



Patient Safety Component Primary Bloodstream Infection (BSI): The Best is Yet to Come

Dominique Godfrey, MPH, CPH, CIC

NHSN Protocol and Training Team

March 21, 2024

Motivational Quote of the Day

“The only way you can sustain a permanent change is to create a new way of thinking, acting, and being.”

~ Jennifer Hudson

Objectives

In today's presentation I will demonstrate key concepts to perform bloodstream and central line associated bloodstream infection surveillance. By the end of this lesson, you will be able to:

- Define key terms for device-associated infections, specifically central line associated bloodstream infection (CLABSI) events
- Provide an overview of central line association for bloodstream infection (BSI) events
- Discuss the present on admission (POA) and healthcare associated infection (HAI) time periods
- Assess current BSI knowledge through knowledge checks and case scenarios

Definitions and Key Terms for Bloodstream Infection and Central Line Associated Infection Surveillance

Key Terms in Chapter 2: Identifying Healthcare associated Infections

Present on Admission (POA): Time period defined as the day of admission to an **inpatient location** (calendar day 1), the 2 days before admission, and the calendar day after admission.

Healthcare Associated Infection (HAI): An infection is with a date of event on or after the 3rd calendar day of admission to an **inpatient location where day of admission is calendar day 1**.

Date of Event (DOE): The date the **first** element used to meet an NHSN site-specific infection criterion occurs for the **first** time within the seven-day infection window period

Repeat Infection Timeframe (RIT): a 14-day timeframe during which no new infections of the same type are reported.

Key Terms in Chapter 4: Bloodstream Infection Event (Central Line-Associated Bloodstream Infection and Non-central Line Associated Bloodstream Infection)

Laboratory Confirmed Bloodstream Infection (LCBI): Bloodstream infection that occurs when an eligible organism that has been identified in the blood is not related to an infection at another site. ***All Primary BSIs create a 14-day Repeat Infection Timeframe (RIT) in which no new infections of the same type are reported.***

Eligible Organism: Any organism eligible to meet LCBI or MBI-LCBI criteria. ***Does not include excluded organism.***

Central Line (CL): 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.**

NOTE: Neither the type of device nor the insertion site will determine if a line qualifies as a central line. Patients must have one or more qualifying central lines to be included in CLABSI surveillance.

Key Terms in Chapter 4: Identifying Healthcare Associated Infections

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. An eligible CL remain eligible for CLABSI events until the day after removal from the body or patient discharge, whichever comes first.

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 date of event or the day before

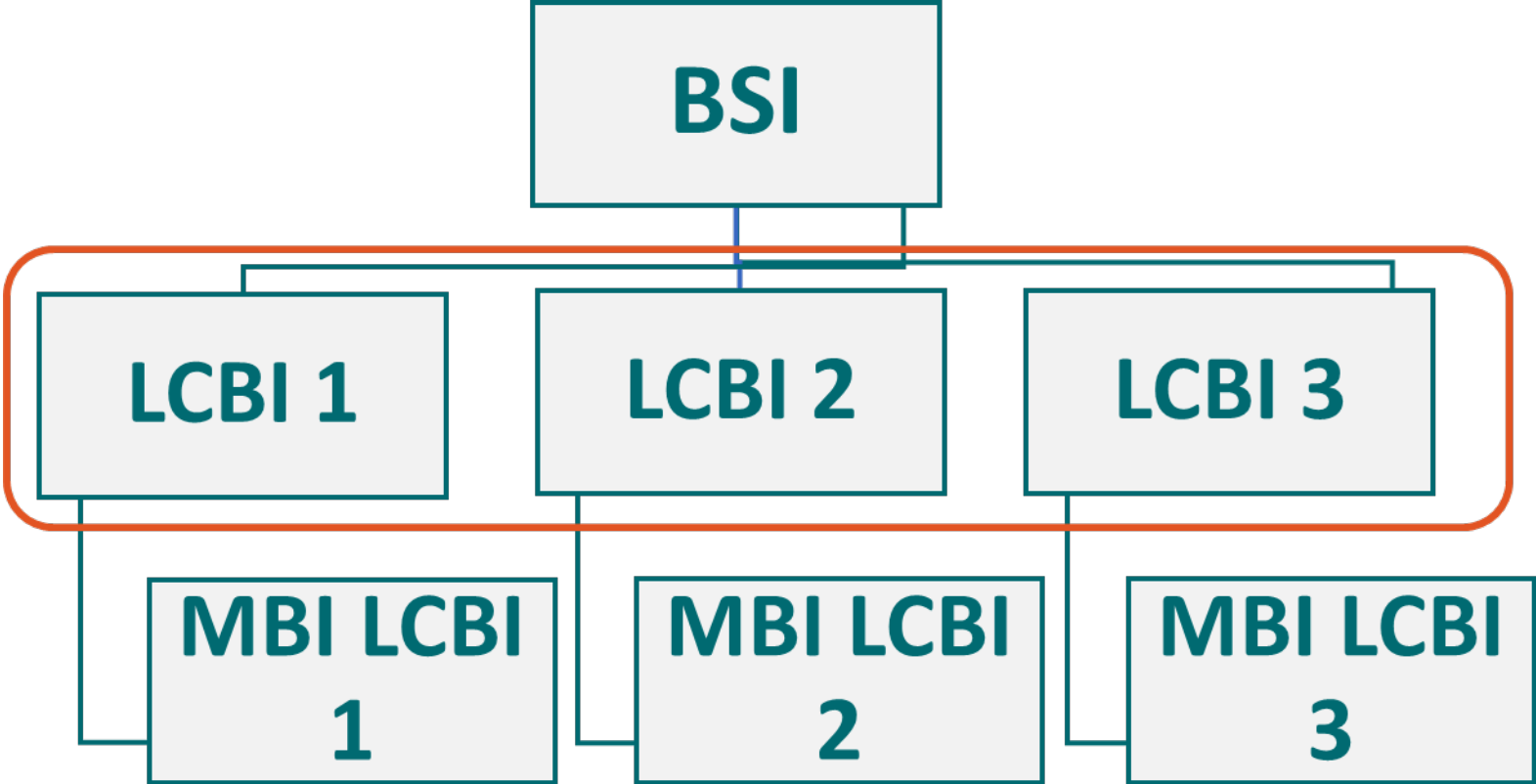
Key Terms and Additional definitions from Chapter 4 are found here:

https://www.cdc.gov/nhsn/pdfs/pscmanual/4psc_clabscurrent.pdf

**DID YOU
KNOW...?**

**Laboratory confirmed bloodstream infection criteria
are the cornerstone of BSI surveillance.**

Laboratory Confirmed Bloodstream Infection



LCBI Criterion 1:

- 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 **identified to the genus or genus and species level**

AND

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

LCBI- 2 and 3 Criteria:

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

Table 2: Mucosal Barrier Injury Laboratory Confirmed Bloodstream Infection Table (MBI-LCBI)

January 2024 Device-associated Module
BSI

Table 2: Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infection (MBI-LCBI)

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 criterion.

The MBI-LCBI DOE will always be the date the prerequisite LCBI criteria are 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.

Must meet one of the following MBI-LCBI criteria

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

AND


Patient meets at least one of the following:

- 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:
 - Grade III or IV gastrointestinal graft versus host disease [GI GVHD]

OR

 - ≥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.

OR
- Is neutropenic, defined as at least two separate days with ANC[‡] and/or WBC values <500 cells/mm³ 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 5](#)).

4 - 10 

NOTE: These criteria are a subset of LCBI criteria. See Table 2 on page 4-10.

**DID YOU
KNOW...?**

**Knowledge checks are the best way to increase your
BSI understanding.**

Knowledge Checks

Review and Application of
Chapter 2 and 4 Definitions

D4-Godfrey-Primary BSI – Q1

Knowledge Check 1: Mr. An T. Dote

- **2/27:** Mr. An T. Dote admitted to the medical surgical unit w/ fever and chills
- **2/27:** Central line placed in ICU
- **2/28:** Mr. An T. Dote is transferred to the floor
- **2/29:** Blood specimen collected due to fever and chills
 - Matching positive cultures x2 for *Staphylococcus epidermidis* (**common commensal organism**)
- No other source of infection identified

Is there an LCBI Criterion Met?

- A. No, there is only a single common commensal identified.
- B. No, the fever is eligible for use, but the chills are not.
- C. Yes, the organism identified is a recognized pathogen.
- D. Yes, there are matching common commensal organisms identified and at least one eligible sign/symptom.

D4-Godfrey-Primary BSI – Q2

Knowledge Check 2: Mr. An T. Dote

- **2/27:** Mr. An T. Dote admitted to the medical surgical unit w/ fever and chills
- **2/27:** Central line placed in ICU
- **2/28:** Mr. An T. Dote is transferred to the floor
- **2/29:** Blood specimen collected due to fever and chills
 - Matching positive cultures x2 for *Staphylococcus epidermidis* (**common commensal organism**)
- No other source of infection identified

What is the LCBI Date of Event (DOE)?

- A. 2/27, the patient has fever and chills documented.
- B. 2/27, this is when the central line is placed.
- C. 2/29, there are two signs and symptoms noted when the blood specimen is collected.
- D. 2/29, matching common commensals are identified.

D4-Godfrey-Primary BSI – Q3

Knowledge Check 3: Mr. An T. Dote

- **2/27:** Mr. An T. Dote admitted to the medical surgical unit w/ fever and chills
- **2/27:** Central line placed in ICU
- **2/28:** Mr. An T. Dote is transferred to the floor
- **2/29:** Blood specimen collected due to fever and chills
 - Matching positive cultures x2 for *Staphylococcus epidermidis* (common commensal organism)

Is this a Present on Admission (POA) or Healthcare associated infection (HAI)?

- A. This is an HAI event because the positive blood cultures are collected on hospital day 3.
- B. This is a POA event because signs and symptoms are documented on hospital day 1.
- C. There is no event noted because the blood specimens are considered contaminants.

D4-Godfrey-Primary BSI – Q4

Knowledge Check 4: Ms. In Jec Tion

- **3/8:** Ms. In Jec Tion is admitted to the oncology floor & port placed for chemotherapy.
- **3/9:** Fever (102° F)
- **3/10:** Blood specimen collected
 - *Enterococcus faecalis*
- No other source of infection is identified

Is there an LCBI Criterion Met?

- A. No, there is only a single common commensal identified.
- B. No, the fever is eligible for use, but the chills are not.
- C. Yes, the organism identified is a recognized pathogen.
- D. Yes, there is a common commensal identified and at least one eligible sign or symptom.

D4-Godfrey-Primary BSI – Q5

Knowledge Check 5: Ms. In Jec. Tion

- **3/8:** Ms. In Jec Tion is admitted to the oncology floor & port placed for chemotherapy.
- **3/9:** Fever (102° F)
- **3/10:** Blood specimen collected
 - *Enterococcus faecalis*
- No other source of infection is identified

Is this a Present on Admission (POA) or Healthcare associated infection (HAI)?

- A. This is an HAI event because the positive blood culture is collected on hospital day 3.
- B. This is a POA event because the fever is on hospital day 2 and matching common commensal organisms are identified.
- C. There is no event noted because the blood specimen is considered a contaminant.

D4-Godfrey-Primary BSI – Q6

Knowledge Check 6: Baby Hon E. Bun

- **3/10:** 6-month Baby Hon E. Bun is admitted w/ extreme lethargy
- **3/12:** Develops fever and periods of apnea
 - Single organism of *Bacillus lentus* (common commensal)
- **3/14:** Blood cultures collected (separate occasions)
 - Single organism of *Bacillus lentus* (common commensal)
 - No source of infection is identified

Is there an LCBI Criterion Met?

- A. No, there is only a single common commensal identified.
- B. No, the fever is eligible for use, but the apnea is not.
- C. No, the positive blood cultures are not collected on the same day or consecutive days.
- D. Yes, there are common commensals identified.

Central Line Association for Bloodstream Infection (BSI) Events

Key Terms in Chapter 4: Bloodstream Infection Event (Central Line-Associated Bloodstream Infection and Non-central Line Associated Bloodstream Infection)

Central Line (CL): 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**. For a list of great vessels for CLABSI reporting refer to the BSI chapter.

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. An eligible CL remain eligible for CLABSI events until the day after removal from the body or patient discharge, whichever comes first.

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 date of event or the day before

**DID YOU
KNOW...?**

A CLABSI determination is all about eligibility and application of key terms found in the BSI chapter.

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

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
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	No	Yes-eligible CL	Yes-eligible CL	Yes-eligible CL
			CL Day 1	CL Day 2	CL Day 3	CL Day 4	CL Day 5
<p>Patient A becomes eligible for a CLABSI on 4/4 because an accessed port is in place for some portion of > 2 consecutive calendar days making it an eligible CL on 4/4 (CL day 3). The port remains eligible for a CLABSI until it is removed, or the patient is discharged, whichever comes first.</p>							

Examples of Associating the Use of Central Lines to BSI Events (CLABSI) 1



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

Patient B is eligible for a CLABSI on 4/4 (CL Day 3) through 4/5. An accessed device (CL or port) is in place > 2 consecutive calendar days making it an eligible CL on 4/4 (CL day 3). A BSI with a DOE on the day of or the day after device removal or patient discharge is considered device associated (CLABSI).

Examples of Associating the Use of Central Lines to BSI Events (CLABSI) 2

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	Yes	Yes	Yes	Yes	Yes	Yes
CL Day 3	CL Day 4	CL Day 5	CL Day 6	CL Day 7	CL Day 8		

Patient C was admitted to an inpatient location on 3/29 with a central line in place. Patient C becomes eligible for a CLABSI on 3/31 (CL Day 3) through 4/6 because an accessed CL had been in place > 2 consecutive calendar days. A BSI DOE occurring on the day of or the day after device removal or patient discharge is considered a device-associated infection (CLABSI). The patient remains eligible for a CLABSI event through 4/6 because a full calendar day **did not pass** without a CL in place, therefore, device counts continue uninterrupted.

Examples of Associating the Use of Central Lines to BSI Events (CLABSI) 3

Date	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
Patient D: CL Status	CL in	CL in	CL in/ CL out	No device	CL in	CL in	CL in
Accessed	Yes	Yes	Removed	-	Placed	Yes	Yes
Eligible for CLABSI event	Yes-eligible CL	Yes-eligible CL	Yes-eligible CL	Yes-eligible CL	No	No	Yes- eligible CL
	CL Day 3	CL Day 4	CL Day 5		CL Day 1	CL Day 2	CL Day 3
<p>Patient D is admitted to an inpatient location on 3/29 with a central line in place. Patient D is eligible for a CLABSI 3/31 (CL Day 3) through 4/3. An accessed CL had been in place > 2 consecutive calendar days, however, a full calendar day passed (4/3) <u>with no CL in place</u>, therefore, device day counts start over at CL day 1 when a new line is placed. After 4/3, the patient will not be eligible for a CLABSI event again until 4/6 when the new CL becomes an eligible CL (CL day 3).</p>							

Knowledge Checks

Central line eligibility and
CLABSI event determination

D4-Godfrey-Primary BSI – Q7

BSI Knowledge Check 7: Mrs. Beau T. Ful

- **3/2:** Mrs. Beau T. Ful is admitted to the medical unit w/ severe abdominal pain and fever
- **3/4:** Fatigue and chills documented
 - Central line placed
 - Blood specimens collected and *Serratia spp* x1 identified
- No other source of infection is identified

Is the BSI Event a CLABSI?

- A. No, the central line is not in place >2 consecutive calendar days on the BSI date of event or the day before.
- B. No, because there is no LCBI criteria is not met
- C. Yes, the central line is in place >2 consecutive calendar days on the BSI date of event or before.

D4-Godfrey-Primary BSI – Q8

BSI Knowledge Check 8: Ms. Tu Lips

- **3/15:** Ms. Tu Lips is admitted to the surgical unit w/ a port in place, severe back pain and tenderness of the lower back
 - Port is accessed for medication administration
- **3/18:** Fever documented (101.3°F)
- **3/20:** Blood specimens collected and positive for *Staphylococcus hominis* X2
- No other source of infection is identified

Is the BSI Event a CLABSI?

- A. No, the central line is not in place >2 consecutive calendar days on the BSI date of event or before.
- B. No, LCBI criteria is not met
- C. Yes, the central line is in place >2 consecutive calendar days on the BSI date of event or the day before.

D4-Godfrey-Primary BSI – Q9

BSI Knowledge Check 9: Mr. Air O. Monas

- **3/5:** Mr. Air O. Monas is admitted to the step-down unit w/ a line in place, lethargy, and general back pain
 - The line **does not terminate** in one of the great vessels or close to the heart.
- **3/8:** Fever documented (101.3°F)
- **3/10:** Blood specimens collected and positive for *Streptococcus mitis* X2
- No other source of infection is identified

Is the Central Line Definition Met?

- A. No, the central line definition is not met.
- B. Yes, there is a blood culture collected from the line.
- C. I don't know. Is this a trick question?

D4-Godfrey-Primary BSI – Q10

BSI Knowledge Check 10 : Mr. Air O.

Monas

- **3/5:** Mr. Air O. Monas is admitted to the step-down unit w/ a line in place, lethargy and general back pain
 - The line **does not terminate** in one of the great vessels or close to the heart
- **3/8:** Fever documented (101.3°F)
- **3/10:** Blood specimens collected
 - *Streptococcus mitis* X2 (common commensal)
- No other source of infection is identified

Is there an LCBI Criterion Met?

- A. No, there is only a single common commensal identified.
- B. No, the fever is eligible for use, but the chills are not.
- C. Yes, the organism identified is a recognized pathogen.
- D. Yes, there are matching common commensals identified and at least one eligible sign or symptom

D4-Godfrey-Primary BSI – Q11

BSI Knowledge Check 11: Mr. Ketch Up

- **3/9:** Mr. Ketch Up is admitted to step-down w/ a non-accessed port
- **3/12:** Complaints of pain at the port site and redness
 - Medication administered via port for pain
- **3/13:** Documentation of pain at the port site and fever (100.5°F)
 - Port de-accessed
 - Blood specimen collected and positive for *Staphylococcus aureus* (pathogen)
- No other source of infection is identified

Is the Eligible Central Line Definition Met on the BSI Date of Event?

- A. No, the eligible central line definition is not met.
- B. Yes, medication is administered via the port on hospital day 4.
- C. No, the port is de-accessed on 3/13 and is no longer eligible to meet the CLABSI definition.

D4-Godfrey-Primary BSI – Q12

BSI Knowledge Check 12:

Ms. In Fec Tious

- **3/11:** Ms. In Fec Tious is admitted to an inpatient unit & a central line is placed.
- **3/12:** Central line is removed due to site pain.
- **3/14:** Fever (100.5°F) and hypotension documented
 - Blood specimens are collected and positive for *Streptococcus sanguinis* x1 (common commensal)
- No other source of infection is identified

Is there an LCBI Criterion Met?

- A. No, there is only a single common commensal identified.
- B. No, the fever is eligible for use, but the pain is not.
- C. Yes, the organism identified is a recognized pathogen.
- D. Yes, there is a common commensal identified and at least one eligible sign or symptom

D4-Godfrey-Primary BSI – Q13

BSI Knowledge Check 13: Ms. Oh Ver It

- **3/13:** Ms. Oh Ver It is admitted to an inpatient unit and a CL is placed.
- **3/14:** Blood specimen collected and positive for *Streptococcus pneumoniae*
- **3/16:** Central line is removed due to positive blood cultures.
- **3/18:** Central line placed for 4-week antibiotic course
- No other source of infection is identified

Is There an Eligible Central Line on the BSI Date of Event?

- A. No, the eligible central line definition is not met.
- B. Yes, medication is administered via the port on hospital day 6.
- C. No, the CL is removed on 3/16 and is no longer eligible for CL attribution.

**DID YOU
KNOW...?**

The timing of elements used to meet an LCBI definition determines if there is a reportable NHSN event.

Application of Present On Admission (POA) and Healthcare Associated Infection (HAI) timeframes

Key Terms in BSI Surveillance: Do You Remember the Times?

Present on Admission (POA): Time period defined as the day of admission to an **inpatient location** (calendar day 1), the 2 days before admission, and the calendar day after admission.

Healthcare Associated Infection (HAI): An infection with a date of event on or after the 3rd calendar day of admission to an **inpatient location where day of admission is calendar day 1**.

https://www.cdc.gov/nhsn/pdfs/pscmanual/2psc_identifyinghais_nhsncurrent.pdf

Key Terms in BSI Surveillance: Do you remember the time?

Example 1:

3/10: Patient is seen in the emergency department and transferred to the observation unit for monitoring

3/11: Patient is transferred to the medical surgical unit

3/12: Blood specimens collected in the medical surgical unit and positive for *Enterococcus faecalis*

Is this a POA or HAI Event?

Date	Patient Location	Positive Laboratory Specimen
3/10	Emergency department Observation unit	
3/11	Observation unit Medical surgical unit	POA
3/12	Medical surgical unit	Positive blood culture: <i>E. faecalis</i>

Key Terms in BSI Surveillance: Do you remember the time?

Example 2:

3/9: Patient is admitted to 5 West

3/12: Patient discharged from 5 West

3/13: Patient returns to the Emergency Department
Blood specimens are collected positive for *Staphylococcus aureus*

3/14: Patient is admitted to 3 East

Is this a POA or HAI Event?

Date	Patient Location	Positive Laboratory Specimen
3/9-3/12	5 West	
3/12 Discharged	5 West	HAI
3/13	ED	Positive blood culture: <i>S. aureus</i>
3/14	Patient admitted to 3 East	POA

Key Terms in BSI Surveillance: Do you remember the time?

Example 3:

3/10: Patient is admitted to 4 East w/ documentation of a **positive blood culture for *Staph epidermidis* x2 and fever on 3/8**

3/12: Documentation of fever

3/12: Blood specimen collected positive for *E.coli*

3/14: Central line removed

Is this a POA or HAI Event?

Date	Patient Location	Positive Laboratory Specimen
3/10	Emergency department 4 East	
3/11	4 East	
3/12	4 East	Positive blood culture: <i>E.coli</i>
3/14	4 East Patient discharged	

POA

Knowledge Checks

Present on admission (POA)
and healthcare associated
infection (HAI) timeframes

BSI Knowledge Check 14: Ms. One I. Ota

- **3/13-3/16:** Ms. One I. Ota is admitted to 2 East at Facility A
 - **3/13:** Documentation of a blood specimen positive for *Candida glabrata* collected from an outside hospital in patient's current medical record
 - **3/15:** Positive blood culture for *Candida albicans*
- **3/16-3/19:** Patient discharged on 3/16 and CL placed at Facility B
- **3/19:** Patient discharged from Facility B and transferred to Facility C
 - **3/20:** Blood specimens collected and positive for *Candida glabrata*
- No other source of infection is identified for the positive blood cultures

BSI Knowledge Check 14: Ms. One I. Ota

Date	Patient Information
3/13 Documentation of positive blood culture <i>Candida glabrata</i> from OSH	Facility A: 2 East
3/15	Facility A: 2 East +BC <i>Candida albicans</i>
3/16 Transferred to Facility B	Facility A: 2 East Facility B
3/16	Facility B: Central line placed
3/19 Transferred to Facility C	Facility B Facility C
3/20 Blood specimens collected and positive for <i>Candida glabrata</i>	Facility C

D4-Godfrey-Primary BSI – Q14

BSI Knowledge Check: Ms. One I. Ota

Is there an LCBI criterion met during the admission to Facility A?

A. Yes

B. No

Rationale:

Yes, documentation prior to the current admission may be used to meet an LCBI criterion, if it is available in the patient's current medical record and the BSI date of event occurs during the POA time period. Using the documentation of the positive blood culture prior to the current admission, LCBI 1 criterion is met.

D4-Godfrey-Primary BSI – Q15

BSI Knowledge Check: Ms. One I. Ota

If an LCBI criterion is met, what is the BSI date of event during the admission to Facility A?

A. 3/13

B. 3/15

C. 3/16

D. 3/20

Rationale:

The BSI date of event is 3/13. The documentation of the positive *Candida glabrata* on 3/13 is used to meet LCBI criteria. Since the organism, is a recognized pathogen, LCBI 1 criterion is met.

D4-Godfrey-Primary BSI – Q16

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at **Facility A** Present on Admission (POA) or a Healthcare associated infection (HAI) event?

- A. This is an HAI event because the positive blood cultures are collected on or after hospital day 3.
- B. This is a POA event because the date of event is on hospital day 1.
- C. The blood specimens are considered contaminants.

D4-Godfrey-Primary BSI – Q16

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility A Present on Admission (POA) or a Healthcare associated infection (HAI) event?

Rationale:

The documentation of the positive blood culture identified prior to admission occurs during the POA time period. The *C. glabrata* will set a POA BSI RIT and capture any primary BSI with a date of event during this timeframe. Because the date of event for the positive *C. albicans* (3/15) is during the POA BSI RIT, it is captured in this timeframe and added to the POA BSI event.

BSI Knowledge Check: Ms. One I. Ota

Date	Patient Information
3/13 Documentation of positive blood culture <i>Candida glabrata</i> from OSH	Facility A: 2 East
3/15	Facility A: 2 East +BC <i>Candida albicans</i>
3/16 Transferred to Facility B	Facility A: 2 East Facility B
3/16	Facility B: Central line placed
3/19 Transferred to Facility C	Facility B Facility C
3/20 Blood specimens collected and positive for <i>Candida glabrata</i>	Facility C

D4-Godfrey-Primary BSI – Q17

BSI Knowledge Check: Ms. One I. Ota

Is there an LCBI criterion met during the admission to Facility B?

A. Yes

B. No

Rationale:

Yes, there is a positive blood culture for *Candida glabrata* the day after transfer from Facility B. Per the transfer rule, if the BSI date of event is on the date of transfer or discharge, or the next day, the infection is attributed to the transferring/discharging location.

D4-Godfrey-Primary BSI – Q18

BSI Knowledge Check: Ms. One I. Ota

If an LCBI criterion is met, what is the BSI date of event during the admission to Facility B?

A. 3/15

B. 3/16

C. 3/19

D. 3/20

Rationale:

The BSI date of event is 3/20 as *Candida glabrata* is a recognized pathogen. No additional element is needed to meet LCBI 1 criterion; therefore, the LCBI 1 DOE is always the collection date of the first positive blood specimen used to set the BSI IWP, in this case the DOE 3/20.

D4-Godfrey-Primary BSI – Q19

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility B Present on Admission (POA) or a Healthcare associated infection (HAI) event?

- A. This is an HAI event because the positive blood cultures are collected on or after hospital day 3.
- B. This is a POA event because the date of event is on hospital day 2.
- C. The blood specimens are considered contaminants.

D4-Godfrey-Primary BSI – Q19

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at **Facility B** Present on Admission (POA) or a Healthcare associated infection (HAI) event?

Rationale:

The patient is admitted to Facility B on 3/16. The hospital day count begins on the date of admission. The positive blood specimen is collected on 3/20. **This is a healthcare associated infection (HAI)** because the positive blood specimen is collected on or after the 3rd calendar day of admission to an inpatient location (hospital day 5).

D4-Godfrey-Primary BSI – Q20

Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility B a CLABSI?

- A. No, the central line is not in place >2 consecutive calendar days on the BSI date of event or before.
- B. No, LCBI criteria is not met.
- C. Yes, the central line is in place >2 consecutive calendar days on the BSI date of event or before.

D4-Godfrey-Primary BSI – Q20

Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility B a CLABSI?

Rationale:

The central line (CL) is placed at Facility B on 3/16. On the BSI DOE, there are 5 CL days. Because the CL is in place >2 consecutive calendar days on the BSI date of event or before, the BSI event is a CLABSI.

BSI Knowledge Check: Ms. One I. Ota

Date	Patient Information
3/13 Documentation of positive blood culture <i>Candida glabrata</i> from OSH	Facility A: 2 East
3/15	Facility A: 2 East +BC <i>Candida albicans</i>
3/16 Transferred to Facility B	Facility A: 2 East Facility B
3/16	Facility B: Central line placed
3/19 Transferred to Facility C	Facility B Facility C
3/20 Blood specimens collected and positive for <i>Candida glabrata</i>	Facility C

D4-Godfrey-Primary BSI – Q21

BSI Knowledge Check: Ms. One I. Ota

Is there an LCBI criterion met during the admission to Facility C?

A. Yes

B. No

Rationale:

Yes, the positive blood culture has a recognized pathogen identified (*Candida glabrata*). Therefore LCBI 1 criterion is met. No additional elements are required to meet LCBI 1 criterion.

D4-Godfrey-Primary BSI – Q22

BSI Knowledge Check: Ms. One I. Ota

What is the BSI date of event for the Facility C admission?

A. 3/16

B. 3/19

C. 3/20

Rationale:

The BSI date of event is 3/20. Since *Candida glabrata* is a recognized pathogen, no additional element is needed to meet LCBI 1 criterion; therefore, the LCBI 1 DOE is always the collection date of the first positive blood specimen.

D4-Godfrey-Primary BSI – Q23

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility C Present on Admission (POA) or a Healthcare associated infection (HAI) event?

- A. This is an HAI event because the positive blood cultures are collected on or after hospital day 3.
- B. This is a POA event because the date of event is on hospital day 2.
- C. The blood specimens are considered contaminants.

D4-Godfrey-Primary BSI – Q23

BSI Knowledge Check: Ms. One I. Ota

Is the BSI event at Facility C Present on Admission (POA) or a Healthcare associated infection (HAI) event?

Rationale:

The patient is admitted to an inpatient location on 3/19. The hospital day count begins when the patient physically locates to the inpatient unit. There is a positive blood specimen collected on 3/20. This is a present on admission (POA) because the positive blood specimen is collected on hospital day 2.

Primary BSI Recap

- The key terms found in Chapter 2: Identifying Healthcare associated Infections are key when performing BSI and CLABSI surveillance.
- Laboratory confirmed bloodstream infection criteria are the cornerstone of BSI and CLABSI surveillance.
- A CLABSI determination is based on the use of the key terms found in Chapter 4 and the eligibility of a CL.
- The timing of elements used to meet an LCBI criterion determines if the BSI event is a POA or HAI event.

Resources

- 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>
- NHSN training:
 - <http://www.cdc.gov/nhsn/training/>

For any questions or concerns, contact the NHSN Helpdesk using

NHSN-ServiceNow to submit questions to the NHSN Help Desk.

The new portal can be accessed at <https://servicedesk.cdc.gov/nhsncsp>.

Users will be authenticated using CDC's Secure Access Management Services (SAMS) the same way you access NHSN. If you do not have a SAMS login, or are unable to access ServiceNow, you can still email the NHSN Help Desk at nhsn@cdc.gov.

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

