2018 CLABSI Medical Record Abstraction Tool Instructions

Fill in demographic section and then complete the Question 2, screening questions. Fill in Tables 1a-Positive Blood Specimens, 1b-Locations and 1c-Central Lines to complete answers to questions 4-8. Complete the Outcome section for each candidate positive blood specimen.

1. IDENTIFIERS AND ABSTRACTED DATA: Complete patient identifiers and demographics from patient medical record and ADT data.

2. SCREENING QUESTIONS: Using the selected positive blood specimen from the facility provided line list determine the following:

2.1. Whether all positive blood specimens during the episode of care were collected on or after facility day 3 or was the date of event (DOE) the day of transfer or discharge, or the next day? If Yes, continue to next question.
2.2. Were any positive blood specimens taken during ANY validation location (VL) stay, or on the day of or day after VL discharge? If Yes, continue to next question.
2.3 Was central line (CL) in place** for >2 calendar days AND in place during a VL stay for any period of time? (***In place: day of CL insertion is considered CL Day 1, unless patient was admitted to facility with CL in place, then day of first line access in an inpatient location is CL Day 1.)* If Yes, continue to next question.
2.4 Were any organisms identified excluded pathogens from the LCBI definition. If No, this is a candidate positive blood specimen.
NOTE: If there is a recognized pathogen in addition to one of these organisms, work up the blood specimen for an LCBI.

Table 1a Positive Blood Specimens: Document ALL positive blood specimens sequentially.

Indicate which were "VL blood specimens", defined as those collected during VL stays, the day of departure from the VL, or the following three (3) calendar days. *Note: These VL blood specimens are eligible for possible VL CLABSI. Non-VL blood specimens may also be important to establish BSI repeat infection timeframe (RIT) and other location of attribution.*

For each organism, indicate whether it is a pathogen (P) or common commensal (CC); the list of common commensals is available in LCBI Criteria.

Note: ***Common commensals should only be evaluated as matched pairs/multiples if they were drawn on same/consecutive days; otherwise they are considered contaminants.***

The matching common commensals represent a single element; therefore, the collection date of the ***first*** *common commensal is the date of the blood collection element. If signs/symptoms of Laboratory-Confirmed Bloodstream Infection (LCBI) 2/3 criteria occur within the 3 days prior to the date of the blood collection element, the first sign/symptom is used as the DOE to determine the RIT dates.*

Using clinical information (which can include signs/symptoms and test results), divide listed blood specimens into distinct "RITs" and assign an RIT Number. Positive blood specimens during previous BSI RIT (regardless of change in organism) are considered a single Infection Event.

LCBI Infection Window Period (IWP): The NHSN LCBI Infection Window Period is defined as the 7-days during which all LCBI criteria must be met. It includes the day the first positive blood specimen is obtained, the 3 calendar days before and the 3 calendar days after.

The LCBI RIT is a 14-day timeframe during which no LCBI are reported. The date of LCBI is Day 1 of the 14-day BSI RIT. If criteria for LCBI are met again within the 14-day LCBI RIT, no new LCBI is identified or reported. Additional organisms identified in blood during the LCBI RIT are added to the initial event.

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Table 1b Locations: Document all facility locations and dates sequentially for this episode of care, and indicate locations being validated for CLABSI by circling Yes or No for VL.

Table 1c Central Lines: Document time periods below with **any** CL in place for at least part of a day, following placement or access (do not document individual lines removed and replaced on same/consecutive days). *Note: Central line: IV catheter ending at/near heart or in great vessel (aorta, PA, SVC, IVC, brachiocephalic, internal jugular, subclavian, external iliac, common iliac, or femoral vein; umbilical artery/vein), inserted or accessed and used for infusion, blood draw, or hemodynamic monitoring (NHSN Patient Safety (PS) Manual BSI Chapter 4).*

3. LABORATORY CONFIRMED BLOODSTREAM INFECTION (LCBI) CRITERIA

*a. Evaluate all positive blood specimens in order as potential Laboratory Confirmed Bloodstream Infection (LCBI), using table columns below to **determine if there was an LCBI, and which type (LCBI 1, LCBI 2, or LCBI 3) was met, if any.** All elements listed in a column are required to meet the LCBI definition.*

b. If an LCBI definition is met, determine whether the LCBI also meets the corresponding definition of mucosal-barrier injury (MBI-LCBI), which is a subset of LCBI. Each positive blood specimen reviewed should result in a reported outcome on page 4 of MRAT.

*c. ONLY IF an Infection Event is related to infection at another primary site, document the alternative primary site and specific type of infection on page 4, **attach completed NHSN checklist for alternative primary site**, and cite evidence (e.g., required cultures, test results, symptoms, and DOE dates) documenting that alternative primary site infection definition was met within an infection window period (date of the diagnostic test, the three calendar days before and the 3 three calendar days after) and that all requirements of the **NHSN PS Manual BSI Chapter, Appendix B: Secondary Bloodstream Infection Guide** are met. NOTE: ENDO (endocarditis) has a 21-day infection window period consisting of the date of the diagnostic test, the ten days before and the ten days after.*

LCBI type:	LCBI 1 (any age)	LCBI 2 (any age)	LCBI 3 (age ≤1 year only)
Organism(s) in blood element	☐ Recognized pathogen(s) identified from one or more blood specimens. NOTE: If the recognized pathogen Group B *Streptococcus* is identified during the first 6 days of life, a BSI RIT will be set, no central line association will be made, and a CLABSI will not be reported.	☐ Matching common commensal(s)* (CC) identified from two or more blood specimens drawn on separate occasions on same or consecutive days (this is one element and can bridge to other elements either forward or backward).	☐ Matching common commensal(s)* (CC) identified from two or more blood specimens drawn on separate occasions on same or consecutive days (this is one element and can bridge to other elements either forward or backward).
Other site exclusion	☐ Organism(s) identified from blood is not related to an infection at another site. ➢ *If alternative primary site is likely, a completed NHSN checklist is required, with review of NHSN PS Manual BSI Chapter 4, Appendix B: Secondary BSI Guide. Type of alternative primary site infection, date of alternative primary event, and Appendix B criterion is recorded under outcomes on p 4.*	☐ Organism(s) identified from blood is not related to an infection at another site. ➢ *If alternative primary site is likely, a completed NHSN checklist is required, with review of NHSN PS Manual BSI Chapter 4, Appendix B: Secondary BSI Guide. Type of alternative primary site infection, date of alternative primary event, and Appendix B criterion is recorded under outcomes on p 4.*	☐ Organism(s) identified from blood is not related to an infection at another site. *If alternative primary site is likely, a completed NHSN checklist is required, with review of NHSN PS Manual BSI Chapter 4, Appendix B: Secondary BSI Guide. Type of alternative primary site infection, date of alternative primary event, and Appendix B criterion is recorded under outcomes on p 4.*

Age and Symptoms/ Signs element	Any Age (Any symptom or No Symptoms/Signs)	Any Age ☐ At least ONE of: ○ Fever >38.0°C ○ Chills ○ Hypotension	Infant ≤1 year of age ☐ At least ONE of: ○ Fever >38.0°C ○ Hypothermia <36.0° ○ Apnea ○ Bradycardia
Timeframe	(NA)	☐ All LCBI 2 elements must occur within the Infection Window Period, the seven-day time period which includes the date the positive blood specimen was collected, the 3 calendar days before and the 3 calendar days after.	☐ All LCBI 3 elements must occur within a the Infection Window Period, the seven-day time period which includes the date the positive blood specimen was collected, the 3 calendar days before and the 3 calendar days after.

**Common Commensal organisms include, but are not limited to* diphtheroids*, Corynebacterium* spp. [not *C. diphtheria*], *Bacillus* spp. [not *B. anthracis*], *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridans group streptococci*, Aerococcus* spp., *Micrococcus* spp., and *Rhodococcus* spp. *(For a complete list of Common Commensals, see the Common Commensal tab of the 2018 NHSN Organisms List, located on the NHSN Data Validation webpage under 2018 Resources: https://www.cdc.gov/nhsn/validation/index.html.)*

For any event meeting LCBI criteria above, determine whether event is an MBI-LCBI using criteria below.

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 the same hospitalization as positive blood specimen:
- ○ Grade III or IV gastrointestinal graft vs. host disease (GI-GVHD) and/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 7 calendar days before the date the positive blood specimen was collected

OR

☐ Is neutropenic, defined as at least two (2) separate days with absolute neutrophil count (ANC) and/or total white blood cell (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. (Refer to NHSN PS Manual BSI Chapter 4)

—AND— *(select appropriate LCBI column)*

MBI	☐ Organism(s) is one of the MBI-LCBI organisms (see NHSN BSI Chapter, Appendix A: Partial List of Criterion 1 MBI-LCBI Eligible Enterobacteriaceae Genera, or MBI Organisms tab on the NHSN Organism List for a complete list), **and** no other organism(s) are isolated	☐ Organism(s) are viridans group streptococci or *Rothia* spp. with no other organism(s) isolated	☐ Organism(s) are viridans group streptococci or *Rothia* spp. with no other organism(s) isolated

4. Did Infection Episode Qualify as LCBI Event? ***(Begin loop)***

Examine each candidate positive blood specimen for possible event. Record the LCBI Event noting the date of the first required elements was met during the LCBI IWP.

5. Was the LCBI Healthcare-Associated (HAI) or Present on Admission (POA)?

Determine whether the date of event of LCBI occurred during the time period of 2 days before facility admission to the day after facility admission (POA)? Select Yes or No.

Note: Acceptable documentation for POA includes self-reported symptoms by the patient (e.g., patient states fever > 38.0°C). Criteria documented by a healthcare professional (e.g., nursing home documented fever or stated patient was febrile prior to arrival at the hospital) is also acceptable. Physician diagnosis of LCBI without criteria documentation cannot be accepted.

6. Determining whether the HAI-LCBI is a CLABSI:

6a. Was this HAI-LCBI a CLABSI? Was a central line in place for more than 2 consecutive calendar days or removed on the date of LCBI event? Select Yes or No.

*Note: If the patient was admitted to a facility with central line in place, day of first line access as an inpatient is considered central line Day 1. IF the patient had an Extracorporeal life support (ECMO) or Ventricular assist device (VAD) that has been in place for more than 2 consecutive days on the BSI DOE and is still in place on the DOE or the day before, such cases are considered LCBIs but are **NOT** central line associated (not a CLABSI) for NHSN reporting purposes.*

6b. Was there medical documentation of the patient suspected or observed self-injecting into their vascular access device within the infection window period? **Or** was there is a diagnosis during the current admission or Munchausen Syndrome by Proxy (MSBP)? If a CL was in place >2 days on a BSI DOE, these events are considered LCBIs but are **NOT** considered central line associated. Select Yes or No.

6c. Was there pus documented at one of the following sites? Occasionally, a patient with both a central line and another vascular access device will have pus at the other access site. If a specimen of the pus which identifies an organism(s) that matches at least one organism found in the blood is collected in the LCBI IWP, the BSI will not be considered central line associated. Vascular access devices included in this exception are limited to the following:

- 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

7. Was Validation Location (VL) the Location of Attribution?

Answer questions **a-c** to identify if patient was in a VL on date of LCBI Event* or day before Event? **Date of LCBI Event is date when first of required LBCI elements occurred.* If there was a transferring location, was this a VL?

8. Final Outcome Assignment: Complete Table 8 using the listed outcome options **a-f.** Assign an outcome for each candidate positive blood specimen. Also select the **Case Determination A, B or C** (Correctly identified, Over-reported or Underreported), then the reason for misclassification using **I-III**.