also in place.

Yes▫ No▫ Known or suspected Munchausen Syndrome by Proxy during current admission
Yes▫ No▫ Observed or suspected patient injection into vascular line(s) within the BSI infection window period
Yes▫ No▫ Epidermolysis bullosa during current admission
Yes▫ No▫ Matching organism is identified in blood and from a site-specific specimen, both collected within the infection window period and pus is present at one of the following vascular sites from which the specimen was collected:

- ▫ Arterial catheter
- ▫ Arteriovenous fistula
- ▫ Arteriovenous graft
- ▫ Atrial lines (Right and Left)
- ▫ Hemodialysis reliable outflow (HERO) catheter
- ▫ Intra-aortic balloon pump (IABP) device
- ▫ Non-accessed central line (not accessed nor inserted during the admission)
- ▫ Peripheral IV or Midline catheter

Location of Device Insertion: _____

Date of Device Insertion: ___/___/_____

Assurance of Confidentiality: The voluntarily provided information obtained in this surveillance system that would permit identification of any individual or institution is collected with a guarantee that it will be held in strict confidence, will be used only for the purposes stated, and will not otherwise be disclosed or released without the consent of the individual, or the institution in accordance with Sections 304, 306 and 308(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).

Public reporting burden of this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Reports Clearance Officer, 1600 Clifton Rd., MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0666).
CDC 57.108 (Front) Rev. 10 v9.0

CDC 57.108 (Back) Rev 10, v9.0

Risk Factors

*If ICU/Other locations, Central line: Yes No

*If Specialty Care Area/Oncology,

Permanent central line: Yes No
Temporary central line: Yes No

*If NICU, Central line, including umbilical catheter
Yes No

Birth weight (grams)

Check all that apply:
Yes▫ No▫ *Any hemodialysis catheter present
Yes▫ No▫ *Extracorporeal life support present (ECLS or ECMO)
Yes▫ No▫ *Ventricular-assist device (VAD) present

Check all that apply: If any option(s) from below are checked 'Yes', then mark the "Central Line" risk factor field 'No' if an eligible central line was also in place.

Yes▫ No▫ Known or suspected Munchausen Syndrome by Proxy during current admission
Yes▫ No▫ Observed or suspected patient injection into vascular line(s) within the BSI infection window period
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Yes▫ No▫ Matching organism is identified in blood and from a site-specific specimen, both collected within the infection window period and pus is present at one of the following vascular sites from which the specimen was collected:

- ▫ Arterial catheter
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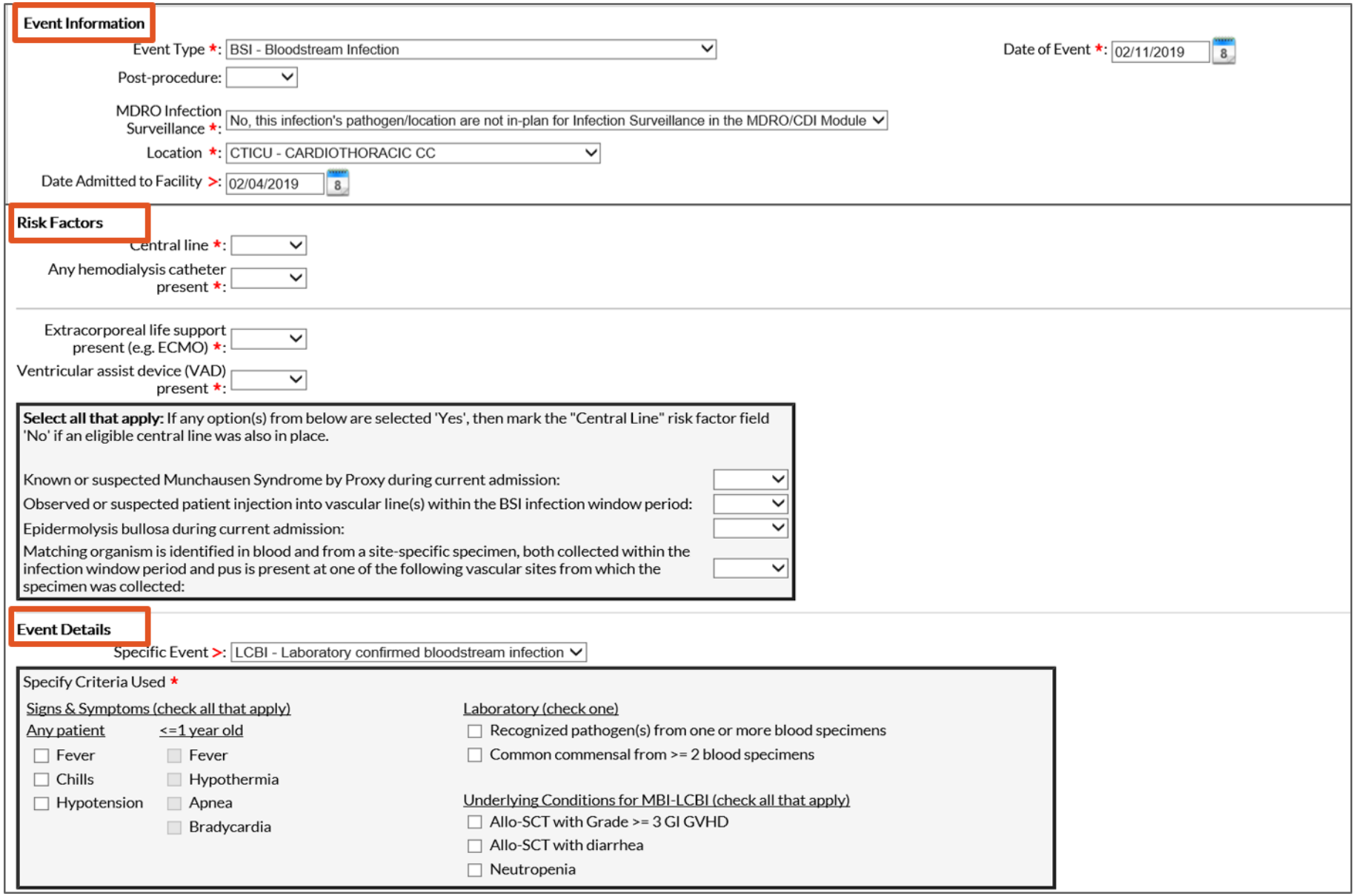
- ▫ Arteriovenous graft
- ▫ Atrial lines (Right and Left)
- ▫ Hemodialysis reliable outflow (HERO) catheter
- ▫ Intra-aortic balloon pump (IABP) device
- ▫ Non-accessed central line (not accessed nor inserted during the admission)
- ▫ Peripheral IV or Midline catheter

Location of Device Insertion: _____

Date of Device Insertion: ___/___/_____

BSI Event Data Collection Form: NHSN Application



Event Information

Event Type *: BSI - Bloodstream Infection

Date of Event *: 02/11/2019

Post-procedure:

MDRO Infection Surveillance *: No, this infection's pathogen/location are not in-plan for Infection Surveillance in the MDRO/CDI Module

Location *: CTICU - CARDIOTHORACIC CC

Date Admitted to Facility >: 02/04/2019

Risk Factors

Central line *:

Any hemodialysis catheter present *:

Extracorporeal life support present (e.g. ECMO) *:

Ventricular assist device (VAD) present *:

Select all that apply: If any option(s) from below are selected 'Yes', then mark the "Central Line" risk factor field 'No' if an eligible central line was also in place.

Known or suspected Munchausen Syndrome by Proxy during current admission:

Observed or suspected patient injection into vascular line(s) within the BSI infection window period:

Epidermolysis bullosa during current admission:

Matching organism is identified in blood and from a site-specific specimen, both collected within the infection window period and pus is present at one of the following vascular sites from which the specimen was collected:

Event Details

Specific Event >: LCBI - Laboratory confirmed bloodstream infection

Specify Criteria Used *

Signs & Symptoms (check all that apply)

Any patient
- Fever
- Chills
- Hypotension

<=1 year old
- Fever
- Hypothermia
- Apnea
- Bradycardia

Laboratory (check one)
- Recognized pathogen(s) from one or more blood specimens
- Common commensal from >= 2 blood specimens

Underlying Conditions for MBI-LCBI (check all that apply)
- Allo-SCT with Grade >= 3 GI GVHD
- Allo-SCT with diarrhea
- Neutropenia

Denominator Requirements by Location & Device

Location	All Locations	SCA-Oncology, dialysis	NICU
All pts with ≥ 1 CL = 1 CL Day	CL Days	CL Days by: Permanent Temporary If both a permanent & a temporary line present- report temporary line	CL Days by: Central line
All patients in an inpatient location = 1 Pt Day	All In-Pt Days	All In-Pt Days	All In-Pt Days by: Birth Weight ≤ 750 gms 751-1000 gms 1001-1500 gms 1501-2500 gms ≥2501 gms

Birth Weight

≤ 750 gms
751-1000 gms
1001-1500 gms
1501-2500 gms
≥2501 gms

Check Your Denominator Data

- Ensure your denominator data is correct
- Examples of potential problems:
  - Counting a patient with 2 CLs as 2 rather than 1 CL day
  - Electronic data import happening twice a day rather than once

Collecting Denominator & Entering Summary Data for ICU / Wards

Denominators for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA)

Page 1 of 1

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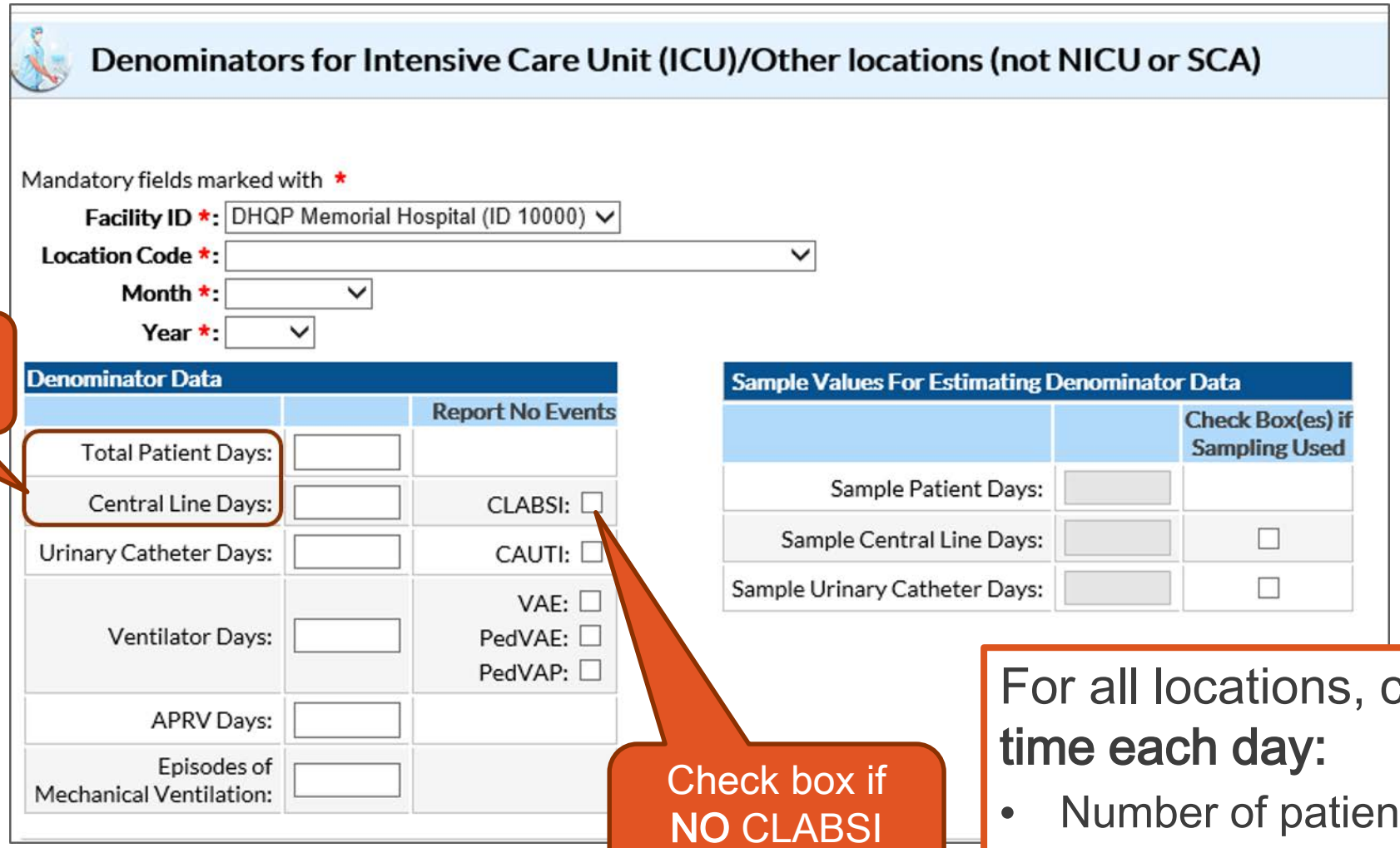
Facility ID: *Location Code: *Month: *Year:

Date	***Number of Patients**	**Number of patients with 1 or more **central lines**	**Number of patients with a **urinary catheter**	**Number of total patients on a **ventilator**	Number of patients **on APRV**	Number of **Episodes of Mechanical Ventilation**
1						
2						
3						

Collecting Denominator & Entering Summary Data for ICU / Wards



Sum for Month

Check box if **NO** CLABSI events to report

For all locations, count **at the same time each day:**

- Number of patients on the unit
- Number of patients with a central line

Collecting Denominator & Entering Summary Data for SCA /Oncology

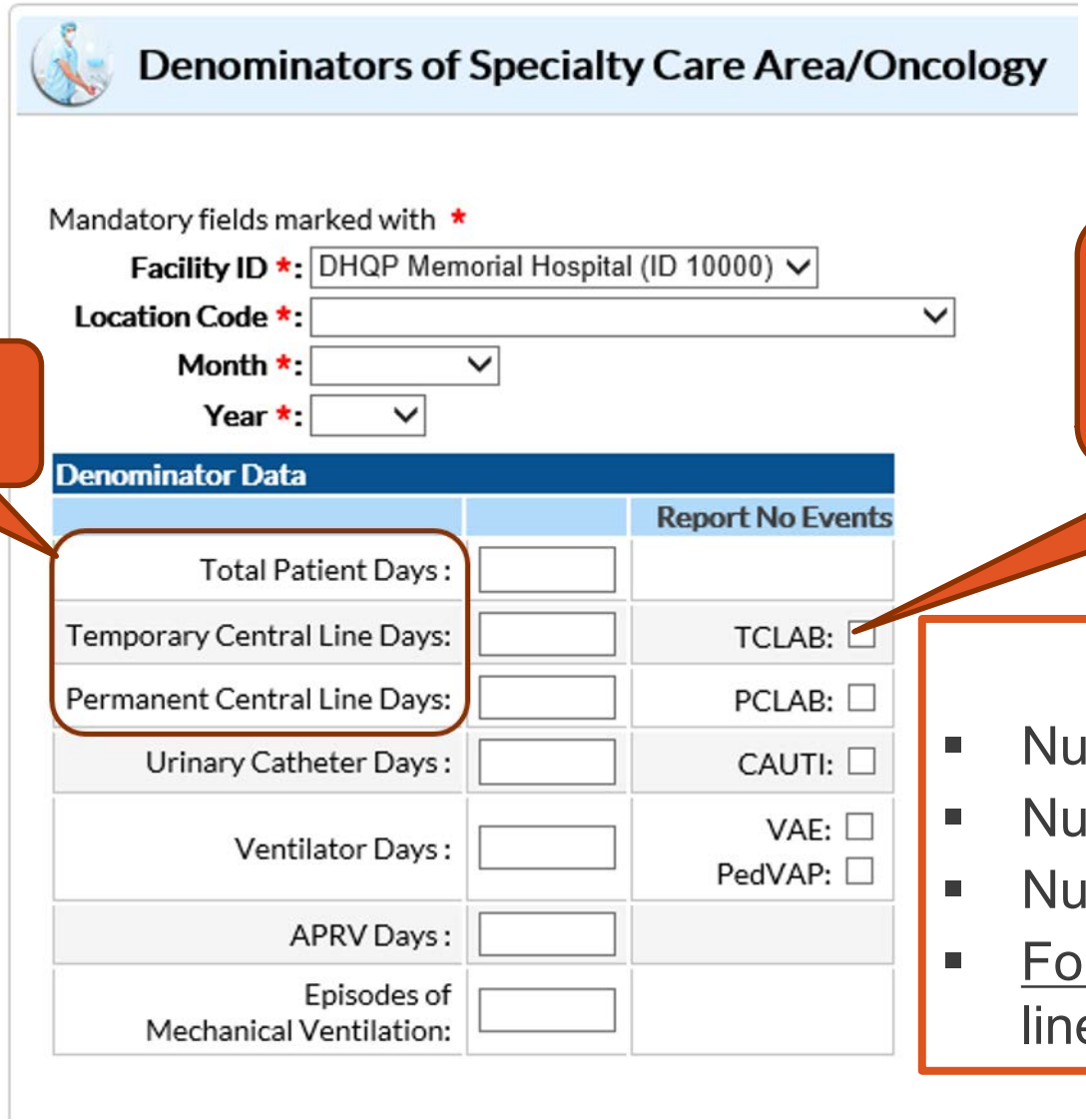
Denominators for Specialty Care Area (SCA)/Oncology (ONC)

Page 1 of 1

*required for saving
Facility ID: *Location Code: *Month: *Year:

Date	*Number of Patients	**Number of patients with at least 1 **central line** (if patient has both, count as Temporary only)		**Number of patients with a **urinary catheter**	**Number of Total patients on a **ventilator**	Number of patients **on APRV**	Number of **Episodes of Mechanical Ventilation**
		Temporary	**Permanent**				
1							
2							
3							

Collecting Denominator & Entering Summary Data for SCA Oncology



Denominators of Specialty Care Area/Oncology

Mandatory fields marked with *

Facility ID *: DHQP Memorial Hospital (ID 10000)

Location Code *:

Month *:

Year *:

Denominator Data

		Report No Events
Total Patient Days :		
Temporary Central Line Days:		TCLAB: ☐
Permanent Central Line Days:		PCLAB: ☐
Urinary Catheter Days :		CAUTI: ☐
Ventilator Days :		VAE: ☐ PedVAP: ☐
APRV Days :		
Episodes of Mechanical Ventilation:		

Sum for Month

Check box if **NO** CLABSI events for central line type to report

Central Lines stratified by Device Type

- Number of patients on the unit
- Number of patients with a permanent central line
- Number of patients with a Temporary central line
- For patients with both a temporary & permanent line: **enter denominator data for the temporary line**

Collecting Denominator & Entering Summary Data for NICU

Denominators for Neonatal Intensive Care Unit (NICU)

Page 1 of 4

*Required for saving

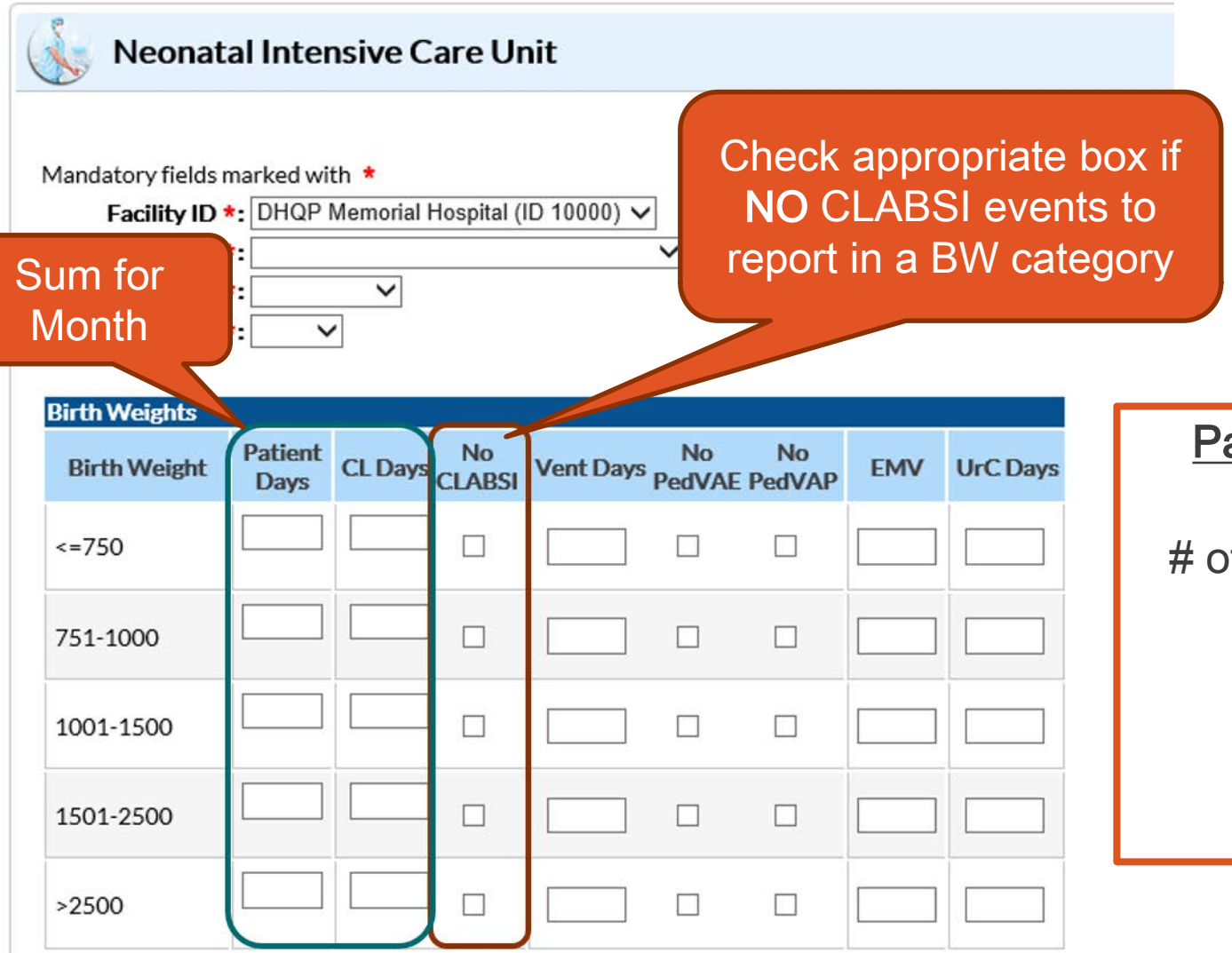
**Conditionally required according to the events indicated in Plan

Facility ID:	*Location Code:	*Month:	*Year:

Birth Weight Categories

Date:	≤750 g					751-1000 g					1001-1500 g					1501-2500 g					>2500 g				
	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV
1.																									
2.																									
3.																									
4.																									

Collecting Denominator & Entering Summary Data for NICU



Patient Days & CL stratified by Birth Weight

# of patients on the unit by birth weight:
# of patients with a central line by birth weight:

≤ 750gms
751-1000gms
1001-1500gms
1501-2500gms
≥2501gms

Electronic Collection of Summary Data

Electronic capture of summary data is acceptable:

- Following validation of the electronic method against the manual method
  - 3 months concurrent data collection with both methods
  - Difference between methods must be within +/- 5% of each other
  - If difference > 5 % address issues, and revalidate for 3 months; repeat cycle until difference ≤5%

Once Weekly Denominator Collection

- **Reduces NHSN Data Collection Burden**
- Eligible **ICU and ward location types** may use
  - Must have 75 or more CL days per month
- **Patient days**
  - Collected daily
  - Record both:
    - Total of weekly samples (e.g., every Tuesday)
    - Monthly total (every day in month)
- **Central line days**
  - Collected on a **single day**, **once a week (ex.** Every Tuesday)

Entering Summary Data (ICU/Wards)

Denominators for Intensive Care Unit (ICU)/Other locations (not NICU or SCA)

Mandatory fields marked with *

Facility ID *: DHQP Memorial Hospital (ID 10000)

Location Code *:

Month *:

Year *:

When sampling, complete each of the fields highlighted below

Denominator Data		Report No Events
Total Patient Days:		
Central Line Days:		CLABSI: ☐
Urinary Catheter Days:		CAUTI: ☐
Ventilator Days:		VAE: ☐ PedVAE: ☐ PedVAP: ☐
APRV Days:		
Episodes of Mechanical Ventilation:		

Sample Values For Estimating Denominator Data		Check Box(es) if Sampling Used
Sample Patient Days:		
Sample Central Line Days:		☐
Sample Urinary Catheter Days:		☐

2019 NHSN BSI Protocol Changes Summary

- Exclusion of viruses and parasites from LCBI-1 criterion
- Required Data Field CLABSI Exclusions
  - Extracorporeal membrane oxygenation (ECMO)
  - Ventricular assist device (VAD)
- Addition of Data Fields for Optional CLABSI Exclusion in the NHSN application and on the BSI event form
  - Epidermolysis Bullosa (EB)
  - Munchausen Syndrome by Proxy (MSBP)
  - Patient self-injection
  - Pus at vascular site
  - Group B Strep 1st 6 days of Life

In Summary

- Surveillance and Clinical definitions may not always align
  - Surveillance definitions must be adhered to strictly and consistently
- CLABSIs result in significant morbidity and mortality in U.S. hospitals
  - Progress has been made but the journey continues
- According to the 2017 HAI report:
  - Nationally, among acute care hospitals there was about 9% decrease in CLABSI between 2016 and 2017

Primary BSI Wrap Up

- Reviewed the BSI forms, data collection techniques, and data entry requirements for BSI events
- Reviewed key definitions for BSI and CLABSI surveillance
- Provided an overview of the 2019 BSI protocol with key changes
- Located the protocols & training materials on the NHSN website
- Assessed current knowledge of the BSI protocol through knowledge checks

Federal Register Open Comment Period

- Currently, NHSN is piloting a means of soliciting comments and suggestions via the Federal Register (FR)
- Comments can be submitted between February 14-April 15, 2019
- Opportunity to identify issues and areas for potential improvement beginning in 2020
- If you would like to submit your comment for review, please use the information below. If you experience difficulty posting a comment, please contact nhsn@cdc.gov with "BSI Protocol" in the subject line
  - Step 1: Website for Submission: https://www.regulations.gov/
  - Step 2: Enter Docket Number for BSI comments: **CDC-2019-0007** and Click the **Search** button
  - Step 3: Click the "**Comment Now**" button

American Journal of Infection Control NHSN Case-Study Series

- Additional educational tool
  - Perfect for reliability testing of ICP teams, APIC chapters, etc.
- Target: quarterly publication
- Address common surveillance scenarios
  - CLABSI, CAUTI, VAE, SSI, MDRO/CDI
- Test your knowledge
- Quiz and answers via web link

Practice Makes Permanent!

American Journal of Infection Control 43 (2015) 987-8

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Clinical case study

Health Care-Associated Infections Studies Project Case #1: A 2015 *American Journal of Infection Control* and National Healthcare Safety Network data quality collaboration

Cindy Gross MT, SM(ASCP), CIC[a,*], Katherine Allen-Bridson MScPH, RN, CIC[b], Angela Anttila PhD, MSN, NPC, CIC[a], Janet E. Brooks BSN, RN, CIC[a], Joan N. Hebden MS, RN, CIC[c], Denise Leaptrot MSA, SM/BSMT(ASCP), CIC[a], Susan Morabit MSN, PHCNS-BC, CIC[a], Marc-Oliver Wright MT(ASCP), MS, CIC[d]

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[c] Wolters Kluwer Health, Bellevue, WA
[d] Department of Infection Control, North Shore University Health System, Evanston, IL

Resources for BSI Reporting

- CLABSI protocols, forms, etc.:
  - http://www.cdc.gov/nhsn/acute-care-hospital/clabsi/index.html
  - http://www.cdc.gov/nhsn/newsletters.html
- Operational guidance for CMS reporting:
  - http://www.cdc.gov/nhsn/cms/index.html
  - http://www.cdc.gov/nhsn/acute-care-hospital/clabsi/index.html
- Contact list for QIO/QINs:
  - http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1144767874793
- NHSN training:
  - http://www.cdc.gov/nhsn/training/
  - http://www.cdc.gov/nhsn/newsletters.html

Questions?

Questions: Email user support
nhsn@cdc.gov

NHSN Website:
http://www.cdc.gov/nhsn/

Case Study

Case Study Part 1: Ms. Polly Microbial

- 2/4: 32 year-old female admitted to the ED with fever (102^{o}F) and abdominal pain. Patient has a port in place at the time of admission. Past medical history – cervical cancer & cardiomyopathy due to a history of drug use
- 2/5: Admitted to the oncology floor and port is flushed
- 2/6: Patient complains of pain at the port site (10/10) and the insertion site is red. Narcotics requested. 15 mg of oxycodone is given
- 2/8: Blood cultures collected- Positive for
  - *Micrococcus x 1, Candida albicans, and Enterococcus faecalis*

Case Study Part 1: Question 1
What criterion did Ms. Polly meet?

A. LCBI 2
B. MBI LCBI 1
C. LCBI 1
D. Ms. Polly did not meet any criteria

Case Study Part 1: Question 1 Rationale

- 2/8: Blood cultures collected- Positive for
  - *Micrococcus* x 1, *Candida albicans*, and *Enterococcus faecalis*
  - Single common commensal (*Micrococcus*) and recognized pathogens (*C. albicans* and *E. faecalis*) are isolated in the blood culture
  - The single common commensal is considered a contaminant and is not eligible for use to meet LCBI criteria
  - Ms. Polly will meet LCBI 1 criterion

4. A common commensal identified in a single blood specimen is considered a contaminant. It will not be used to meet LCBI 2 or 3 criteria nor will it prevent a case from meeting MBI-LCBI criteria when the organism requirements call for "only" a specific organism or type of organism (for example, "only intestinal organisms from the MBI list").

Case Study Part 1: Question 2

Is this a POA or HAI event?

A. POA
B. HAI

Case Study Part 1: Question 2 Rationale

- 2/5: Admitted to the oncology floor and port is flushed
- 2/8: Blood cultures collected- Positive for
  - *Micrococcus x 1, Candida albicans, and Enterococcus faecalis*
  - Blood culture collection date occurs on or after HD 3
  - HAI event because the date of event occurred on calendar day 4

An infection is considered a **Healthcare-associated Infection (HAI)** if the date of event of the NHSN site-specific infection criterion occurs on or after the 3rd calendar day of admission to an inpatient location where day of admission is calendar day 1.

Case Study Part 1: Question 3

What is the date of event?

A. 2/6
B. 2/8
C. 2/5

Case Study Part 1: Question 3 Rationale

- Ms. Polly met LCBI 1 criterion since recognized pathogens (*C. albicans* and *E. faecalis* were isolated in the blood culture)
- No additional signs/symptoms are needed to meet LCBI1 criterion
- Identification of a positive blood culture is the only element required to meet LCBI 1 criterion, 2/8 is the date of event

Case Study Part 2: Ms. Polly Microbial

- 2/9: Port is de-accessed after specimen collection and port removal is scheduled due to positive blood culture results. Peripherally Inserted Central Catheter (PICC) is placed for temporary access
  - After administration of meds patient leaves the floor to visit w/ friends
  - Central line (CL) is disconnected and capped by nurse so patient can leave the floor
  - Patient returns to the unit slurring words and unable to keep eyes open
  - Safety cap is missing & the CL is un-clamped. Nurse suspects the patient is tampering w/ the CL

Case Study Part 2: Ms. Polly Microbial

- 2/10: Physician informed of events and orders the discontinuation of the PICC and all narcotics
  - Nurse documents patient is suspected of injecting into the CL
  - Patient alert but unhappy about removal of CL and discontinuation of narcotics
- 2/12: Patient spikes a fever of 101.2^{o}F and has increased white blood cell (WBC) count
  - Blood cultures collected & are negative
  - Patient transferred to ICU

Case Study Part 2: Question 1

On February 8th how many CL days have occurred to determine if the BSI is a CLABSI?

A. 6 CL days
B. 4 CL days
C. 2 CL days
D. 0, the patient does not have a CL

Case Study Part 2: Question 1 Rationale

- 2/5: Admitted to the oncology floor and port is flushed
  - CL day counts begin once the CL is accessed (2/5)
  - Blood culture collection date occurs on 2/8 and LCBI 1 criterion is met (eligible organisms)
  - Patient has 4 CL days on 2/8, the DOE (eligible central line)
  - Ms. Polly has a CLABSI event

Case Study Part 2: Question 2

Is the patient self-injection CLABSI exclusion met?

A. Yes
B. No

Case Study Part 2: Question 2 Rationale

- Blood culture collection date occurs on 2/8 and LCBI 1 criterion is met
  - Positive blood cultures on 2/8 will establish an IWP of 2/5-2/11
  - To meet the IVDA CLABSI exclusion the documentation must occur during the BSI IWP
  - Specifically state the patient was observed or suspected of injecting into their vascular access
  - Nurses documentation occurs during the BSI IWP

Case Study Part 2: Question 3

Which statement is eligible for use to meet this CLABSI exclusion?

A. Nurse suspects the patient is tampering with the CL
B. The patient returns to the unit slurring words and unable to keep eyes open. Nurse suspects the patient is tampering w/ the CL
C. Nurse documents patient is suspected of injecting into the CL. Physician informed and orders discontinuation of the PICC and all narcotics

Case Study Part 3: Ms. Polly Microbial

- 2/22: Patient develops arrhythmias, lower extremity edema, and complains of shortness of breath-patient has a cardiac arrest
  - R femoral TLC inserted
  - Chest X-ray shows severe, late stage heart failure due to cardiomyopathy
  - VAD inserted to relieve heart failure
- 2/25: VAD remains in place, patient develops acute renal failure & spikes fever (101.6^{o}F)
  - HD catheter placed and blood cultures positive for:
    - *Enterococcus faecium* and *Klebsiella oxytoca*

Case Study Part 3: Question 1

What criterion did Ms. Polly meet?

A. LCBI 2
B. MBI LCBI 1
C. LCBI 1
D. Ms. Polly did not meet any criteria

Case Study Part 3: Question 1 Rationale

- 2/25: Blood cultures collected- Positive for
  - Recognized pathogens (*E. faecium* and *K .oxytoca*)
  - No additional signs/symptoms are needed to meet LCBI 1 criterion
  - Identification of a positive blood culture is the only element required to meet LCBI 1 criterion
  - Ms. Polly will meet LCBI 1 criterion

Case Study Part 3: Question 2

On February 25th how many CL days have occurred to determine if the BSI is a CLABSI?

A. 5 CL days
B. 1 CL days
C. 4 CL days

Case Study Part 3: Question 2 Rationale

- 2/22: Patient has a R femoral TLC inserted
  - CL day counts begin once the CL is accessed (2/22 line placement)
  - Blood culture collection date occurs on 2/25 and LCBI 1 criterion is met (eligible organisms)
  - Patient has 4 CL days on 2/25, the DOE (eligible central line)
  - Ms. Polly has a CLABSI event

Case Study Part 3: Question 3

How should you answer the CL field when reporting this event?

A. CL=Yes
B. CL=No

Case Study Part 3: Question 3 Rationale

- Starting in 2019, central line data field should be marked “Yes” if there is an eligible central line and a ventricular assist device (VAD) present
  - VAD must be present for more than 2 days on the BSI DOE, and still in place on the DOE or the day before
  - VAD inserted on 2/22 and the BSI DOE is 2/25

Case Study Part 3: Question 3

How should you answer the device field when reporting this event?

A. VAD=Yes
B. VAD=No

Case Study Part 3: Question 3 Rationale

- Starting in 2019, central line data field should be marked “Yes” if there is an eligible central line and a ventricular assist device (VAD) present for more than 2 days on the BSI DOE, and the VAD is still in place on the DOE or the day before
  - Events should be reported by marking the “Central Line” risk factor field “Yes” as well as the VAD field