Interior Health
INFECTION PREVENTION & CONTROL

IH CLABSI SURVEILLANCE PROTOCOL

October 2023

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Introduction

Catheter related bloodstream infections (CRBSI) are associated with significant increases in morbidity and mortality, contributing to increased length of stay and healthcare costs. While the term Catheter Related Bloodstream Infections (CRBSI) is a broader clinical term used in the diagnosis and treatment of patients and often used interchangeably with Central Line Associated Bloodstream Infections (CLABSI), the latter is primarily used for surveillance purposes with clearly defined criteria as described in this document.

The impact that CLABSI has on healthcare systems is significant and while precise Canadian data are scarce, studies from the US estimate the attributable cost of a nosocomial bloodstream infection to range from 4,000 to 29,000 USD. The majority of cases of CLABSI are preventable through proper aseptic insertion techniques and management of central venous lines. The most common pathogens associated with CLABSI are coagulase-negative staphylococci, *Staphylococcus aureus,* enterococci and yeasts. Gram-negative bacilli contribute to approximately 20%.

Pathogenesis

Factors important for pathogenesis of CLABSI are related the physical characteristics of the catheter devices that might impact adherence, host factors and the virulence of the infecting / colonizing organisms. An important contribution to development of infections is the ability of certain organisms such as staphylococci, *yeasts* and *P.aeruginosa* to produce an extracellular polymeric substance (EPS) forming a cation rich bio layer. Organisms embedded in this protective bio layer are able to evade host defenses and the action of antibiotics.

There are 4 major routes by which catheters can become infected:

1. Migration of skin organisms from the insertion site along the surface of the catheter and colonization of the catheter tip.
2. Direct contamination of the catheter or catheter hub by contact with hands or contaminated fluids or devices
3. Hematogenous seeding from another focus of infection
4. Contamination of infusate

Prevention strategies

Prevention of CLABSI is essential to good healthcare practice. Multiple studies have demonstrated that a multidisciplinary collaborative approach is required for minimizing CLABSIs and literature confirms that multidisciplinary and collaborative approach that includes healthcare professionals directly involved with use and care of central venous catheters (CVC) (doctors and nurses), healthcare managers and infection prevention staff is a model that can be successfully used in prevention of CLABSI.

One of the major evidence based measures in preventing these complications is use of a bundle, a group of interventions when implemented together, result in better outcomes than implemented individually. For prevention of CLABSI well established insertion and access bundles recommended by Canadian Patient Safety Institute and Centers for Disease Control (Guidelines for the Prevention of Intravascular Catheter-Related Infections) exists and were introduced to IH earlier. Bundle adherence and evaluation are important parameters of CLABSI surveillance performed by Infection Preventionist's (IP).

Current guidelines provide essential practices for the prevention of CLABSI including clinical indications for CVC use, adequate ICU staffing, education and competency and implementation of procedures for proper insertion and maintenance of CVCs. Strict compliance with aseptic insertion techniques is required. This includes hand hygiene, skin antisepsis using alcoholic chlorhexidine, maintenance of a sterile field using maximal sterile barrier precautions (including the use of a cap, mask, sterile gown, sterile gloves), and a sterile full body drape for the insertion of CVCs, PICCs, or guidewire exchange. Recommendations must also address patient factors including daily cleansing with 2% skin chlorhexidine wash (for patients aged > 2 months) and the use of sutureless securement devices to reduce infection risk. Other essential practices include use of all-inclusive catheter cart or kit, selection of sites for CVC insertion (subclavian and jugular sites preferred over femoral site), and use of ultrasound guidance and minimizing the number of cannulations.

Essential practices also address catheter site dressing recommending chlorhexidine-containing dressings for CVCs in patients over 2 months of age as well as replacement instructions and periodic dressing change (2 days for gauze dressing / 7 days for transparent cover) or immediately if the dressing is soiled, loose or damp. Disinfection of catheter hubs, needleless connectors and injection ports is required before accessing the catheter.

Use of antimicrobial/antiseptic impregnated catheters and cuffs is not routinely recommended but may be useful if prevention strategies have failed to decrease CLABSI rate. Systemic antimicrobial prophylaxis is not recommended for the routine insertion of CVCs as it can promote colonization with fungal organisms and may promote antimicrobial resistance. Antibiotic ointments are recommended for hemodialysis lines. The use of antibiotic lock prophylaxis is recommended in selected patients with history of multiple CRBSI. Routine replacement of CVCs, hemodialysis lines and peripherally inserted central catheters (PICC) is not recommended. Supplemental information on various vascular sites and devices are addressed in: Guidelines for the Prevention of Intravascular Catheter-Related Infections.

Surveillance

As an important part of prevention and reduction of nosocomial infections the Interior Health, Infection Prevention and Control (IPAC) program collaborates with the IH Critical Care Network to collect surveillance data, provide regular reports to stakeholders, and conduct investigations when increased rates of CLABSI occur. This collaboration is evident as the majority of CLABSIs occur with CVCs used routinely in the ICU setting where IPAC can easily access denominator data and have a dedicated group of healthcare professionals to work with regarding the implementation of prevention and surveillance projects. IH IPAC follows the Canadian Nosocomial Infection Surveillance Program (CNISP) recommendations and criteria for CLABSI.

Objectives:

1. To provide targeted surveillance for CLABSI within IH and continuously work with stakeholders on elimination of CLABSI
2. To investigate any increase in CLABSI rate within IH
3. To determine CLABSI rates in the ICU setting for the IH Critical Care Network
4. To provide quarterly, semi-annual and annual CLABSI incidence rates and data for trend analysis

Roles and Responsibilities in CLABSI surveillance

CLABSI surveillance steps	Roles and responsibility	Time frame
CLABSI Case Finding and Investigation	IPs follow the CLABSI surveillance protocol and complete the CLABSI case report form	Within one week of finishing case assessment.
Data Entry	IPs enter the data into IPAC dashboard under section CLABSI for specific location	• As soon as the case is identified • Finalize the data entry at the end of monitoring period
CLABSI Case Review	IPs review the case with Epidemiologist and/or IPAC Medical Director after completing the CLABSI case investigation	Within two weeks of the case identification
Data Compiling and Analysis	IPAC epidemiologist	Within two weeks of the case review
Surveillance Report Review	• IPAC epidemiologist draft report in consultation with IP • Epidemiologist and IPAC Medical director and IPAC Leadership review the report	• Once every period of fiscal year in IH • Once every three months for quarterly reports • Once every six months for semi-annual reports • Once a year for annual reports • On request from IH Leadership

Approval of CLABSI Surveillance Report	IPAC Medical Director and IPAC Director	Prior to submission
Disseminating Data and Reports	• Data and reports shared with IPs, epidemiologist and IPAC Medical Director. • Approved formal reports are presented to the relevant stakeholders, Critical Care Network, site Infection Control committees, and site Quality Committees as indicated	Regularly (fiscal period, quarterly, semi-annually, annually)
Data Quality Assurance	It is the responsibility of IPAC Epidemiologist and members involved in CLABSI surveillance to: • Develop, review and update indicators including the precise methodology for data collection to ensure consistency • Perform periodical case review to ensure the accuracy of case finding and compliance to the surveillance protocol	Every 6 months

Inclusion criteria

All patients admitted to ICU within IH where there is ability to collect and submit the following data on a monthly basis:

- ICU specific CL-days (central line days) and ICU specific patient-days for each participating ICU
- For neonatal ICUs the ability to stratify CL days by birth weight group.

Types of ICU included in surveillance

1. Adult mixed ICUs =any adult ICU with a mix of patient types such as medical/surgical, surgical/trauma, burn/trauma/medical/surgical, medical/neurosurgical, neurological/burn patients etc. as part of its ICU patient mix
2. Adult Cardiovascular surgery ICUs

Surveillance period:

The CLABSI surveillance period will begin April 1st and continue to March 31st of a next calendar surveillance year (IH fiscal year).

Key terms and abbreviations:

ICU: nursing care area in an acute care hospital that provides intensive observation, diagnostic and supportive care to critically ill patients including, but not limited to, invasive intravascular hemodynamic monitoring, endotracheal intubation and mechanical ventilation. Stand-alone surgical, medical, trauma, neuro, bone marrow transplant, stepdown, intermediate care or telemetry units are excluded.

CL: venous access device that terminates at or close to the heart or in one of the great vessels. The CDC/NHSN defines great vessels as: aorta, pulmonary artery, inferior and/or superior vena cava, brachiocephalic, internal jugular, subclavian, external iliac, common iliac, femoral veins, and umbilical artery and vein.

CLs include non-tunneled (standard) CL, coated or not, peripherally inserted CL (PICC), tunneled devices (e.g. Broviac, Hickman), tunneled hemodialysis line, intra-cardiac catheters such as intra-atrial & and ventricular lines, dual function lines such as temperature/venous catheters e.g. Cool line catheters, Quattro catheters, introducers etc.), pulmonary artery catheters, umbilical artery and vein catheters and implanted catheters (including ports).

Other arterial catheters are **NOT** included. AV fistulas and or grafts, pacemaker leads and other non-infusion devices (ECMO, IABP and VAD) inserted into central blood vessels or the heart are **NOT** included

Numerators:

BSI case definition:

The BSI is NOT related to an infection at another site (not a secondary BSI according to National Healthcare Safety Network (NHSN) definitions – please refer to Appendix C: Primary vs. Secondary BSI Attribution Guide) and it meets one of the following criteria:

- **Criterion 1:** Recognized pathogen cultured from at least one blood culture, unrelated to infection at another site (not a secondary BSI according to NHSN definitions).

  OR

- **Criterion 2:** At least one of: fever (>38°C core), chills, hypotension; if aged < 1 year: fever (>38°C core), hypothermia (<36°C core), apnea, or bradycardia AND common skin contaminant* cultured from ≥ 2 blood cultures drawn on separate occasions, or at

different sites, **unrelated to infection at another site**. (Not a secondary BSI according to NHSN definitions).

Criterion elements must be met within a seven-day time period which includes three days before and three days after the collection date of the first positive blood culture.

***Diphtheroids (*Corynebacterium spp*. not *C. diphtheriae*), *Bacillus spp* (not *B. anthracis*), *Cutibacterium* spp., coagulase-negative staphylococci (including *S. epidermidis*), viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp and *Rhodococcus spp., etc*. see NHSN's Terminology Browser to look up common commensal organisms.

Different sites may include peripheral veins, CVCs, or separate lumens of a multi lumen catheter. **Different times** include 2 blood cultures collected on the same or consecutive calendar days via separate venipunctures or catheter entries. The collection date of the first positive blood culture is the date used to identify the date of positive culture. Two positive blood culture bottles filled at the same venipuncture or catheter entry constitute only one positive blood culture.

Example:

01-Jan-2019	02-Jan-2019	03-Jan-2019	04-Jan-2019	Date of positive blood culture = 03-Jan-2019
CL in place Fever > 38° C, core	CL in place	CL in place S. epidermidis (1 of 2 blood cultures)	CL in place S. epidermidis (1 of 2 blood cultures)	

CLABSI definition:

A CLABSI must meet one of the following criteria:

- **Criterion 1**: A laboratory-confirmed bloodstream infection (LCBSI) where a central line catheter (CL) or umbilical catheter (UC) was in place for >2 calendar days on the date of the positive blood culture, with day of device placement being Day 1.

OR

- **Criterion 2:** A LCBSI where CL or UC was in place >2 calendar days and then removed on the day or one day before positive blood culture drawn.

NOTE: If admitted or transferred into a facility with a CL/UC in place (e.g., tunneled or implanted central line), day of first access is considered Day 1

ICU-related CLABSI

A CLABSI is related to an ICU is it meets one of the following criteria:

- **Criterion 1**: CLABSI onset after two days of ICU stay

OR

- **Criterion 2:** If the patient is discharged or transferred out of the ICU, the CLABSI would be attributable to the ICU if it occurred on the day of transfer or the next calendar day after transfer out.

NOTE: If the patient is transferred into the ICU with the CL and the blood culture was positive on the day of transfer or the next calendar day then the CLABSI would be attributed to the unit where the line was inserted.

Relapse versus new infection

Same microorganism (as best as can be determined by the data available – e.g. species, antibiotic sensitivity, etc.) isolated from a subsequent blood culture:

- If less than or equal to 10 days from a negative culture OR less than or equal to 10 days from completion of appropriate antibiotic therapy, consider as a relapse and DO NOT REPORT.

- If greater than 10 days from a negative culture (if culture was done) AND greater than 10 days from completion of appropriate antibiotic therapy, REPORT as a NEW infection

DENOMINATORS:

CL-days (central line days)

Central lines that are removed and reinserted: If, after central line removal, the patient is without a central line for at least one full calendar day then the central line day count will start anew. If instead, a new central line is inserted before a full calendar day without a central line has passed, the central line day count will continue. If a patient has more than one CL or UC at the same time, only one CL-day is counted.

1. All Adult ICUs and PICUs
2. Neonatal ICU
3. Neonatal ICU CLABSI rates will be stratified by 5 birth weight groups (< 750g, 750 - 1000g, 1001-1500g, 1501-2500g, >2500g).

NOTE: If a neonate has a UC it is counted as a CL.

Patient-days

Patient days are not required for calculation of infection rates but are used for the calculation of central line utilization per ICU (see rate calculations).

1. All Adult ICUs and PICUs
2. Neonatal ICUs (NICU)

Where possible, please supply NICU patient-days stratified by 5 birth weight groups (< 750g, 750 -1000g, 1001-1500g, 1501-2500g, >2500g). For centers unable to supply NICU patient-days by birth weight group, please supply total NICU patient-days. CL utilization rates will be calculated for the NICU, but not stratified for birth weight.

Rate Calculations

Preliminary calendar year rates (Jan-Jun) will be calculated by October for the current surveillance and full calendar year rates finalized by October of the following calendar year.

Overall, for each ICU and by criterion 1 & 2:

Infection rate $$CLABSI\ rate = \frac{Number\ of\ CLABSI}{Number\ of\ CL\ days} \times 1000$$

Device utilization rate $$CL\ utilization\ rate = \frac{Number\ of\ CL\ days}{Number\ of\ patient\ days}$$

For each type of ICU (depending on data collected):

- Data (numerators and denominators) from participating centers will be pooled to determine CLABSI rates.
- Individual rates for participating centers will be used to calculate median, percentile, and mean infection and device utilization rates.

Neonatal ICU:

- CLABSI rates will be calculated for birth weight groups.
- Device utilization rates by birth weight group will be calculated for those centers submitting patient-days stratified by birth weight group. For those able to only submit total neonatal ICU patient days, individual device utilization rates will be calculated for the total neonatal ICU population.
- Device utilization rates will be calculated for birth weight groups and for the total neonatal ICU population.

Identifying CLABSI:

Possible cases may be detected at these points in time, but are not limited to:

- While admitted in an IH acute facility ICU;
- A physician reports following;

Case detection in IH can involve review of any of the following:

- Microbiology laboratory results;
- Patient charts (including: observation of the incision, physician record and pharmacy data);
- Readmissions;
- Emergency visit records;
- Clinic visit records;
- Administrative discharge data review.
- Post-discharge surveillance

CLABSI case investigation procedure for IPs

<table>
<tr><th>Step</th><th colspan="2">Action</th></tr>
<tr><td>1</td><td colspan="2">As soon as a potential case of CLABSI is identified, initiate the CLABSI Case Reporting Form for Infection Preventionist located in Infection Control Dashboard</td></tr>
<tr><td rowspan="3">2</td><td colspan="2">Assess patient location at time of review (done as soon as possible after case identified)</td></tr>
<tr><td>if</td><td>then</td></tr>
<tr><td>the patient is admitted at IH hospital

OR

The patient is discharged out of the ICU, the CLABSI would be attributable to the ICU if it occurred on the day of transfer or the next calendar day after transfer out.</td><td>• Perform detailed chart review to determine if patient meets case definition and obtain other information required to complete the Case information section of the Reporting Form</td></tr>
<tr><td>3</td><td colspan="2">Complete the Case assessment section of the form.
• Follow CLABSI Infection Case Identification Process Chart located in Infection Control Dashboard</td></tr>
<tr><td>4</td><td colspan="2">Enter the case into the case dashboard as soon as possible.</td></tr>
<tr><td>5</td><td colspan="2">Review case with Epidemiologist and/or Medical director of IPAC within two weeks of an identified CLABSI case.</td></tr>
</table>

6	Once the patient is off monitoring period, finalize data entry into IPAC dashboard and finalize Case Report Form

Data entry

All CLABSI meeting the CNISP CLABSI case definition for ICU cases adopted by IH are mandatory for data entry into IPAC dashboard.

- **Denominator data**

The number of catheter-days is obtained from IH Critical Care Network

- **Comparator rates:**

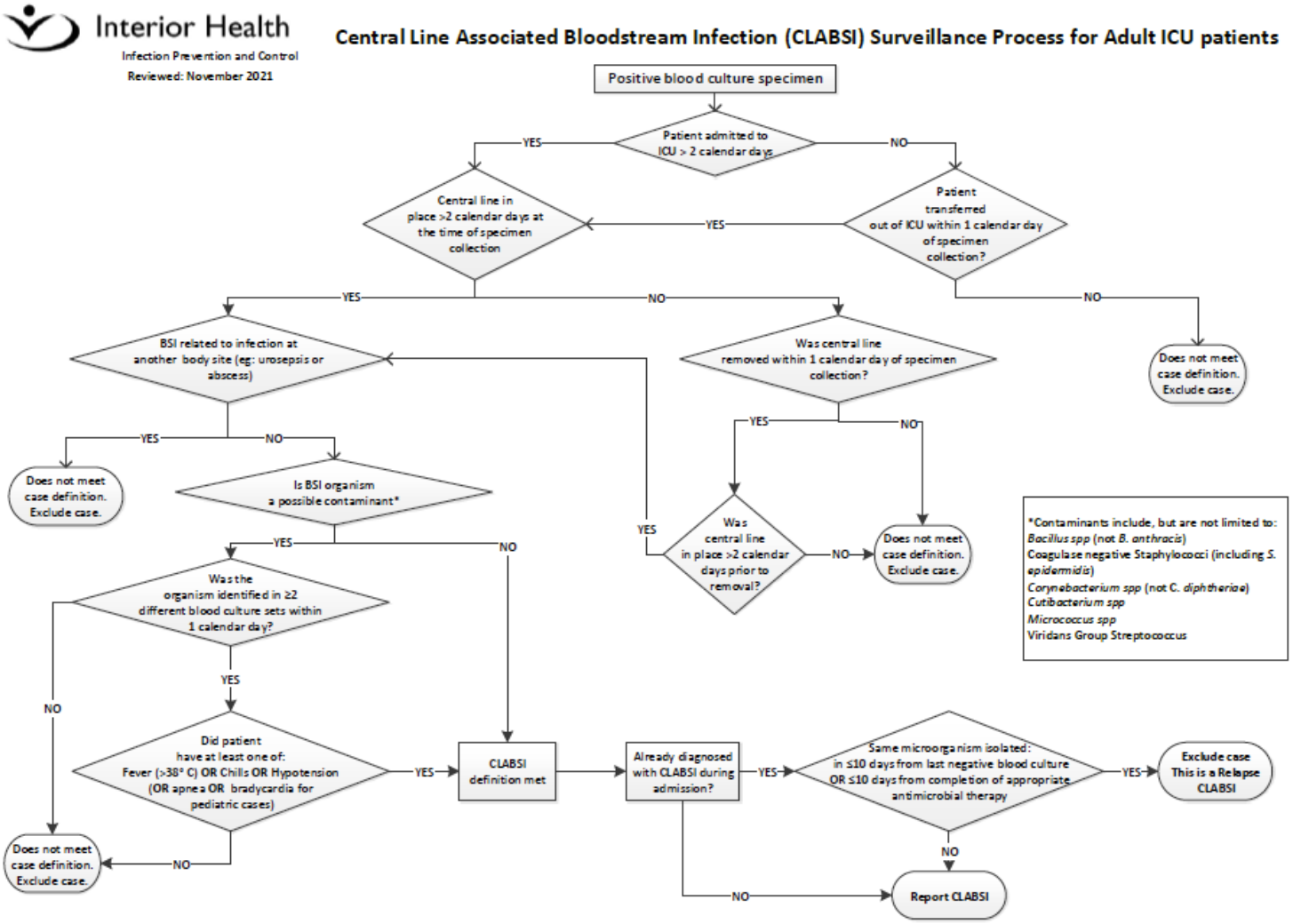
The internal historical rates for CLABSI from the previous fiscal year(s), and literature data.

REPORTING AND COMMUNICATION:

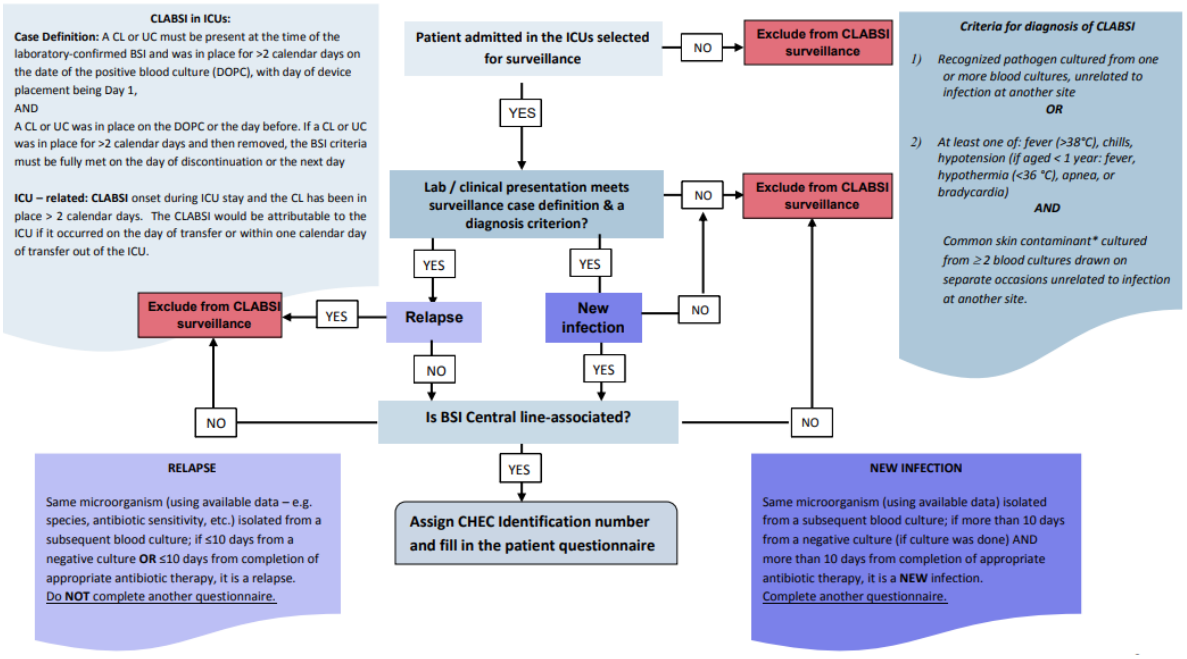
The CLABSI surveillance reports must be signed off by both IPAC epidemiologist and Medical Director using reconciled and validated data prior to submission. After approval by IPAC Director / Leadership team, the final formal CLABSI surveillance reports are published and sent to relevant stakeholders including Critical Care Network, Quality and Safety Committees, Medical Advisory Committees (MACs) and Health Authority Medical Advisory Committee (HAMAC).

Operational reports created by local IPs may or may not consist of reconciled and validated data because they are often created with real-time data.

Appendix A: CLABSI Infection Case Identification Process chart



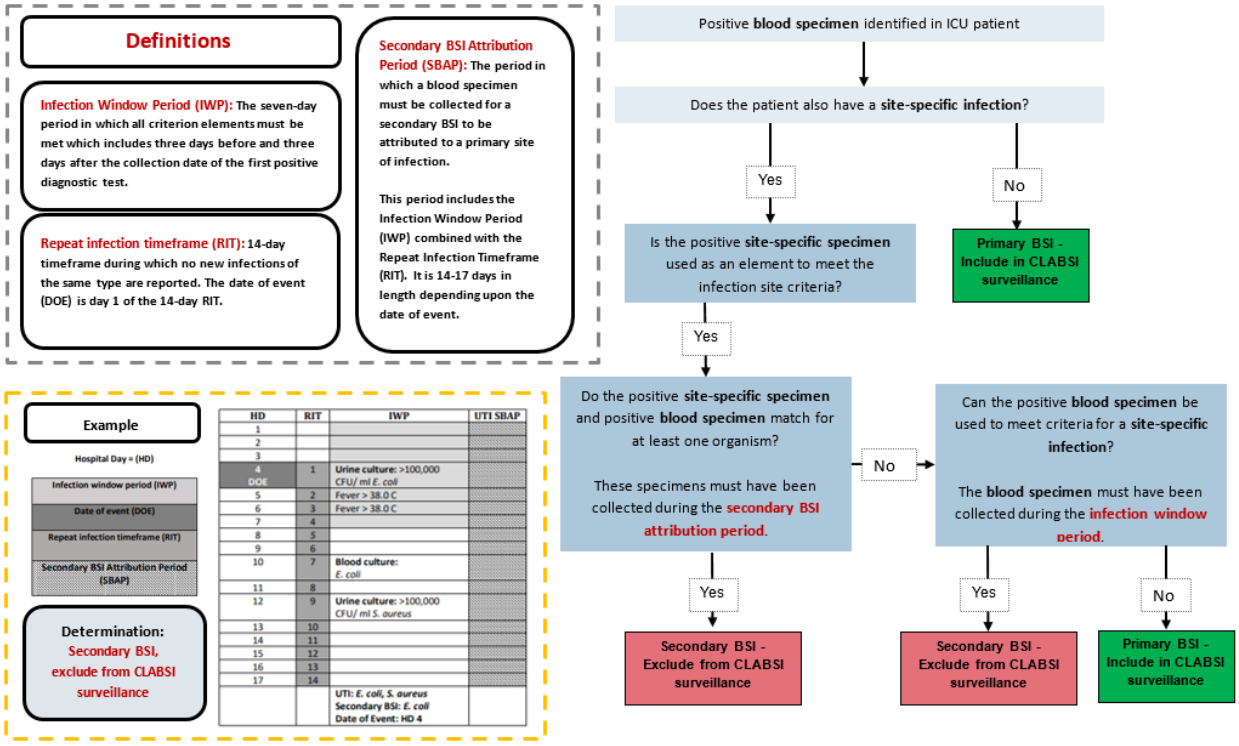
Appendix B: CNISP protocol recommendations (for sites that are participants of CNISP program)



* Diphtheroids (*Corynebacterium spp.* not *C. diphtheriae*), *Diphtheroids*, *Corynebacterium* spp., *Bacillus spp* (not *B. anthracis*), *Propionibacterium spp.*, coagulase-negative staphylococci, (including *S.epidermidis*) viridans group streptococci, *Aerococcus spp.*, *Micrococcus spp* and *Rhodococcus spp*

Appendix C: Primary vs. Secondary BSI Attribution Guide

CNISP Central Line Associated Bloodstream Infections (CLABSI) Surveillance – Algorithm for determining bloodstream infection attribution.
Adapted from the NHSN CLABSI Device-associated Module Chapter 4 – Appendix B (Figure 1B)



CLABSI Investigation/Script for Infection Preventionist

As part of the investigation, you will be required to speak to staff and ask the following questions to complete.

Guide to explaining 'the why':

As part of our commitment to eradicate central line-associated blood stream infections (CLABSIs), we are performing a root cause analysis of all CLABSIs. Patient _____ met the Canadian Nosocomial Infection Surveillance Program (CNISP) on (date). As the event occurred more than 48 hours from the time of line insertion, it is clear that this CLABSI is likely related to line maintenance.

I am asking you as a healthcare provider who cared for this patient in the days prior to the CLABSI to help us in our root cause analysis. Please take a moment to think about the (insert type of line) maintained from (insert dates of the 72 hour period before infection), and please let me know about any factors you think could have introduced infection. If nothing particular stands out in your mind, please answer as many of these questions that you are able:

1. Were there any observed breaches of proper hand hygiene by anyone involved in line care for this patient?

2. Was the dressing integrity assessed and dressing change date addressed during your shift?

3. If there was a dressing change during your shift, was 2 percent chlorhexidine/70 percent alcohol used instead of iodine?

4. Was the hub scrubbed with 70 percent alcohol or 2 percent chlorhexidine/70 percent alcohol followed by air dry each time the line was accessed?

5. Was this line manipulated or used by any other staff besides the unit's physicians or nurses (e.g., anesthesia, radiology, etc.)?

6. If there was an IV administration sets change on your shift, were the old IV administration sets outdated (24 hours for lipids and blood, 96 hours for all others)?

7. If you changed parenteral fluids on your shift, were the parenteral fluids you changed older than 24 hours?

8. Was the necessity of lines for this patient discussed on daily patient rounds?

9. What was the nursing ratio for this patient (e.g., 1:1, paired, etc.)

10. Can you identify any other possible sources of contamination for the closed/sterile tubing-central venous catheter circuit?

11. Were there any mechanical problems (not drawing, difficult to infuse, repositioned, etc.) with the central venous catheter prior to infection date?

12. Are there any patient factors that you believe may have contributed to this infection?

13. Are there any issues related to central line care on the unit that you would like to share?

Thank you for your time and improving patient care and your commitment to patient safety.

Infection Prevention and Control Team

CLABSI Investigation Tool

Patient:		**Account No:**
Admit Date:		**Diagnosis:**
Infection Date:		**Criteria:** **Organism:**
CVC Insertion Info		
Date:		Type:
Location:		Who Inserted:
Insertion Site: Date CVC Removed:		Was insertion bundle used? [ ] Yes [ ] No If no, explain: Were all elements complied with when CVC inserted?[ ] Yes [ ] No If no, explain:
1	Patient's location/room number(s)	
2	Did all personnel involved in line care for this patient use proper hand hygiene?	[ ] Yes [ ] No If no, explain:
3	Date of last CVC dressing change and skin condition at insertion site at that time	
4	Was a 2 percent chlorhexidine/70 percent alcohol scrub followed by air dry used during last CVC dressing change?	[ ] Yes [ ] No If no, explain:
5	Was a 70 percent alcohol or 2 percent chlorhexidine/70 percent alcohol followed by air dry used prior to accessing the CVC hub/port? (Use facility's protocol.)	[ ] Yes [ ] No If no, explain:
6	Who accessed the CVC system 48-72 hours before infection date? (Check all that apply)	[ ] Floor nurse [ ] Nurse from other unit [ ] Attending MD [ ] Resident/Fellow [ ] Anesthesia [ ] Radiology [ ] Other
7	Estimated number of CVC system entries for each 24-hour period for 72 hours prior to infection date	
8	What are compliance rates for "scrubbing the hub" before accessing line on this unit?	
9	Date of last IV administration set change(s)	Lipid and/or blood products (q24h): All other sets (q72-96h):
10	Estimated hang time for parenteral fluid(s) over last 72 hours prior to infection	Lipids (q24h): All other fluids:
11	Was central line removal discussed daily?	[ ] Yes [ ] No If no, explain:
12	Describe any mechanical problems with CVC prior to the infection date	
13	Have there been any problems with the CVC or IV equipment or supplies?	[ ] Yes If yes, explain: [ ] No

14	Did the person who inserted the catheter have documented competency to insert?	[ ] Yes [ ] No If no, explain:
15	What is hand hygiene compliance like for all units the patient was in where patient had a CVC?	
16	How did workload/unit activity affect insertion and care of the CVC?	
17	Can each staff member involved in this patient's care verbalize correct strategies to prevent CLABSI?	[ ] Yes [ ] No If no, explain:
18	Are there any significant patient factors that may have contributed to this infection?	[ ] Yes If yes, explain: [ ] No
19	After your assessment, do you believe this infection was potentially preventable?	[ ] Yes Explain: [ ] No Explain:

CLABSI Case Reporting Form

Interior Health

CLABSI Case Reporting Form For Infection Preventionist's

Place patient sticker here

Date:

IP name:

CHEC number (CNISP site only):

Case information:

Admission details	Date of admission to hospital _____
	Date of admission to ICU _____
	Date of line insertion _____
	Date of diagnosed CLABSI _____
	Date of discharge from ICU _____
Admission facility:	From Dashboard
Attributable facility/ward (if different from above)	From Dashboard
Location	Type of ICU where CLABSI was acquired Adult mixed ▫ Adult Cardiovascular Surgery ▫ Pediatric ▫ Neonatal ▫
Case details	Does this patient meet the criteria for a CLABSI? If yes, please identify which criteria the CLABSI meets. **Note**: Only CLABSIs related to an ICU admission are to be reported. Please check ONE of the following two options:
	▫ Criterion 1 Recognised pathogen cultured from one or more blood cultures, unrelated to infection at another site ▫ Criterion 2 At least one of: fever (>38°C), chills, hypotension (if aged < 1 year: fever, hypothermia (<36°C), apnea, or bradycardia) AND Common skin contaminant

	a. Microorganism(s) isolated, please check all that apply: ▫ *Acinetobacter* ▫ *Escherichia coli* ▫ *S. aureus (MSSA)* ▫ *Bacillus* ▫ *Enterobacter* ▫ *Pseudomonas* ▫ *Candida albicans* ▫ *Enterococcus (vancomycin susceptible)* ▫ *Candida other* ▫ *Fungi other, specify* ▫ *Stenotrophomonas* ▫ *Citrobacter* ▫ *Klebsiella* ▫ *Streptococcus* ▫ *MRSA* ▫ Coagulase negative staphylococcus (CONS) ▫ *Serratia* ▫ *VRE* ▫ Other, specify: _____ ▫ Other, specify: _____
Outcome	What was the outcome of this patient 30 days after positive culture? (Check one response only) ▫ Patient survived, discharged or transferred ▫ Patient alive, still in hospital (out of ICU) ▫ Patient alive, still in ICU ▫ Patient died, date of death _____ ▫ Unknown
NICU details	*NICU only : Birth weight refers to weight at time of birth & should NOT be changed when the infant gains weight Birth weight* (grams) _____ Gestational Age* (weeks) _____
Bundle details	CVC Insertion bundle used ▫ Yes ▫ No ▫ No documentation
	CVC Access bundle used ▫ Yes ▫ No ▫ No documentation
CLABSI Investigation tool used	▫ Yes ▫ No
Case discussed with ICU Manager/MRP	▫ Yes ▫ No
Line details	Attributed Line: Central Line ▫ Peripherally Inserted Central Catheter (PICC) ▫ Hemodialysis ▫ Umbilical ▫
Location of central line (not filled for PICC or umbilical)	▫ Subclavian ▫ Jugular ▫ Femoral ▫ Other _____

IP Checklist:
☐ Case entered in Dashboard
☐ Case reviewed with Epidemiologist/IPAC Medical director
☐ Case reviewed with MRP/ICU team

Other case notes:

REFERENCES

1. Canadian Nosocomial Infection Surveillance Program (CNISP). Surveillance for Central Line Associated Blood Stream Infections (CLABSI) in Intensive Care Units (ICUs) CLABSI Surveillance Protocol. Public Health Agency of Canada; 2020. https://ipac-canada.org/photos/custom/Members/CNISPpublications/CNISP_2021_CLABSI_Protocol_EN.pdf

2. CDC. Bloodstream Infection Event (Central Line-Associated Bloodstream Infection and Non-central Line Associated Bloodstream Infection). BSI: Device-associated Module. January 2020. https://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf

3. O'Grady NP, Alexander M, N. R, et al. Guidelines for the prevention of intravascular catheter-related infections, Centers for Diseases Control; 2011. https://www.cdc.gov/infectioncontrol/pdf/guidelines/bsi-guidelines-H.pdf

CLABSI Toolkit revision history	
Date of revision and approved by: IPAC Leadership Oct 2023	Details – new document

For more information contact IPAC@interiorhealth.ca