

Criteria for Determining Healthcare-Associated Infections

To standardize the distinction between “Present on Admission (POA)” infections and “Healthcare-Associated Infections (HAI),” the new version of the healthcare-associated infection surveillance definitions establishes the following criteria. The aim is to adjust standards and definitions to reduce subjectivity while maintaining epidemiological and clinical relevance. This also addresses situations such as repeated infections at the same site, concurrent infections at different sites, and multiple pathogens.

The criteria include the following seven items: - 7-day Infection Window Period (IWP) - Date of Event (DOE) - Present on Admission (POA) - Healthcare-associated Infection (HAI) - 14-day Repeat Infection Timeframe (RIT) - Secondary Bloodstream Infection Attribution Period - Pathogen Assignment Guidance

General Description of Healthcare-Associated Infections

1. The term “day” or “days” mentioned in this chapter and other chapters’ surveillance definitions refers to calendar days.
2. For the term “common commensals” mentioned in this chapter and other chapters’ surveillance definitions, please refer to the “common commensals” worksheet in the microorganism list.
3. The criteria for determining IWP, POA, HAI, and RIT do not apply to surgical site infection (SSI) surveillance.
4. The Secondary Bloodstream Infection Attribution Period does not apply to SSI or primary bloodstream infection surveillance.
 1. Considering the SSI surveillance period is 30 or 90 days and does not apply to the principles of RIT and IWP, it also does not apply to the Secondary Bloodstream Infection Attribution Period. However, if a patient meets the bloodstream infection (BSI) surveillance definition within 17 days (the day of the SSI DOE and the 3 days before and 13 days after), it can be reported as a secondary bloodstream infection of the SSI.
 2. According to the definition, cases already classified as primary bloodstream infection/central line-associated bloodstream infection (CLABSI) do not need to consider secondary bloodstream infection.
5. If a patient is an organ donor and the specimen collection date is on or after the day the patient is declared brain dead, the culture results or non-microbiological culture reports of the specimen cannot be used as criteria for determining HAI. However, this exception only applies when brain death and organ donation coexist; it does not apply to patients declared brain dead only.
6. Palliative care patients should not be excluded from surveillance.
7. Only central nervous system (CNS)-intracranial infections (IC) can use

microorganisms detected from post-mortem autopsy specimens as criteria, and pneumonia (PNEU) can use lung tissue specimens collected immediately post-mortem via thoracic or bronchial methods as criteria. Other infections cannot use specimens or reports from post-mortem autopsies as criteria.

Infection Window Period (IWP)

1. All conditions for determining whether a patient meets the HAI surveillance definition criteria should occur within the 7-day IWP. This includes the day of the first positive diagnostic test or specimen collection and the 3 days before and after.
2. Diagnostic tests that can define the IWP include:
 1. Laboratory tests;
 2. Imaging tests;
 3. Medical procedures or examinations;
 4. Physician diagnosis: Only applicable if physician diagnosis is one of the surveillance definition criteria; for example, physician diagnosis cannot be used as a criterion for urinary tract infection (UTI) according to the surveillance definition.
 5. Initiation of treatment, etc.
3. Special considerations for IWP:
 1. If the surveillance definition criteria do not include diagnostic tests, the earliest date of documented local signs or symptoms (e.g., diarrhea, specific pain, purulent discharge) should be used to set the IWP, not non-specific signs or symptoms (e.g., fever).
 2. When multiple criteria for the same infection site surveillance definition are met simultaneously, choose the earliest calculated DOE as the IWP for the case.
4. Due to the longer diagnosis time for endocarditis (ENDO), the IWP is extended to 21 days. For ENDO cases, the criteria must occur within 10 days before and 10 days after the first positive diagnostic test date.

Determining DOE, POA, and HAI

1. The first date within the 7-day IWP that meets the criteria is the DOE.
2. If the DOE occurs 2 days before admission, 1 day before admission, on the day of admission (Day 1), or the day after admission (Day 2), it is classified as POA.
3. If the DOE occurs on or after the third day of hospitalization (with the day of admission as Day 1), it is classified as HAI.
4. For neonates, if the DOE occurs on Day 1 or Day 2 of hospitalization, it is classified as POA; if it occurs on or after Day 3, it is classified as HAI. This includes infections acquired via the placenta (e.g., herpes simplex, toxoplasmosis, rubella, cytomegalovirus, or syphilis) or during delivery. Exception: Group B Streptococcus detected in blood cultures within 6

days of birth is not reported as CLABSI; refer to the BSI surveillance definition for details.

5. Reactivation of latent infections (e.g., herpes zoster, herpes simplex, syphilis, or tuberculosis) is not classified as HAI.

Repeat Infection Timeframe (RIT)

1. During the 14-day RIT, the same infection site should not be reported again for the same patient. The DOE is the first day of the 14-day RIT. If the patient meets the criteria for the same infection site again within these 14 days, it should not be reported as a new infection event. If new pathogens are discovered, they should be added to the original infection event, maintaining the same DOE and invasive catheter-related infection determination as the original event.
2. The logic of the 14-day RIT applies to both POA and HAI. For ease of calculation, if the DOE occurs 2 days or 1 day before admission, the admission day (Day 1) is recorded as the DOE.
3. The same infection site in the RIT is defined by specific type, except for BSI, UTI, and PNEU.
 1. Specific type example: A patient will not have two cases of osteomyelitis (BONE) within one RIT, but osteomyelitis (BONE) and discitis (DISC) may overlap in the RIT (although both are classified under “bone and joint infections”).
 2. Major type example:
 1. A patient will not have more than one case of laboratory-confirmed BSI (e.g., LCBI 1, LCBI 2, MBI-LCBI 1) within one RIT.
 2. A patient will not have more than one case of pneumonia (e.g., PNU1, PNU2, PNU3) within one RIT.
 3. A patient will not have more than one case of UTI (e.g., SUTI, ABUTI) within one RIT.
4. The RIT only applies to the current hospitalization and follows the transfer rule, including the day of discharge and the next day. Patients readmitted do not apply the previous hospitalization’s RIT, even if readmitted to the same facility.
5. The RIT for endocarditis (ENDO) extends to the entire duration of the current hospitalization.
6. Considering some infections (e.g., necrotizing fasciitis, liver abscess, diabetic foot infection) are difficult to treat within 14 days, if the same site infection recurs and symptoms persist with continued antibiotic use, only one case is reported, except for BSI, UTI, and PNEU.

Secondary Bloodstream Infection Attribution Period

1. The “Secondary Bloodstream Infection Attribution Period” refers to the period during which a positive blood specimen must be collected to be

considered a secondary bloodstream infection.

2. The “Secondary Bloodstream Infection Attribution Period” includes the “7-day IWP” plus the “14-day RIT,” totaling 14 to 17 days, depending on the DOE. If the DOE is the first day of the IWP, the period is 14 days; if the DOE is the fourth day of the IWP, the period is 17 days.
3. To classify a secondary bloodstream infection, the case must meet the surveillance definition for UTI, PNEU, SSI, or other site infections and satisfy one of the following:
 1. At least one matching pathogen from the primary infection site is detected in the blood specimen collected during the attribution period.
 2. The positive blood culture result is a criterion for the primary infection site surveillance definition, and the specimen is collected within the IWP.
4. Special conditions:
 1. Considering the SSI surveillance period is 30 or 90 days, and the logic of IWP and RIT does not apply, the SSI DOE and the 3 days before and 13 days after (17 days) define the SSI secondary bloodstream infection attribution period.
 2. For endocarditis (ENDO) cases, the attribution period includes the 21-day IWP and the entire duration of the current hospitalization.
 3. Due to the longer attribution period for endocarditis (ENDO), secondary bloodstream infection pathogens are limited to those meeting the ENDO surveillance definition criteria.
5. Exception: The necrotizing enterocolitis (NEC) definition does not include specific site specimens or positive blood cultures. For NEC secondary bloodstream infection, if the patient meets NEC criteria and a blood specimen collected within the attribution period detects a pathogen meeting the LCBI criteria or at least two different blood specimens collected on the same or consecutive days detect matching common skin commensals, it is classified as NEC secondary bloodstream infection.
6. The same bloodstream infection may be classified as secondary to two different infection sites or as one secondary and one primary bloodstream infection.
7. The primary site infection’s RIT is calculated only once and is not reset by a secondary bloodstream infection. If a positive blood culture occurs within the attribution period but does not meet the primary site infection criteria or match the primary site infection pathogen, it must be classified as a new bloodstream event.

Pathogen Assignment Guidance

1. The following microorganisms are typically community-acquired and should be excluded from HAI cases: *Blastomyces*, *Histoplasma*, *Coccidioides*, *Paracoccidioides*, *Cryptococcus*, and *Pneumocystis*.
2. Reporting principles for pathogens detected within the 14-day RIT or secondary bloodstream infection attribution period:

1. If a new pathogen is discovered at the same infection site within the RIT, it should be added to the original infection event.
2. If at least one pathogen detected in the bloodstream matches the primary infection site pathogen and is a criterion for the primary infection site surveillance definition, and the blood specimen is collected within the attribution period, the bloodstream infection is classified as secondary, and all pathogens detected in the blood specimen are added to the primary infection site.
3. If the pathogen detected in the bloodstream and another infection site is excluded from the primary site surveillance definition (e.g., *Enterococcus* spp. in pneumonia), it cannot be classified as a secondary bloodstream infection pathogen. In this case, the microorganism should be classified as a primary bloodstream infection or secondary to another infection site.
4. According to the surveillance definition, UTI patients' urine cultures should not exceed two microorganisms. If a secondary bloodstream infection is confirmed, the third and subsequent pathogens can be reported.

Determining the Infection Ward

1. The infection ward is the ward where the patient was on the DOE, except in the following cases:
 1. If the patient was transferred to the ward on the DOE or the day before, the infection ward is the previous ward.
 2. If the patient was transferred multiple times on the DOE or the day before, the infection ward is the first ward on the day before the DOE.
2. Transfer rule: If the DOE is on the day of transfer or discharge or the next day, the infection ward is the transfer/discharge location. If the patient was transferred multiple times on the DOE or the day before, the infection ward is the first ward on the day before the DOE.

Calculating Catheter Use Days for Infection Density Denominator

1. Trained personnel in the ward collect catheter use days data at a fixed time daily. The calculation principle is to sum the actual number of patients using the catheter that day. Patients expected to be catheterized that day but not yet catheterized are not included.
2. If a patient has multiple central lines simultaneously (e.g., CVC and PICC), it is counted as one patient day.